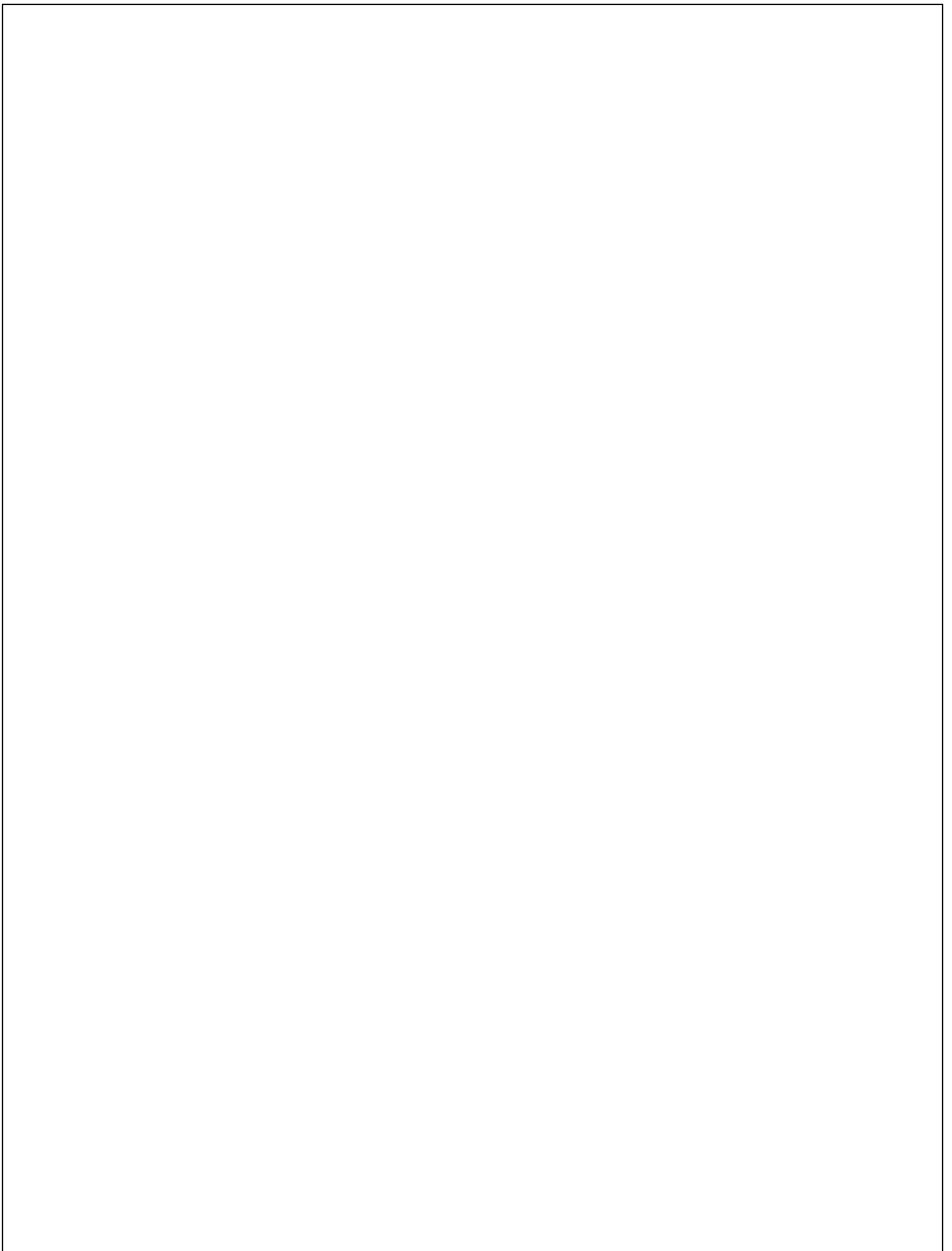




**ENERGY
DEPARTMENT**



**ENERGY DEPARTMENT
COMMON SCHEDULE OF RATES
FOR KPTCL, ESCOMs & PWD Electrical
2023 - 2024
Volume - 6**



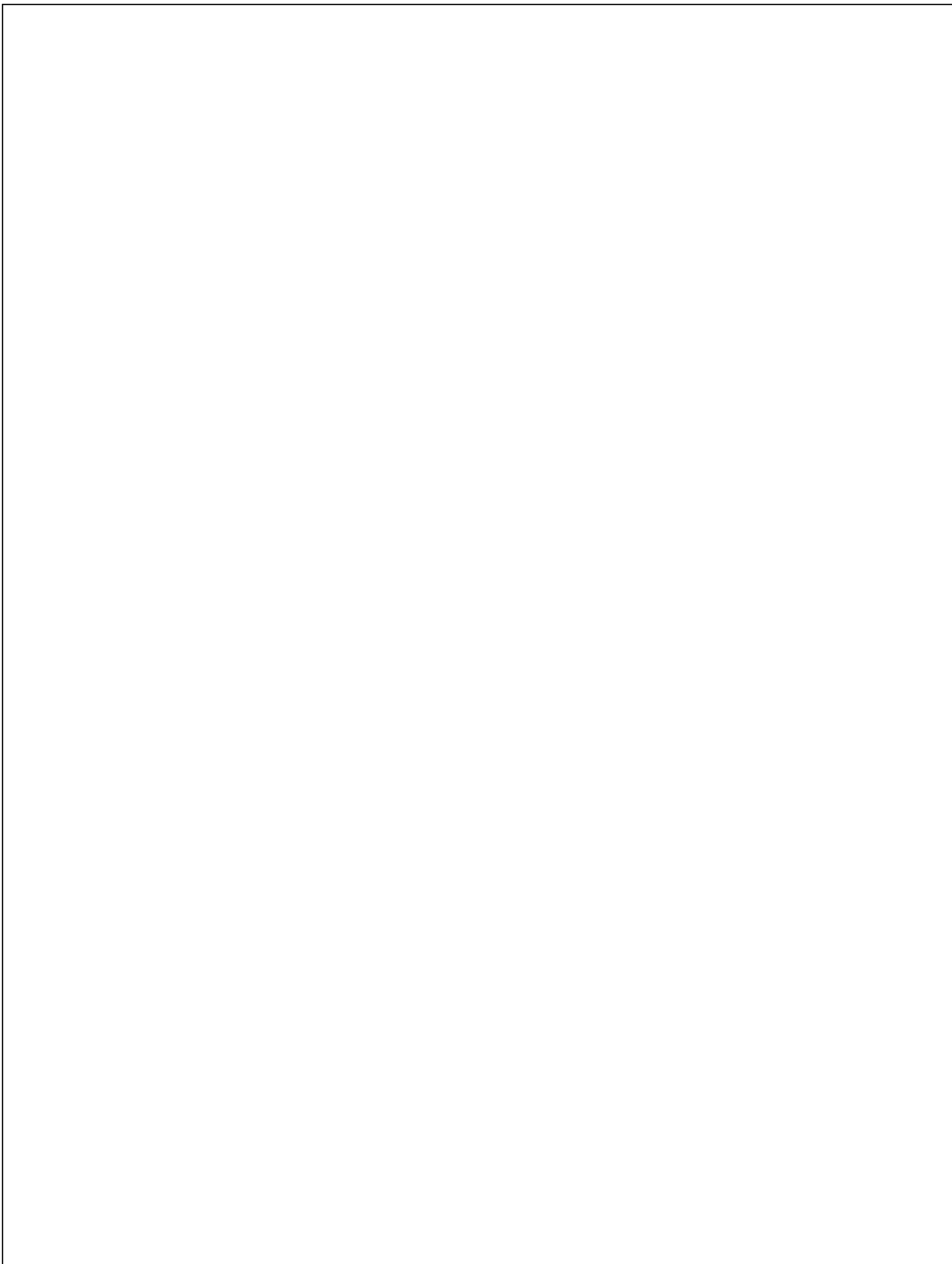
ENERGY DEPARTMENT



(With Effective from 15.11.2023)

COMMON SCHEDULE OF RATES For KPTCL, ESCOMs & PWD Electrical 2023 – 2024

Volume – 6



ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ನಡವಳಿಗಳು

ವಿಷಯ :- ಎಸ್.ಆರ್. ದರಗಳನ್ನು ಪ್ರಕಟಿಸಲು ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿ ರಚಿಸುವ ಕುರಿತು.

ಒದಲಾಗಿದೆ - 1) ಸರ್ಕಾರದ ಸಮ ಸಂಖ್ಯೆ ಪತ್ರ ದಿನಾಂಕ 04-09-2018

2) ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಸಂಕದ ಇವರ ಪತ್ರ ಸಂಖ್ಯೆ:ಮುಅ:ಸಂಕದ:ಸಾಕೋ:
ಸಇ-4:2018-19 ದಿನಾಂಕ: 01-10-2018.

3) ಸರ್ಕಾರದ ಸಮ ಸಮಸಂಖ್ಯೆ ಪತ್ರ ದಿನಾಂಕ:-11-10-2018

ಪ್ರಸ್ತಾವನೆ:

2018-19ನೇ ಸಾಲಿನ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯ ದರಪಟ್ಟಿಯನ್ನು ತಯಾರಿಸುವ ಕುರಿತು ಸರ್ಕಾರದ ಆದೇಶ ಸಮ ಸಂಖ್ಯೆ ದಿನಾಂಕ 26-03-2018ರಲ್ಲಿ ಸಮಿತಿಯನ್ನು ಸೃಜಿಸಲಾಗಿತ್ತು. ಸದರಿ ಸಮಿತಿಯು ನೀಡಿದ ವರದಿಯಂತೆ ಉಲ್ಲೇಖ-2ರ ಪತ್ರದಲ್ಲಿ ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಸಂಕದ ಇವರು 2018-19ನೇ ಸಾಲಿನ ಬೆಂಗಳೂರು ವೃತ್ತದ ಕರಡು ದರಪಟ್ಟಿಯನ್ನು ಸರ್ಕಾರದ ಅನುಮೋದನೆಗಾಗಿ ಸಲ್ಲಿಸಿರುತ್ತಾರೆ. ಉಲ್ಲೇಖ-3ರ ಪತ್ರದಲ್ಲಿ ಮುಖ್ಯ ಇಂಜಿನಿಯರ್‌ರವರು ಸಲ್ಲಿಸಿರುವ ಬೆಂಗಳೂರು ವೃತ್ತದ 2018-19ನೇ ಸಾಲಿನ ದರಪಟ್ಟಿಯನ್ನು ಮತ್ತು ಉಳಿದ ಎಲ್ಲಾ ವೃತ್ತಗಳು ದಿನಾಂಕ 10-10-2018ರಂದ ಅನ್ವಯವಾಗುವಂತೆ ಪ್ರಕಟಿಸಲು ಸೂಚಿಸಲಾಯಿತು. ಈ ವಿಷಯವನ್ನು ಆರ್ಥಿಕ ಇಲಾಖೆಯ ಗಮನಕ್ಕೆ ತರಲಾಗಿ ಈ ಕೆಳಕಂಡ ಅಂಶಗಳ ಕುರಿತು ಅಗತ್ಯ ಕ್ರಮವಹಿಸುವಂತೆ ತಿಳಿಸಲಾಗಿದೆ.

1. ಪ್ರಸ್ತುತ ರಾಜ್ಯದಲ್ಲಿನ ಪ್ರಮುಖ ಇಲಾಖೆಗಳಾದ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ, ಜಲ ಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ನಗರಾಭಿವೃದ್ಧಿ, ವಸತಿ ಇಲಾಖೆ, ಇಂಧನ ಇಲಾಖೆ ಮುಂತಾದವುಗಳು ತಮ್ಮದೇ ಆದ ಅನುಸೂಚಿ ದರಗಳನ್ನು (ಎಸ್.ಆರ್.) ತಯಾರಿಸಿದ್ದು, ವಿವಿಧ ಕಾಮಗಾರಿಗಳ ಅಂದಾಜುಗಳ ತಯಾರಿಕೆಯಲ್ಲಿ ಬೇರೆ ಬೇರೆ ಇಲಾಖೆಗಳ ದರಗಳನ್ನು ಅಳವಡಿಸಿ ಅಂದಾಜುಗಳನ್ನು ತಯಾರಿಸಲಾಗಿರುತ್ತದೆ. ಪ್ರಸಕ್ತ ಪರಿಸ್ಥಿತಿಯಲ್ಲಿ ಅಂದರೆ, ಜಿ.ಎಸ್.ಟಿ. ಅನುಷ್ಠಾನವಾದ ನಂತರ ಅವಧಿಯಲ್ಲಿ ಒಂದು ಇಲಾಖೆಯಲ್ಲಿ ಜಿ.ಎಸ್.ಟಿ. ಪೂರ್ವ ದರಗಳಿದ್ದಲ್ಲಿ, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯಲ್ಲಿ ಜಿ.ಎಸ್.ಟಿ. ನಂತರದ ದರಗಳು ಅಸ್ತಿತ್ವದಲ್ಲಿವೆ. ಇದರಿಂದಾಗಿ ಅಂದಾಜುಗಳನ್ನು ತಯಾರಿಸಲು ಮತ್ತು ಟೆಂಡರುಗಳನ್ನು ಮೌಲ್ಯಮಾಪನ ಮಾಡುವಲ್ಲಿ ಅನೇಕ ಸಮಸ್ಯೆಗಳು ಉದ್ಭವವಾಗುತ್ತಿವೆ.

II. ಈ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ರಾಜ್ಯದಲ್ಲಿ ಏಕರೂಪದ ಸಮಗ್ರ ಅನುಸೂಚಿ ದರಗಳನ್ನು ತಯಾರಿಸಿ ಪ್ರಕಟಿಸುವುದು ಸೂಕ್ತವೆಂದು ಭಾವಿಸಲಾಗಿದೆ. ಇದಕ್ಕಾಗಿ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯನ್ನು ನೋಡಲ್ ಇಲಾಖೆಯನ್ನಾಗಿ ನೇಮಿಸಿ, ಎಲ್ಲಾ ಪ್ರಮುಖ ಇಲಾಖೆಗಳ ಪ್ರತಿನಿಧಿಗಳನ್ನೊಳಗೊಂಡ ಸಮಿತಿಯನ್ನು ರಚಿಸಿ, ಸದರಿ ಸಮಿತಿಯ ಮೂಲಕ ಸಮಗ್ರವಾದ ಅನುಸೂಚಿ ದರಗಳನ್ನು (ಎಸ್.ಆರ್) ತಯಾರಿಸಿ ರಸ್ತೆ, ಸೇತುವೆ ಮತ್ತು ಕಟ್ಟಡಗಳ ಕುರಿತಾದ ಎಲ್ಲ ಎಸ್.ಆರ್ ದರಗಳನ್ನು ಪ್ರಕಟಿಸುವುದು ಸೂಕ್ತವಾಗಿರುತ್ತದೆ.

ಮೇಲಿನ ಪ್ರಸ್ತಾವನೆಯಲ್ಲಿ ವಿವರಿಸಿದಂತೆ ರಾಜ್ಯದಲ್ಲಿ ಏಕರೂಪದ ಸಮಗ್ರ ಅನುಸೂಚಿ ದರಗಳನ್ನು ತಯಾರಿಸಲು ಈ ಕೆಳಕಂಡ ಸದಸ್ಯರುಗಳನ್ನೊಳಗೊಂಡಂತೆ ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿಯನ್ನು ರಚಿಸಲು ಕೆಳಕಂಡ ಆದೇಶ ಹೊರಡಿಸಲಾಗಿದೆ.

ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ ಪಿಡಬ್ಲ್ಯುಡಿ 65 ಆರ್‌ಡಿಎಫ್ 2018 ದಿನಾಂಕ 04-04-2019

ಪ್ರಸ್ತಾವನೆಯಲ್ಲಿ ವಿವರಿಸಲಾದ ಅಂಶಗಳ ಹಿನ್ನೆಲೆಯಲ್ಲಿ, 2019-20ನೇ ಸಾಲಿನ ಏಕರೂಪ ದರಪಟ್ಟಿಯನ್ನು ತಯಾರಿಸಲು "ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿ"ಯನ್ನು ಕೆಳಕಂಡಂತೆ ಸೃಜಿಸಲಾಗಿದೆ.


ಕ್ರ ಸಂ	ಅಧಿಕಾರಿಗಳ ಹೆಸರು/ಪದನಾಮ	
1	ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು, ಲೋಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಳನಾಡು ಜಲಸಾರಿಗೆ, ಇಲಾಖೆ	ಅಧ್ಯಕ್ಷರು
2	ಶ್ರೀ.ಕೃಷ್ಣ ಎನ್. ಬುಗಟ್ಟಾಗೋಳ, ವಿಶೇಷಾಧಿಕಾರಿ ಮತ್ತು ಪದನಿಮಿತ್ತ ಸರ್ಕಾರದ ಜಂಟಿ ಕಾರ್ಯದರ್ಶಿ, ಆರ್ಥಿಕ ಇಲಾಖೆ, ಲೋಕೋಪಯೋಗಿ ಆರ್ಥಿಕ ಕೋಶ	ಸದಸ್ಯರು
3	ಡಿ.ಜಗನ್ನಾಥ ಸಾಗರ, ಅಪರ ವಾಣಿಜ್ಯ ಆಯುಕ್ತರು	ಸದಸ್ಯರು
4	ಕೆ.ಜಿ.ಮಹೇಶ್, ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು, ಕೃಷ್ಣಾ ಭಾಗ್ಯ ಜಲ ನಿಗಮ	ಸದಸ್ಯರು
5	ಗ್ರಾಮೀಣಾಭಿವೃದ್ಧಿ ಮತ್ತು ಪಂಚಾಯತ್ ರಾಜ್ ಇಲಾಖೆಯ ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು ವೃಂದದ ಪ್ರತಿನಿಧಿ.	ಸದಸ್ಯರು
6	ಇಂಧನ ಇಲಾಖೆಯ ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರ ವೃಂದದ ಪ್ರತಿನಿಧಿ.	ಸದಸ್ಯರು
7	ವಸತಿ ಇಲಾಖೆಯ ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರ ವೃಂದದ ಪ್ರತಿನಿಧಿ.	ಸದಸ್ಯರು
8	ಬೆಂಗಳೂರು ಜಲ ಮಂಡಳಿಯ ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರ ವೃಂದದ ಪ್ರತಿನಿಧಿ	ಸದಸ್ಯರು
9	ಕೆ.ಯು.ಐ.ಡಿ.ಎಫ್.ಸಿ. ಸಂಸ್ಥೆಯ ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರ ವೃಂದದ ಪ್ರತಿನಿಧಿ.	ಸದಸ್ಯರು

ಕ್ರ ಸಂ	ಅಧಿಕಾರಿಗಳ ಹೆಸರು/ಪದನಾಮ	
10	ಸಣ್ಣ ನೀರಾವರಿ ಇಲಾಖೆಯ ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರ ವೃಂದದ ಪ್ರತಿನಿಧಿ.	ಸದಸ್ಯರು
11	ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆಯ ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರ ವೃಂದದ ಪ್ರತಿನಿಧಿ.	ಸದಸ್ಯರು
12	ಅರಣ್ಯ ಸಂರಕ್ಷಣಾಧಿಕಾರಿ (ಅಭಿವೃದ್ಧಿ), ಅರಣ್ಯ ಇಲಾಖೆ.	ಸದಸ್ಯರು
13	ಶ್ರೀ.ಕೆ.ಮೋಹನ್, ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು (ವಿನ್ಯಾಸ), ಮುಇಂರವರ ಕಛೇರಿ, ಸಂಕದ, ಬೆಂಗಳೂರು	ಸದಸ್ಯ ಕಾರ್ಯದರ್ಶಿ

(ಕ್ರಸಂ 5-11ರವರೆಗಿನ ಸದಸ್ಯರುಗಳನ್ನು ಸಂಬಂಧಪಟ್ಟ ಇಲಾಖೆ/ಮಂಡಳಿ/ಪಾಲಿಕೆ ಇವರು ಅಂತಿಮಗೊಳಿಸುವುದು.)

ಮೇಲಿನ ಸಮಿತಿಯು ಅನುಸೂಚಿ ದರಗಳ ತಯಾರಿಸುವ ಕಾರ್ಯವನ್ನು ದಿನಾಂಕ 01-06-2019ರ ಮುನ್ನು ಅಂತಿಮಗೊಳಿಸಿ ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿಯ ಅನುಮೋದನೆ ಪಡೆದು ಜಾರಿಗೊಳಿಸಲು ಕ್ರಮ ವಹಿಸುವುದು. ಈ ಆದೇಶವನ್ನು ಆರ್ಥಿಕ ಇಲಾಖೆಯ ಟಿಪ್ಪಣಿ ಸಂಖ್ಯೆ ಆಇ 259 ಆಕೋ-2/2018 ದಿನಾಂಕ: 14-03-2019ರನ್ವಯ ಹೊರಡಿಸಲಾಗಿದೆ.

ಕರ್ನಾಟಕ ರಾಜ್ಯಪಾಲರ ಆದೇಶಾನುಸಾರ
ಮತ್ತು ಅವರ ಹೆಸರಿನಲ್ಲಿ


(ಕೆ.ಎಸ್.ಹರೀಶ್) 04/04/2019

ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿ,
ಲೋಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಬಸಾ
ಇಲಾಖೆ (ನಬಾರ್ಡ್)

ಇವರಿಗೆ:

- 1) ಸನ್ಮಾನ್ಯ ಲೋಕೋಪಯೋಗಿ ಸಚಿವರ ಸಂಸದಿಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ವಿಧಾನ ಸೌಧ.
- 2) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಆರ್ಥಿಕ ಇಲಾಖೆ, ವಿಧಾನ ಸೌಧ.
- 3) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಇಂಧನ ಇಲಾಖೆ, ಕೊಠಡಿ ಸಂಖ್ಯೆ:236, 2ನೇ ಮಹಡಿ, ವಿಕಾಸ ಸೌಧ, ಡಾ|| ಅಂಬೇಡ್ಕರ್ ಬೀದಿ, ಬೆಂಗಳೂರು.
- 4) ವಾಣಿಜ್ಯ ತೆರಿಗೆ ಇಲಾಖೆಯ ಆಯುಕ್ತರು, ಗಾಂಧಿ ನಗರ, ಬೆಂಗಳೂರು.
- 5) ಪ್ರಧಾನ ಮುಖ್ಯ ಅರಣ್ಯ ಸಂರಕ್ಷಣಾಧಿಕಾರಿ, ಅರಣ್ಯ ಭವನ, 18ನೇ ಅಡ್ಡ ರಸ್ತೆ, ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು-560003

- 6) ವ್ಯವಸ್ಥಾಪಕ ನಿರ್ದೇಶಕರು, ಕರ್ನಾಟಕ ನಗರ ಮೂಲಸೌಕರ್ಯ ಅಭಿವೃದ್ಧಿ ಮತ್ತು ಹಣಕಾಸು ನಿಗಮ ನಿಯಮಿತ ನಗರಾಭಿವೃದ್ಧಿ ಭವನ,#22,17ನೇ 'ಎಫ್' ಕ್ರಾಸ್, ಓಲ್ಡ್ ಮದ್ರಾಸ್ ರಸ್ತೆ, ಇಂದಿರಾನಗರ 2ನೇ ಹಂತ, ಬಿಎಮ್‌ಟಿಸಿ ಬಸ್ ಡಿಪೋ ಹತ್ತಿರ, ಬೆಂಗಳೂರು-560038
- 7) ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಕರ್ನಾಟಕ ಗೃಹ ಮಂಡಳಿ, ಕಾವೇರಿ ಭವನ, ಬೆಂಗಳೂರು.
- 8) ವ್ಯವಸ್ಥಾಪಕ ನಿರ್ದೇಶಕರು, ಕೃಷ್ಣಾ ಭಾಗ್ಯ ಜಲ ನಿಗಮ, ಬೆಂಗಳೂರು.
- 9) ಪ್ರಧಾನ ಅಭಿಯಂತರರು,ಬಿ.ಬಿ.ಎಂ.ಪಿ ಕೇಂದ್ರ ಕಛೇರಿ, ಅನೆಕ್ಸ್ ಕಟ್ಟಡ,1ನೇ ಮಹಡಿ ಎನ್.ಆರ್.ವೃತ್ತ, ಬೆಂಗಳೂರು.-560002
- 10) ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಸಂಪರ್ಕ ಮತ್ತು ಕಟ್ಟಡಗಳು (ದಕ್ಷಿಣ),(ಉತ್ತರ) ಮತ್ತು (ಈಶಾನ್ಯ) ವಲಯಗಳು. ಲೋಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಜಸಾ ಇಲಾಖೆ.
- 11) ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಎಂ ಆಂಡ್ ಇ. ಜಲಸಂಪನ್ಮೂಲ ಅಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ಆನಂದರಾವ್ ವೃತ್ತ, ಬೆಂಗಳೂರು.
- 12) ಮು.ಇಂ. ಗ್ರಾಮ ಪಂಚಾಯತ್ ಮತ್ತು ಪಂಚಾಯತ್ ರಾಜ್ ಇಲಾಖೆ, ಆನಂದರಾವ್ ವೃತ್ತ, ಬೆಂಗಳೂರು.
- 13) ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಬೆಂಗಳೂರು ನೀರು ಸರಬರಾಜು ಮತ್ತು ಒಳಚರಂಡಿ ಮಂಡಳಿ, ಕಾವೇರಿ ಭವನ, ಕೆಂಪೇಗೌಡ ರಸ್ತೆ, ಬೆಂಗಳೂರು.
- 14) ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಸಣ್ಣ ನೀರಾವರಿ ಇಲಾಖೆ, ಕೆ.ಆರ್.ವೃತ್ತ, ಬೆಂಗಳೂರು.
- 15) ಸಮಿತಿ ಸದ್ಯಸರುಗಳಿಗೆ.

ಪ್ರತಿ:-

- 1) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿ, ಲೋಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಜಸಾ ಇಲಾಖೆ, ವಿಕಾಸ ಸೌಧ,
- 2) ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿ, ಲೋಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಜಸಾ ಇಲಾಖೆ, ವಿಕಾಸ ಸೌಧ,
- 3) ಶಾಖಾ ರಕ್ಷಣಾ ಕಡತ / ಹೆಚ್ಚುವರಿ ಪ್ರತಿಗಳು.

ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ನಡವಳಿಗಳು

ವಿಷಯ :- ಎಸ್.ಆರ್. ದರಗಳನ್ನು ಪ್ರಕಟಿಸಲು ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿ ರಚಿಸುವ ಕುರಿತು.

ಒದಲಾಗಿದೆ - 1) ಸರ್ಕಾರದ ಸಮ ಸಂಖ್ಯೆ ಪತ್ರ ದಿನಾಂಕ 04-09-2018

2) ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಸಂಕದ ಇವರ ಪತ್ರ ಸಂಖ್ಯೆ:ಮುಅ:ಸಂಕದ:ಸಾಕೋ:ಸಇ-4:2018-19 ದಿನಾಂಕ: 01-10-2018.

3) ಸರ್ಕಾರದ ಸಮ ಸಮಸಂಖ್ಯೆ ಪತ್ರ ದಿನಾಂಕ:- 11-10-2018

ಪ್ರಸ್ತಾವನೆ:

2018-19ನೇ ಸಾಲಿನ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯ ದರಪಟ್ಟಿಯನ್ನು ತಯಾರಿಸುವ ಕುರಿತು ಸರ್ಕಾರದ ಆದೇಶ ಸಮ ಸಂಖ್ಯೆ ದಿನಾಂಕ 26-03-2018ರಲ್ಲಿ ಸಮಿತಿಯನ್ನು ಸೃಜಿಸಲಾಗಿತ್ತು. ಸದರಿ ಸಮಿತಿಯು ನೀಡಿದ ವರದಿಯಂತೆ ಉಲ್ಲೇಖ-2ರ ಪತ್ರದಲ್ಲಿ ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಸಂಕದ ಇವರು 2018-19ನೇ ಸಾಲಿನ ಬೆಂಗಳೂರು ವೃತ್ತದ ಕರಡು ದರಪಟ್ಟಿಯನ್ನು ಸರ್ಕಾರದ ಅನುಮೋದನೆಗಾಗಿ ಸಲ್ಲಿಸಿರುತ್ತಾರೆ. ಉಲ್ಲೇಖ-3ರ ಪತ್ರದಲ್ಲಿ ಮುಖ್ಯ ಇಂಜಿನಿಯರ್‌ರವರು ಸಲ್ಲಿಸಿರುವ ಬೆಂಗಳೂರು ವೃತ್ತದ 2018-19ನೇ ಸಾಲಿನ ದರಪಟ್ಟಿಯನ್ನು ಮತ್ತು ಉಳಿದ ಎಲ್ಲಾ ವೃತ್ತಗಳು ದಿನಾಂಕ 10-10-2018ರಂದ ಅನ್ವಯವಾಗುವಂತೆ ಪ್ರಕಟಿಸಲು ಸೂಚಿಸಲಾಯಿತು. ಈ ವಿಷಯವನ್ನು ಆರ್ಥಿಕ ಇಲಾಖೆಯ ಗಮನಕ್ಕೆ ತರಲಾಗಿ ಈ ಕೆಳಕಂಡ ಅಂಶಗಳ ಕುರಿತು ಅಗತ್ಯ ಕ್ರಮವಹಿಸುವಂತೆ ತಿಳಿಸಲಾಗಿದೆ.

1. ಪ್ರಸ್ತುತ ರಾಜ್ಯದಲ್ಲಿನ ಪ್ರಮುಖ ಇಲಾಖೆಗಳಾದ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ, ಜಲ ಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ನಗರಾಭಿವೃದ್ಧಿ, ವಸತಿ ಇಲಾಖೆ, ಇಂಧನ ಇಲಾಖೆ ಮುಂತಾದವುಗಳು ತಮ್ಮದೇ ಆದ ಅನುಸೂಚಿ ದರಗಳನ್ನು (ಎಸ್.ಆರ್.) ತಯಾರಿಸಿದ್ದು, ವಿವಿಧ ಕಾಮಗಾರಿಗಳ ಅಂದಾಜುಗಳ ತಯಾರಿಕೆಯಲ್ಲಿ ಬೇರೆ ಬೇರೆ ಇಲಾಖೆಗಳ ದರಗಳನ್ನು ಅಳವಡಿಸಿ ಅಂದಾಜುಗಳನ್ನು ತಯಾರಿಸಲಾಗಿರುತ್ತದೆ. ಪ್ರಸಕ್ತ ಪರಿಸ್ಥಿತಿಯಲ್ಲಿ ಅಂದರೆ, ಜಿ.ಎಸ್.ಟಿ. ಅನುಷ್ಠಾನವಾದ ನಂತರ ಅವಧಿಯಲ್ಲಿ ಒಂದು ಇಲಾಖೆಯಲ್ಲಿ ಜಿ.ಎಸ್.ಟಿ. ಪೂರ್ವ ದರಗಳಿದ್ದಲ್ಲಿ, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯಲ್ಲಿ ಜಿ.ಎಸ್.ಟಿ. ನಂತರದ ದರಗಳು

ಅಸ್ತಿತ್ವದಲ್ಲಿವೆ. ಇದರಿಂದಾಗಿ ಅಂದಾಜುಗಳನ್ನು ತಯಾರಿಸಲು ಮತ್ತು ಟೆಂಡರುಗಳನ್ನು ಮೌಲ್ಯಮಾಪನ ಮಾಡುವಲ್ಲಿ ಅನೇಕ ಸಮಸ್ಯೆಗಳು ಉದ್ಭವವಾಗುತ್ತಿವೆ.

- II. ಈ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ರಾಜ್ಯದಲ್ಲಿ ಏಕರೂಪದ ಸಮಗ್ರ ಅನುಸೂಚಿ ದರಗಳನ್ನು ತಯಾರಿಸಿ ಪ್ರಕಟಿಸುವುದು ಸೂಕ್ತವೆಂದು ಭಾವಿಸಲಾಗಿದೆ. ಇದಕ್ಕಾಗಿ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯನ್ನು ನೋಡಲ್ ಇಲಾಖೆಯನ್ನಾಗಿ ನೇಮಿಸಿ, ಎಲ್ಲಾ ಪ್ರಮುಖ ಇಲಾಖೆಗಳ ಪ್ರತಿನಿಧಿಗಳನ್ನೊಳಗೊಂಡ ಸಮಿತಿಯನ್ನು ರಚಿಸಿ, ಸದರಿ ಸಮಿತಿಯ ಮೂಲಕ ಸಮಗ್ರವಾದ ಅನುಸೂಚಿ ದರಗಳನ್ನು (ಎಸ್.ಆರ್) ತಯಾರಿಸಿ ಹಾಗೂ ರಸ್ತೆ, ಸೇತುವೆ ಮತ್ತು ಕಟ್ಟಡಗಳ ಕುರಿತಾದ ಎಲ್ಲಾ ಎಸ್.ಆರ್ ದರಗಳನ್ನು ಪ್ರಕಟಿಸುವುದು ಸೂಕ್ತವಾಗಿರುತ್ತದೆ.
- III. ದರಪಟ್ಟಿಯ ತಯಾರಿಸುವ ಬಗ್ಗೆ ಸೃಜಿಸಲಾಗಿರುವ ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿಯು ತಯಾರಿಸಿರುವ ದರಪಟ್ಟಿಯನ್ನು ಪರಿಶೀಲಿಸಿ ಅಂತಿಮಗೊಳಿಸಲು, "ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿ"ಯನ್ನು ರಚಿಸುವುದು.

ಮೇಲಿನ ಪ್ರಸ್ತಾವನೆಯಲ್ಲಿ ವಿವರಿಸಿರುವಂತೆ "ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿ"ಯನ್ನು ರಚಿಸಲು ಕೆಳಕಂಡ ಆದೇಶ ಹೊರಡಿಸಲಾಗಿದೆ.

ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ ಪಿಡಬ್ಲ್ಯುಡಿ 65 ಆರ್‌ಡಿಎಫ್ 2018 ದಿನಾಂಕ 04-04-2019


ಪ್ರಸ್ತಾವನೆಯಲ್ಲಿ ವಿವರಿಸಲಾದ ಅಂಶಗಳ ಹಿನ್ನೆಲೆಯಲ್ಲಿ, ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿಯು ತಯಾರಿಸುವ 2019-20ನೇ ಸಾಲಿನ ಏಕರೂಪ ದರಪಟ್ಟಿಯನ್ನು ಪರಿಶೀಲಿಸಲು "ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿ"ಯನ್ನು ಕೆಳಕಂಡಂತೆ ಸೃಜಿಸಲಾಗಿದೆ.

ಕ್ರ ಸಂ	ಅಧಿಕಾರಿಗಳ ಹೆಸರು/ಪದನಾಮ	
1	ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಲೋಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಳನಾಡು ಜಲಸಾರಿಗೆ, ಇಲಾಖೆ	ಅಧ್ಯಕ್ಷರು
2	ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ/ ಕಾರ್ಯದರ್ಶಿ, ಇಂಧನ ಇಲಾಖೆ	ಸದಸ್ಯರು
3	ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ/ ಕಾರ್ಯದರ್ಶಿ, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ	ಸದಸ್ಯರು
4	ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ / ಕಾರ್ಯದರ್ಶಿ, ಅರಣ್ಯ, ಪರಿಸರ ಮತ್ತು ಜೀವಿಶಾಸ್ತ್ರ ಇಲಾಖೆ.	ಸದಸ್ಯರು

ಕ್ರ ಸಂ	ಅಧಿಕಾರಿಗಳ ಹೆಸರು/ಪದನಾಮ	
5	ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿ/ ಕಾರ್ಯದರ್ಶಿ, ಗ್ರಾಮೀಣಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ	ಸದಸ್ಯರು.
6	ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿ/ ಕಾರ್ಯದರ್ಶಿ, ವಸತಿ ಇಲಾಖೆ	ಸದಸ್ಯರು
7	ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ (ವೆಚ್ಚ), ಆರ್ಥಿಕ ಇಲಾಖೆ	ಸದಸ್ಯರು
8	ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ, ಜಲ ಸಂಪನ್ಮೂಲ ಇಲಾಖೆ	ಸದಸ್ಯರು
9	ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ, ಸಣ್ಣ ನೀರಾವರಿ ಮತ್ತು ಅಂತರ್ಜಲ ಅಭಿವೃದ್ಧಿ ಇಲಾಖೆ	ಸದಸ್ಯರು
10	ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ	ಸದಸ್ಯ ಕಾರ್ಯದರ್ಶಿ

ಈ ಸಮಿತಿಯು ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿಯು ತಯಾರಿಸುವ ದರಪಟ್ಟಿಯನ್ನು ಪರಿಶೀಲಿಸಿ ದಿನಾಂಕ 01-06-2019ರಿಂದ ಕಡ್ಡಾಯವಾಗಿ ಜಾರಿಗೊಳಿಸಲು ಕ್ರಮ ವಹಿಸುವುದು. ಈ ಆದೇಶವನ್ನು ಆರ್ಥಿಕ ಇಲಾಖೆಯ ಟಿಪ್ಪಣಿ ಸಂಖ್ಯೆ ಆಇ 259 ಆಕೋ-2/2018 ದಿನಾಂಕ: 14-03-2019ರನ್ವಯ ಹೊರಡಿಸಲಾಗಿದೆ.

ಕರ್ನಾಟಕ ರಾಜ್ಯಪಾಲರ ಆದೇಶಾನುಸಾರ
ಮತ್ತು ಅವರ ಹೆಸರಿನಲ್ಲಿ


(ಕೆ.ಎಸ್.ಹರಿಶ್) 04/04/2019

ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿ,
ಲೋಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಜಸಾ
ಇಲಾಖೆ (ನಬಾರ್ಡ್)

ಇವರಿಗೆ:

- 1) ಸನ್ಮಾನ್ಯ ಲೋಕೋಪಯೋಗಿ ಸಚಿವರ ಸಂಸದಿಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ವಿಧಾನ ಸೌಧ.
- 2) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಆರ್ಥಿಕ ಇಲಾಖೆ, ವಿಧಾನ ಸೌಧ.
- 3) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಇಂದನ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
- 4) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
- 5) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಅರಣ್ಯ, ಪರಿಸರ ಮತ್ತು ಜೀವಶಾಸ್ತ್ರ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.

- 6) ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿ/ ಕಾರ್ಯದರ್ಶಿಗಳು, ಗ್ರಾಮೀಣ ಅಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
- 7) ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿ, ವಸತಿ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
- 8) ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ, ಜಲ ಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
- 9) ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ, ಸಣ್ಣ ನೀರಾವರಿ ಮತ್ತು ಅಂತರ್ಜಲ ಅಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ವಿಕಾಸ ಸೌಧ, ಬೆಂಗಳೂರು.

ಪ್ರತಿ:-

- 1) ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿ, ಲೋಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಜಸಾ ಇಲಾಖೆ, ವಿಕಾಸ ಸೌಧ, ಬೆಂಗಳೂರು.
- 2) ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿ, ಲೋಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಜಸಾ ಇಲಾಖೆ, ವಿಕಾಸ ಸೌಧ, ಬೆಂಗಳೂರು.
- 3) ಶಾಖಾ ರಕ್ಷಣಾ ಕಡತ / ಹೆಚ್ಚುವರಿ ಪ್ರತಿಗಳು.

ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ನಡವಳಿಗಳು

ವಿಷಯ: ಏಕರೂಪ ಅನುಸೂಚಿ ದರಗಳನ್ನು ತಯಾರಿಸಲು ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡವನ್ನು (Technical working group) ರಚಿಸುವ ಬಗ್ಗೆ.

ಉಲ್ಲೇಖ: (1) ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: 65 ಆರ್.ಡಿ.ಎಫ್ 2018 ದಿನಾಂಕ:04.04.2019.

(2) ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: 65 ಆರ್.ಡಿ.ಎಫ್ 2018 ದಿನಾಂಕ:04.04.2019.

(3) ಏಕರೂಪ ಅನುಸೂಚಿ ದರಗಳ ತಯಾರಿಕೆಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು. (ವೆಚ್ಚ). ಅಧ್ಯಕ್ಷತೆಯಲ್ಲಿ ದಿನಾಂಕ:05.02.2020 ರಂದು ಜರುಗಿದ 2ನೇ ಪ್ರಗತಿ ಪರಿಶೀಲನಾ ಸಭೆಯ ನಡವಳಿಗಳು.

ಪ್ರಸ್ತಾವನೆ:

ಮೇಲೆ (1)ರಲ್ಲಿ ಓದಲಾದ ಸರ್ಕಾರದ ಆದೇಶದಲ್ಲಿ ಅನುಸೂಚಿ ದರಗಳನ್ನು ಪ್ರಕಟಿಸಲು ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿಯನ್ನು ರಚಿಸಿ ಅನುಸೂಚಿ ದರಗಳ ತಯಾರಿಸುವ ಕಾರ್ಯವನ್ನು ದಿನಾಂಕ: 01.06.2019ರ ಮುನ್ನ ಅಂತಿಮಗೊಳಿಸಿ ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿಯ ಅನುಮೋದನೆ ಪಡೆದು ಜಾರಿಗೊಳಿಸಲು ಕ್ರಮವಹಿಸುವುದೆಂದು ಆದೇಶಿಸಲಾಗಿದೆ. ಮೇಲೆ (2)ರಲ್ಲಿ ಓದಲಾದ ಸರ್ಕಾರದ ಆದೇಶದಲ್ಲಿ ಅನುಸೂಚಿ ದರಗಳನ್ನು ಪ್ರಕಟಿಸಲು ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿಯನ್ನು ರಚಿಸಿ ಸಮಿತಿಯು ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿಯು ತಯಾರಿಸುವ ದರ ಪಟ್ಟಿಯನ್ನು ಪರಿಶೀಲಿಸಿ ದಿನಾಂಕ:01.06.2019 ರಿಂದ ಕಡ್ಡಾಯವಾಗಿ ಜಾರಿಗೊಳಿಸಲು ಕ್ರಮವಹಿಸುವುದೆಂದು ಆದೇಶವನ್ನು ಹೊರಡಿಸಲಾಗಿದೆ.

ಮೇಲ್ಕಂಡ ಸರ್ಕಾರದ ಆದೇಶಗಳಲ್ಲಿ ಆದೇಶಿಸಿದಂತೆ ಏಕರೂಪ ಅನುಸೂಚಿ ದರಗಳನ್ನು ತಯಾರಿಸುವ ನಿಟ್ಟಿನಲ್ಲಿ ಕೂಡಲೇ ಕ್ರಮವಹಿಸಬೇಕಾಗಿರುವ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ಮೇಲೆ ಓದಲಾದ ಸಭಾ ನಡವಳಿಗಳಲ್ಲಿ ತೀರ್ಮಾನಿಸಿದಂತೆ ಈ ಕೆಳಕಂಡ ಏಕರೂಪ ಅನುಸೂಚಿ ದರಗಳನ್ನು ತಯಾರಿಸಲು ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡವನ್ನು (Technical working group) ರಚಿಸಲು ಕೆಳಕಂಡಂತೆ ಆದೇಶ ಹೊರಡಿಸಲಾಗಿದೆ.

ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: ಆಇ 259 ಆಕೋ-2/2018 ದಿನಾಂಕ:12.02.2019

ಪ್ರಸ್ತಾವನೆಯಲ್ಲಿ ವಿವರಿಸಲಾದ ಅಂಶಗಳ ಹಿನ್ನೆಲೆಯಲ್ಲಿ, ಏಕರೂಪ ಅನುಸೂಚಿ ದರಗಳನ್ನು

ತಯಾರಿಸಲು ಈ ಕೆಳಕಂಡ ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡವನ್ನು (Technical working group) ರಚಿಸಿ ಆದೇಶಿಸಿದೆ.

**ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡ
(Technical working group)**

ಕ್ರ.ಸಂ	ಪರಿಣಿತರ ಹೆಸರು ಮತ್ತು ಪ್ರತಿನಿಧಿಸುವ ಇಲಾಖೆ	
1	ಶ್ರೀ ಆರ್.ಜೈಪ್ರಸಾದ್, ನಿವೃತ್ತ ಪ್ರಧಾನ ಇಂಜಿನಿಯರ್	ಅಧ್ಯಕ್ಷರು.
2	ಶ್ರೀ ಸಿ. ಅನಂತರಾಮು, ನಿವೃತ್ತ ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಜಲಸಂಪನ್ಮೂಲ ಇಲಾಖೆ	ಸದಸ್ಯರು
3	ಶ್ರೀ ಗೋಪಿನಾಥ್, ನಿವೃತ್ತ ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ	ಸದಸ್ಯರು
4	ಶ್ರೀ ರವಿಕುಮಾರ್, ನಿವೃತ್ತ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ	ಸದಸ್ಯರು
5	ಶ್ರೀ ರವಿಕುಮಾರ್, ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್ (ನಿವೃತ್ತ), ಗ್ರಾಮೀಣಾಭಿವೃದ್ಧಿ ಮತ್ತು ಪಂಚಾಯತ್ ರಾಜ್ ಇಲಾಖೆ	ಸದಸ್ಯರು
6	ಶ್ರೀಮತಿ. ಮೈತ್ರಿ ಎಸ್.ಕೆ. ಡೆಪ್ಯೂಟಿ ಜನರಲ್ ಮ್ಯಾನೇಜರ್, BESCOM ಶ್ರೀ. ಅನಂದ ಆರ್. ಕುಲಕರ್ಣಿ, ಆಸಿಸ್ಟೆಂಟ್ ಜನರಲ್ ಮ್ಯಾನೇಜರ್, BESCOM ಇಂಧನ ಇಲಾಖೆ.	ಸದಸ್ಯರು
7	ಶ್ರೀ ಡಿ. ದೇವರಾಜ, ಉಪ ಆರಣ್ಯ ಸಂರಕ್ಷಣಾಧಿಕಾರಿ (ನಿವೃತ್ತ), ಆರಣ್ಯ ಇಲಾಖೆ	ಸದಸ್ಯರು
8	ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು, ಲೋಕೋಪಯೋಗಿ ವೃತ್ತ, ಬೆಂಗಳೂರು.	ಸದಸ್ಯ ಕಾರ್ಯದರ್ಶಿ/ಸಮನ್ವಯಾಧಿಕಾರಿ

- i. ಈ ತಂಡವು ಕೂಡಲೇ ವಿವಿಧ ಇಲಾಖೆಗಳೊಂದಿಗೆ ಸಭೆಯನ್ನು ನಡೆಸಿ ಮಾರ್ಚ್-2020ರ ಮಾಹೆಯೊಳಗೆ ಏಕರೂಪ ದರಪಟ್ಟಿಯನ್ನು ತಯಾರಿಸಿ ಸರ್ಕಾರಕ್ಕೆ ಮುಂದಿನ ಕ್ರಮಕ್ಕಾಗಿ ಸಲ್ಲಿಸುವುದು.
- ii. ಪ್ರಸಕ್ತ ಇರುವ ದರಪಟ್ಟಿಯಲ್ಲಿನ Rate Analysis ಮತ್ತು Specification ಗಳನ್ನು ಪರಿಶೀಲಿಸಿ ಸೂಕ್ತ ರೀತಿಯಲ್ಲಿ ವಿಶ್ಲೇಷಣೆ ಮಾಡಿ ಅದರಲ್ಲಿನ ಅಂಶಗಳನ್ನು/ಘಟಕಗಳನ್ನು (Components) ಪರಾಮರ್ಶಿಸಿ ಪುನರ್ ರಚಿಸಿ ಅದರ ಆಧಾರದ ಮೇಲೆ ಏಕರೂಪ ದರಪಟ್ಟಿಗಳನ್ನು ತಯಾರಿಸುವುದು ಹಾಗೂ ಡೇಟಾ ವಿಶ್ಲೇಷಣೆಯನ್ನು ಪರಿಶೀಲಿಸಿ, duplication of common item in different SRs ಗಳನ್ನು ಒಗ್ಗೂಡಿಸುವುದು. ಈ ನಿಟ್ಟಿನಲ್ಲಿ ರಾಜ್ಯದಲ್ಲಿ ಪ್ರತ್ಯೇಕ ಎಸ್. ಆರ್. ಡೇಟಾವನ್ನು ತಂಡಕ್ಕೆ ಒದಗಿಸುವುದು ಹಾಗೂ ತಂಡವು ಬಯಸುವ ಮಾಹಿತಿಗಳನ್ನು ಒದಗಿಸಲು ಕ್ರಮವಹಿಸುವುದು. ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯಿಂದ ಈ ಕುರಿತು ಸೂಕ್ತ ಅಗತ್ಯ ಸೌಲಭ್ಯಗಳನ್ನು ಒದಗಿಸಿ ನಿಗದಿತ

ಅವಧಿಯಲ್ಲಿ ಸದರಿ ದರಗಳನ್ನು ರಚನೆಯಾಗುವಂತೆ ನೋಡಿಕೊಳ್ಳುವುದು. ದಿನಾಂಕ: 01.04.2020 ರಂದು ಸದರಿ ದರಗಳನ್ನು ಜಾರಿಗೆ ತರಲು ಎಲ್ಲಾ ಕ್ರಮಗಳನ್ನು ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯು ತೆಗೆದುಕೊಳ್ಳುವುದು.

- iii. ರಸ್ತೆ ಸೇತುವೆ ಮತ್ತು ಕಟ್ಟಡ ಕಾಮಗಾರಿಗಳಿಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ಇತರೆ ಇಲಾಖೆಗಳಲ್ಲಿ special items ಇದ್ದಲ್ಲಿ ಅಂತಹ ಐಟಂಗಳ ಪಟ್ಟಿಯನ್ನು ತಯಾರಿಸಿ, ಆರ್ಥಿಕ ಇಲಾಖೆಯು ರಚಿಸಿರುವ ಸಮಿತಿ ಮುಂದೆ ಮಂಡಿಸಲು ಕ್ರಮವಹಿಸುವುದು.
- iv. ವಿವಿಧ ಇಲಾಖೆಗಳ ದರಪಟ್ಟಿಯ ತಯಾರಿಕೆ, ವಿಶಿಷ್ಟ ವಿವರಣೆ ಹಾಗೂ ಡೇಟಾ ವಿಶ್ಲೇಷಣೆ ಮುಂತಾದ ವಿವರಗಳನ್ನು ಏಕರೂಪ ದರಪಟ್ಟಿಯ ತಯಾರಿಕೆಗೆ ಸೃಜಿಸಿರುವ ತಾಂತ್ರಿಕ ತಂಡದೊಂದಿಗೆ ಹಂಚಿಕೊಳ್ಳುವುದು.
- v. ಈ ಕುರಿತು ಕಾಲಕಾಲಕ್ಕೆ ಸರ್ಕಾರದಿಂದ ಮತ್ತು ಏಕರೂಪ ದರಗಳನ್ನು ರಚಿಸುವ ಸಂಬಂಧ ರಚಿಸಲಾಗಿರುವ ಸಮಿತಿ ನೀಡುವ ನಿರ್ದೇಶನದಂತೆ ಕಾರ್ಯನಿರ್ವಹಿಸುವುದು.
- vi. ಮೇಲ್ಕಂಡ ತಂಡದ ಸದಸ್ಯರಿಗೆ ಸೇವಾ ಶುಲ್ಕವನ್ನು ನೀಡುವ ಕುರಿತಂತೆ ಸಮನ್ವಯಾಧಿಕಾರಿಯಾಗಿರುವ ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್, ಲೋಕೋಪಯೋಗಿ ವೃತ್ತ, ಬೆಂಗಳೂರು ಇವರು ಕ್ರಮವಹಿಸುವುದು.

ಕರ್ನಾಟಕ ರಾಜ್ಯಪಾಲರ ಅಜ್ಜಾನುಸಾರ
ಮತ್ತು ಅವರ ಹೆಸರಿನಲ್ಲಿ

(ಶ್ರೀಕೃಷ್ಣ ಎನ್. ಬುಗಟ್ಟುಗೋಳೆ)

ವಿಶೇಷಾಧಿಕಾರಿ ಮತ್ತು ಪದನಿಮಿತ್ತ

ಸರ್ಕಾರದ ಜಂಟಿ ಕಾರ್ಯದರ್ಶಿ

ಆರ್ಥಿಕ ಇಲಾಖೆ

(ಲೋಕೋಪಯೋಗಿ ಆರ್ಥಿಕ ಕೋಶ)

ಇವರಿಗೆ:

1. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ, ಲೋಕೋಪಯೋಗಿ, ಬಂದರು ಮತ್ತು ಒಳನಾಡು ಜಲಸಾರಿಗೆ ಇಲಾಖೆ.
2. ಪ್ರಧಾನ ಮುಖ್ಯ ಅಭಿಯಂತರರು ಮತ್ತು ಮುಖ್ಯ ಯೋಜನಾಧಿಕಾರಿ, ಕರ್ನಾಟಕ ರಾಜ್ಯ ಹೆದ್ದಾರಿ ಅಭಿವೃದ್ಧಿ ಯೋಜನೆ, ಕೆ.ಆರ್. ವೃತ್ತ, ಬೆಂಗಳೂರು.
3. ಮುಖ್ಯ ಅಭಿಯಂತರರು, ಗ್ರಾಮೀಣ ನೀರು ಸರಬರಾಜು ಮತ್ತು ನೈರ್ಮಲ್ಯ, ಕಾವೇರಿ ಭವನ, ಬೆಂಗಳೂರು.
4. ನಿರ್ದೇಶಕರು, ತೋಟಗಾರಿಕೆ ಇಲಾಖೆ, ಲಾಲ್ ಬಾಗ್, ಬೆಂಗಳೂರು.

5. ಅಪರ ಆಯುಕ್ತರು, ವಾಣಿಜ್ಯ ತೆರಿಗೆ ಇಲಾಖೆ, ಗಾಂಧಿನಗರ, ಬೆಂಗಳೂರು.
6. ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು, ಕೃಷ್ಣಾ ಭಾಗ್ಯ ಜಲ ನಿಗಮ, ಕೆ.ಆರ್. ವೃತ್ತ, ಬೆಂಗಳೂರು.
7. ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು, ಗ್ರಾಮೀಣಾಭಿವೃದ್ಧಿ ಮತ್ತು ಪಂಚಾಯತ್ ರಾಜ್ ಇಲಾಖೆ.
8. ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು, ಕರ್ನಾಟಕ ವಿದ್ಯುತ್ ಪ್ರಸಾರಣ ನಿಗಮ ನಿಯಮಿತ ಕೆ.ಆರ್. ವೃತ್ತ, ಬೆಂಗಳೂರು.
9. ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು, ವಸತಿ ಇಲಾಖೆ.
10. ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು, ಬೆಂಗಳೂರು ನೀರು ಸರಬರಾಜು ಮತ್ತು ಒಳಚರಂಡಿ ಮಂಡಳಿ ಕಾವೇರಿ ಭವನ, ಬೆಂಗಳೂರು.
11. ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು, ಕೆ.ಯು.ಐ.ಡಿ.ಎಫ್.ಸಿ., ಬೆಂಗಳೂರು.
12. ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು, ಸಣ್ಣ ನೀರಾವರಿ ಇಲಾಖೆ, ಕೆ.ಆರ್. ವೃತ್ತ, ಬೆಂಗಳೂರು.
13. ಅಧೀಕ್ಷಕ ಅಭಿಯಂತರರು, ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ, ಹಡ್ ಸನ್ ವೃತ್ತ, ಬೆಂಗಳೂರು.
14. ಅರಣ್ಯ ಸಂರಕ್ಷಣಾಧಿಕಾರಿ(ಅಭಿವೃದ್ಧಿ), ಅರಣ್ಯ ಇಲಾಖೆ, ಅರಣ್ಯ ಭವನ, ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು.
15. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು(ವೆಚ್ಚ) ರವರ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿ, ಆರ್ಥಿಕ ಇಲಾಖೆ.
16. ಹೆಚ್ಚುವರಿ ಪ್ರತಿ.



ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ನಡವಳಿಗಳು

ವಿಷಯ:- 2021-22ನೇ ಸಾಲಿನ ಏಕರೂಪ ಅನುಸೂಚಿತ ದರಪಟ್ಟಿಯ ಪ್ರಕಟಣೆ ಬಗ್ಗೆ.

- ಓದಲಾಗಿದೆ. -1. ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ ಪಿಡಬ್ಲ್ಯುಡಿ 65 ಆರ್‌ಡಿಎಫ್ 2018 ದಿನಾಂಕ 04-04-2019
2. ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ ಆಇ 259 ಆಕೋ-2/2018 ದಿನಾಂಕ 17-02-2020.
3. ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಜಲಸಂಪನ್ಮೂಲ ಅಭಿವೃದ್ಧಿ ಸಂಸ್ಥೆ ಇವರ ಪತ್ರ ದಿನಾಂಕ 31-03-2022.
4. ಪ್ರಧಾನ ವ್ಯವಸ್ಥಾಪಕರು,(ವಿ), ಗುಣಮಟ್ಟ, ಪ್ರಮಾಣಿತ & ಸುರಕ್ಷತೆ, ಬೆಸ್ಕಾಂ, ಬೆಂಗಳೂರು ಇವರ ಪತ್ರ ದಿನಾಂಕ 31-03-2022.
5. ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್, ಮೂಲಸೌಲಭ್ಯ ಅಭಿವೃದ್ಧಿ, ಬಂದರು ಮತ್ತು ಒಳನಾಡು ಜಲಸಾರಿಗೆ ಇಲಾಖೆ ಇವರ ಪತ್ರ ದಿನಾಂಕ 31-03-2022.
6. ಪ್ರಧಾನ ಮುಖ್ಯ ಅರಣ್ಯ ಸಂಕರಕ್ಷಣಾಧಿಕಾರಿ (ಅಭಿವೃದ್ಧಿ) ಇವರ ಪತ್ರ ದಿನಾಂಕ 31-03-2022

ಪೀಠಿಕೆ:-

ರಾಜ್ಯದ ಪ್ರಮುಖ ಇಲಾಖೆಗಳಾದ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ, ಜಲಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ವಸತಿ ಇಲಾಖೆ, ಇಂಧನ ಇಲಾಖೆ ಮುಂತಾದವುಗಳು ತಮ್ಮದೇ ಆದ ಅನುಸೂಚಿತ ದರಗಳನ್ನು (Schedule of Rates) ತಯಾರಿಸಿದ್ದು, ವಿವಿಧ ಕಾಮಗಾರಿಗಳ ಅಂದಾಜುಗಳ ತಯಾರಿಕೆಯಲ್ಲಿ ಬೇರೆ ಬೇರೆ ಇಲಾಖೆಗಳ ದರಗಳನ್ನು ಅಳವಡಿಸಿ ಅಂದಾಜುಗಳನ್ನು ತಯಾರಿಸಲಾಗುತ್ತಿದೆ. GST ಅನುಷ್ಠಾನವಾದ ನಂತರದ ಅವಧಿಯಲ್ಲಿ ಒಂದು ಇಲಾಖೆಯಲ್ಲಿ GST ಪೂರ್ವ ದರಗಳಿದ್ದಲ್ಲಿ, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯಲ್ಲಿ GST ನಂತರದ ದರಗಳೂ ಅಸ್ತಿತ್ವದಲ್ಲಿವೆ.

ಇದರಿಂದ ಅಂದಾಜುಗಳನ್ನು ತಯಾರಿಸಲು ಮತ್ತು ಟೆಂಡರ್ ಮೌಲ್ಯಮಾಪನ ಮಾಡುವಲ್ಲಿ ಅನೇಕ ಸಮಸ್ಯೆಗಳು ಉದ್ಭವವಾಗುತ್ತಿವೆ. ಈ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ರಾಜ್ಯದಲ್ಲಿ ಏಕರೂಪ ಸಮಗ್ರ ಅನುಸೂಚಿತ ದರಗಳನ್ನು ತಯಾರಿಸಿ ಪ್ರಕಟಿಸುವುದು ಸೂಕ್ತವೆಂದು ನಿರ್ಧರಿಸಲಾಗಿದ್ದು, ಮೇಲೆ ಓದಲಾದ ಕ್ರ.ಸಂ-1ರ ಆದೇಶದಂತೆ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯನ್ನು ನೋಡಲ್ ಇಲಾಖೆಯನ್ನಾಗಿ ನೇಮಿಸಿ, ಎಲ್ಲಾ ಪ್ರಮುಖ ಇಲಾಖೆಗಳ ಪ್ರತಿನಿಧಿಗಳನ್ನೊಳಗೊಂಡ ಸಮಿತಿಯನ್ನು ರಚಿಸಿ, ಸದರಿ ಸಮಿತಿ ಮೂಲಕ ಸಮಗ್ರವಾದ ಅನುಸೂಚಿತ ದರಗಳನ್ನು ತಯಾರಿಸಿ ಪ್ರಕಟಿಸಲು ನಿರ್ಧರಿಸಲಾಯಿತು. ಅದರಂತೆ ಕೆಳಕಂಡ ಸಮಿತಿಗಳನ್ನು ಮೇಲೆ ಓದಲಾದ ಸರ್ಕಾರದ ಆದೇಶ-1ರಂತೆ ರಚಿಸಲಾಯಿತು.

1. ಅನುಸೂಚಿತ ದರಗಳ ರಚನಾ ಸಮಿತಿ- ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು, ಲೋಕ ಇವರ ಅಧ್ಯಕ್ಷತೆ

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2. ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿ:- ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಲೋಇ ಇವರ ಅಧ್ಯಕ್ಷತೆ.

ಈ ಸಮಿತಿಗಳು ಅನುಸೂಚಿ ದರಗಳ ತಯಾರಿ ಮತ್ತು ಪ್ರಕಟಣೆ ಕುರಿತು ಅಗತ್ಯ ಕ್ರಮವನ್ನು ಶೀಘ್ರವಾಗಿ ತೆಗೆದುಕೊಳ್ಳುವಂತೆ ಮತ್ತು ಸದರಿ ಅನುಸೂಚಿ ದರಗಳ ತಯಾರಿ ಕಾರ್ಯವನ್ನು 3 ತಿಂಗಳೊಳಗಾಗಿ ಅಂತಿಮಗೊಳಿಸಿ ದಿನಾಂಕ 01-06-2019ರಿಂದ ಕಡ್ಡಾಯವಾಗಿ ಜಾರಿಗೊಳಿಸಲು ಮೇಲ್ಕಂಡ ಆದೇಶಗಳಲ್ಲಿ ತಿಳಿಸಲಾಗಿದೆ.

ದಿನಾಂಕ 05-02-2020ರಂದು ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು, ಆರ್ಥಿಕ ಇಲಾಖೆ (ವೆಚ್ಚ) ಇವರ ಅಧ್ಯಕ್ಷತೆಯಲ್ಲಿ ನಡೆದ ಸಭೆಯಲ್ಲಿ ಏಕರೂಪ ಅನುಸೂಚಿ ದರಗಳನ್ನು ತಯಾರಿಸುವ ನಿಟ್ಟಿನಲ್ಲಿ ಏಕರೂಪ ಅನುಸೂಚಿ ದರಗಳನ್ನು ತಯಾರಿಸಲು ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡವನ್ನು (Technical Working Group) ರಚಿಸಲು ಮೇಲೆ ಓದಲಾದ ಸರ್ಕಾರದ ಆದೇಶ-2ರಂತೆ ಶ್ರೀ ಆರ್. ಜೈಪ್ರಸಾದ್, ನಿವೃತ್ತ ಪ್ರಧಾನ ಇಂಜಿನಿಯರ್, ಇವರ ಅಧ್ಯಕ್ಷತೆಯಲ್ಲಿ ವಿವಿಧ ಇಲಾಖೆಗಳ ನಿವೃತ್ತ ಹಾಗೂ ಅಧಿಕಾರಿಗಳನ್ನು ಒಳಗೊಂಡಂತೆ ಆದೇಶ ಹೊರಡಿಸಲಾಯಿತು. ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್, ಲೋಇ ವೃತ್ತ, ಬೆಂಗಳೂರು ಇವರು ಈ ತಂಡದ ಸದಸ್ಯ ಕಾರ್ಯದರ್ಶಿ/ಸಮನ್ವಯಾಧಿಕಾರಿಯನ್ನಾಗಿ ಸಹ ನೇಮಿಸಲಾಯಿತು. ಸದರಿ ತಂಡವು ಮಾರ್ಚ್-2020ರ ಮಾಹೆಯೊಳಗೆ ಏಕರೂಪ ದರಪಟ್ಟಿಯನ್ನು ತಯಾರಿಸಿ ಸರ್ಕಾರಕ್ಕೆ ಮುಂದಿನ ಕ್ರಮಕ್ಕಾಗಿ ಸಲ್ಲಿಸಲು ಸಹ ಸೂಚಿಸಲಾಯಿತು.

ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡವು ವಿವಿಧ ಇಲಾಖೆಗಳ ಒಟ್ಟು 32 ದರಪಟ್ಟಿಗಳನ್ನು ಅಧ್ಯಯನ ಮಾಡಿ, ಆಯಾ ಇಲಾಖೆಯ ಅಧಿಕಾರಿಗಳೊಂದಿಗೆ ಸಮಾಲೋಚಿಸಿ, ವಿವಿಧ ಇಲಾಖೆಗಳನ್ನು ಒಗ್ಗೂಡಿಸಿ, ರಾಜ್ಯವ್ಯಾಪಿ ಏಕರೂಪ ಅನುಸೂಚಿತ ದರಪಟ್ಟಿಯನ್ನು ಕೆಳಕಂಡಂತೆ ತಯಾರಿಸಲು ನಿರ್ಧರಿಸಿತು.

SR's OF ORGANIZATIONS CONCERNED UNDER	NODAL ORGANIZATION
PWD (C&B), NH & PRED	PWD
WRDO, MI & KPCL	WRDO
BWSSB, KUWSDB & RWS	BWSSB
KPTCL, ESCOMS, PWD ELECTRICAL	BESCOM
PORTS & IWTD & Airports	PORTS
FOREST, WATERSHED, HORTICULTURE	FOREST

ಮೇಲೆ ತಿಳಿಸಿದಂತೆ ವಿವಿಧ ಇಲಾಖೆಗಳನ್ನು ಒಗ್ಗೂಡಿಸಿ 6 ಏಕರೂಪ ಅನುಸೂಚಿತ ದರಗಳನ್ನು ತಯಾರಿಸಲು ನಿರ್ಧರಿಸಲಾಯಿತು. ಹಾಗೂ ವಿವಿಧ ಇಲಾಖೆಗಳು ತಮ್ಮ ಹಿಂದಿನ ದರಪಟ್ಟಿಯ ತಯಾರಿಕೆಯಲ್ಲಿ ಅಳವಡಿಸಿಕೊಳ್ಳುತ್ತಿದ್ದ ಕೆಳಕಂಡ ಅಂಶಗಳನ್ನು ಪರಿಶೀಲಿಸಿ rationalization ಮಾಡಲಾಗಿರುತ್ತದೆ.

- ನಿರ್ಮಾಣ ಸಾಮಗ್ರಿಗಳ ದರಗಳನ್ನು ಎಲ್ಲಾ ಇಲಾಖೆಗಳಿಗೆ ಅನ್ವಯವಾಗುವಂತೆ ಏಕರೂಪ ದರಪಟ್ಟಿಯಲ್ಲಿ ಅಳವಡಿಸಿದೆ.

✓

- ಕೂಲಿ ಕಾರ್ಮಿಕರ ದರಗಳನ್ನು ಕಾರ್ಮಿಕ ಇಲಾಖೆಯು ಪ್ರಕಟಿಸಿರುವಂತೆ ಕನಿಷ್ಠ ದರಗಳನ್ನು ಸಹ ಏಕರೂಪ ದರಪಟ್ಟಿಯಲ್ಲಿ ಅವಳಡಿಸಲಾಗಿದೆ.
- Ministry of Road Transport and Highways-2019 Standard data book ತಂತ್ರಾಂಶದಂತೆ ಯಂತ್ರೋಪಕರಣಗಳ ಬಾಡಿಗೆ ದರಗಳನ್ನು ಏಕರೂಪ ದರಪಟ್ಟಿಯಲ್ಲಿ ಅವಳಡಿಸಲಾಗಿದೆ.
- ಗುತ್ತಿಗೆದಾರರ ಲಾಭಾಂಶವನ್ನು ಗರಿಷ್ಠ ಶೇ10% ಅಥವಾ ಆಯಾ ಇಲಾಖೆಗಳು ನಿಗದಿಪಡಿಸಿರುವ ಇವುಗಳಲ್ಲಿ ಯಾವುದು ಕಡಿಮೆ ಏಕರೂಪ ದರಪಟ್ಟಿಯಲ್ಲಿ ಅವಳಡಿಸಲಾಗಿದೆ.
- Overhead charges ದರಗಳನ್ನು ಗರಿಷ್ಠ ಶೇ10% ಅಥವಾ ಆಯಾ ಇಲಾಖೆಗಳು ನಿಗದಿಪಡಿಸಿರುವ ಇವುಗಳಲ್ಲಿ ಯಾವುದು ಕಡಿಮೆಯೋ ಅದನ್ನು ಏಕರೂಪ ದರಪಟ್ಟಿಯಲ್ಲಿ ಅವಳಡಿಸಲಾಗಿದೆ.
- Area specific loading ಅಂಶವನ್ನು ಎಲ್ಲ ಇಲಾಖೆಗಳ ಕಾಮಗಾರಿಗಳಿಗೆ ಅನ್ವಯವಾಗುವಂತೆ ಏಕರೂಪ ದರಪಟ್ಟಿಯಲ್ಲಿ ಅವಳಡಿಸಲಾಗಿದೆ.
- Earth work, Cement concrete items with shuttering and surveying ಐಟಂಗಳನ್ನು ಸಹ ಈ ದರಪಟ್ಟಿಯಲ್ಲಿ ಎಲ್ಲ ಇಲಾಖೆಗಳಿಗೆ ಅನ್ವಯವಾಗುವಂತೆ ಅವಳಡಿಸಿರುತ್ತದೆ.
- ಇತರೆ ಇಂಜಿನಿಯರಿಂಗ್ ಇಲಾಖೆಗಳು ತಮ್ಮ ಕಾರ್ಯಕ್ಷೇತ್ರಕ್ಕೆ ಅವಶ್ಯವಿರುವಂತಹ specific construction materials and itemsಗಳನ್ನು ತಮ್ಮ ದರಪಟ್ಟಿಯಲ್ಲಿ ಪ್ರತ್ಯೇಕವಾಗಿ ಅವಳಡಿಸಿಕೊಳ್ಳಲಾಗಿದೆ.

ಮೇಲಿನ ಅಂಶಗಳನ್ನು ಪರಿಗಣಿಸಿ ದಿನಾಂಕ 14-01-2022ರಂದು ನಡೆದ ಏಕರೂಪ ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿಯ ಸಭೆಯಲ್ಲಿ ಆಯಾ ಇಲಾಖೆಗಳು ತಯಾರಿಸಿರುವ ಏಕರೂಪ ದರಪಟ್ಟಿಯನ್ನು ಏಕರೂಪ ದರಪಟ್ಟಿಗೆ ಸಕ್ಷಮ ಪ್ರಾಧಿಕಾರದ ಅನುಮೋದನೆ ಪಡೆದು ಆಯಾ ಇಲಾಖೆಯ ವೆಬ್‌ಸೈಟ್‌ನಲ್ಲಿ ಪ್ರಕಟಿಸಲು ಸೂಚಿಸಲಾಯಿತು. ಹಾಗೂ ಈ ದರಪಟ್ಟಿಯ ಬಗ್ಗೆ ವಿವಿಧ stake holdersಗಳ ಅಭಿಪ್ರಾಯ/ ಸಲಹೆ/ ಆಕ್ಷೇಪಣೆಗಳನ್ನು ಪಡೆಯಲು ನಿರ್ದರಿಸಲಾಗಿದೆ. ಅದರಂತೆ ಜಲಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ಅರಣ್ಯ ಇಲಾಖೆಗಳು ಕರಡು ದರಪಟ್ಟಿಯನ್ನು ತಮ್ಮ ಇಲಾಖೆಗಳ ಜಾಲತಾಣದಲ್ಲಿ ಪ್ರಕಟಿಸಿರುತ್ತವೆ. ಹಾಗೂ Escom ದರಪಟ್ಟಿಯ ಬಗ್ಗೆ stake holdersಗಳೊಂದಿಗೆ ಚರ್ಚಿಸಿ ಅಂತಿಮಗೊಳಿಸಲಾಗಿದೆ.

ಮೇಲೆ ಓದಲಾದ ಉಲ್ಲೇಖ-3ರ ಪತ್ರದಲ್ಲಿ ಜಲಸಂಪನ್ಮೂಲ ಇಲಾಖೆಯ (ಜಲಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ಸಣ್ಣ ನೀರಾವರಿ ಇಲಾಖೆ ಮತ್ತು ಕೆಪಿಸಿಎಲ್ ಇಲಾಖೆಗಳು ಒಳಗೊಂಡಂತೆ) ಅನುಸೂಚಿತ ಏಕರೂಪ ದರಪಟ್ಟಿ-ಸಂಪುಟ IV, ಉಲ್ಲೇಖ-4ರ ಪತ್ರದಲ್ಲಿ ಬೆಸ್ಕಾಂ (ಎಸ್ಕಾಂ, ಕೆಪಿಟಿಸಿಎಲ್ ಮತ್ತು ಲೋಕೋಪಯೋಗಿ ವಿದ್ಯುತ್ ದರಪಟ್ಟಿ) ಸಂಸ್ಥೆಯು ಅನುಸೂಚಿತ ಏಕರೂಪ ದರಪಟ್ಟಿ ಸಂಪುಟ-VI, ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್, ಮೂಲಸೌಲಭ್ಯ ಅಭಿವೃದ್ಧಿ, ಬಂದರು ಮತ್ತು ಒಳನಾಡು ಜಲಸಾರಿಗೆ ಇಲಾಖೆ ಇವರು ಏಕರೂಪ ಅನುಸೂಚಿ ದರಪಟ್ಟಿ ಸಂಪುಟ-VII (ಬಂದರು ಮತ್ತು ವಿಮಾನ ನಿಲ್ದಾಣ ದರಪಟ್ಟಿ) ಹಾಗೂ ಉಲ್ಲೇಖ-5ರ ಪತ್ರದಲ್ಲಿ ಪ್ರಧಾನ ಮುಖ್ಯ ಅರಣ್ಯ ಸಂಕರಕ್ಷಣಾಧಿಕಾರಿ (ಅಭಿವೃದ್ಧಿ) ಇವರು ಏಕರೂಪ ಅನುಸೂಚಿ ದರಪಟ್ಟಿ ಸಂಪುಟ-VIII (ಅರಣ್ಯ, ತೋಟಗಾರಿಕೆ ಮತ್ತು ಜಲಾಯನ ಪ್ರದೇಶ ದರಪಟ್ಟಿ)ಗಳಿಗೆ ಅನುಮೋದನೆ

✓

ಕೋರಿ ಕರಡು ದರಪಟ್ಟಿಗಳನ್ನು ಏಕರೂಪ ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿಗೆ ಸಲ್ಲಿಸಲಾಗಿದೆ.

ದಿನಾಂಕ 31-03-2022ರಂದು ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ ಇವರ ಅಧ್ಯಕ್ಷತೆಯಲ್ಲಿ ನಡೆದ ಏಕರೂಪ ಅನುಸೂಚಿತ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿಯ ಸಭೆಯಲ್ಲಿ ಏಕರೂಪ ಅನುಸೂಚಿತ ದರಪಟ್ಟಿಗಳನ್ನು ಪರಿಶೀಲಿಸಿ ಚರ್ಚಿಸಿದ್ದು, ಜಲಸಂಪನ್ಮೂಲ ಇಲಾಖೆಯ ಏಕರೂಪ ದರಪಟ್ಟಿ ಸಂಪುಟ IV, ಬೆಸ್ಕಾಂನ ಏಕರೂಪ ದರಪಟ್ಟಿ ಸಂಪುಟ- VI, ಬಂದರು ಮತ್ತು ವಿಮಾನ ನಿಲ್ದಾಣ ಏಕರೂಪ ದರಪಟ್ಟಿ ಸಂಪುಟ- VII ಮತ್ತು ಅರಣ್ಯ ಇಲಾಖೆಯ ಏಕರೂಪ ದರಪಟ್ಟಿ ಸಂಪುಟ- VIII ಅಂಗೀಕರಿಸಿ ತಕ್ಷಣದಿಂದ ಜಾರಿಗೆ ತರಲು ನಿರ್ಧರಿಸಲಾಗಿರುತ್ತದೆ.

ಈ ವಿವರಗಳನ್ನು ಪರಿಶೀಲಿಸಿ ಕೆಳಕಂಡಂತೆ ಆದೇಶಿಸಲಾಗಿದೆ.

**ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ ಲೋಇ 51 ಆರ್‌ಡಿಎಫ್ 2019, ಬೆಂಗಳೂರು
ದಿನಾಂಕ 31-03-2022**

ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡದ ಮಾರ್ಗದರ್ಶನದಲ್ಲಿ ತಯಾರಿಸಿರುವ 2021-22ನೇ ಸಾಲಿನ ಈ ಕೆಳಕಂಡ ಏಕರೂಪ ದರಪಟ್ಟಿಗಳ ಸಂಪುಟಗಳನ್ನು ರಾಜ್ಯವ್ಯಾಪಿ ಎಲ್ಲ ಇಲಾಖೆಗಳಿಗೆ ಅನ್ವಯವಾಗುವಂತೆ ತಕ್ಷಣದಿಂದ ಹಾಗೂ ಮುಂದಿನ ಆದೇಶದವರೆಗೆ ಜಾರಿಗೆ ತರಲಾಗಿದೆ.

SR's OF ORGANIZATIONS CONCERNED UNDER	NODAL ORGANIZATION	Volume
WRDO, MI & KPCL	WRDO	IV
KPTCL, ESCOMS, PWD ELECTRICAL	BESCOM	VI
PORTS & IWTD & Airports	PORTS	VII
FOREST, WATERSHED, HORTICULTURE	FOREST	VIII

ಈ ಕಾಮಗಾರಿಗಳನ್ನು ನಿರ್ವಹಿಸುವ ಸರ್ಕಾರದ ಎಲ್ಲಾ ಇಲಾಖೆಗಳು/ನಿಗಮ/ಮಂಡಳಿ/ ಸಂಸ್ಥೆಗಳು ತಕ್ಷಣದಿಂದಲೇ ಜಾರಿಗೆ ಬರುವಂತೆ ಸದರಿ ದರಗಳನ್ನು ಅಂದಾಜು ತಯಾರಿಕೆ, ಟೆಂಡರ್ ಪ್ರಕ್ರಿಯೆ ಮತ್ತು ಅನುಷ್ಠಾನಗೊಳಿಸುವಲ್ಲಿ ಅಳವಡಿಕೊಳ್ಳತಕ್ಕದ್ದು.

ಈ ಏಕರೂಪ ಅನುಸೂಚಿತ ಸಂಪುಟಗಳನ್ನು ಆಯಾ ಸಂಬಂಧಪಟ್ಟ ಇಲಾಖೆಗಳ ಹಾಗೂ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯ ಅಂತರ್ಜಾಲದಲ್ಲಿ ಪ್ರಕಟಿಸುವುದು.

ವಿದ್ಯುತ್ ಇಲಾಖೆಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ಮುಖ್ಯ ನಿರ್ಮಾಣ ಸಾಮಗ್ರಿಗಳಾದ Aluminum, copper, Steel, Insulating material, PVC/XLPE compound, CRGO core, Transformer oil ದರಗಳು IEEMA ಸುತ್ತೋಲೆಗಳ ಪ್ರಕಾರ ಪ್ರತಿ ತಿಂಗಳು ಏರುಪೇರು ಆಗುತ್ತಿದ್ದು, ಪ್ರತಿ ತ್ರೈಮಾಸಿಕ ಅವಧಿಗೆ ಅಥವಾ ಶೇ.10 ಕ್ಕಿಂತ ದರ ವ್ಯತ್ಯಾಸವಾದಲ್ಲಿ ಪರಿಷ್ಕೃತ ದರಗಳನ್ನು ನಿಯಮಾನುಸಾರ ಪ್ರಕಟಿಸುವುದು.

h

ಶೇ. 12% ಜಿಎಸ್‌ಟಿ ಪ್ರತಿಶತವನ್ನು ಅಂದಾಜುಪಟ್ಟಿಯಲ್ಲಿ ಪ್ರತ್ಯೇಕವಾಗಿ ಸೇರ್ಪಡೆ ಮಾಡುವುದು.

ಗುತ್ತಿಗೆ ಅವಧಿಯನ್ನು ಗುತ್ತಿಗೆದಾರರ ವಿಳಂಬದಿಂದ ವಿಸ್ತರಿಸಿದಲ್ಲಿ ವಿಸ್ತೃತ ಗುತ್ತಿಗೆ ಅವಧಿಯಲ್ಲಿ ಆಗುವ ಜಿಎಸ್‌ಟಿ ಹೆಚ್ಚಳವನ್ನು ಗುತ್ತಿಗೆದಾರರೇ ಭರಿಸತಕ್ಕದ್ದು.

ಈ ಅನುಸೂಚಿ ಏಕರೂಪ ದರಪಟ್ಟಿ, ಸಂಪುಟ-IV, VI, VII ಮತ್ತು VIII ಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಎಲ್ಲ ಸಾಧ್ಯತೆ ಮತ್ತು ಭಾದ್ಯತೆಗಳನ್ನು ಸಂಬಂಧಪಟ್ಟ (WRD, MI, KPCL-Vol IV, Escoms, KPTCL and PWD-Vol-VI, IDD, Ports- Vol-VII, Forest, Horticulture, Watershed department-Vol-VIII) ಇಲಾಖೆಗಳು ಹೊಂದಿರುತ್ತವೆ.

ಕರ್ನಾಟಕ ರಾಜ್ಯಪಾಲರ ಆದೇಶಾನುಸಾರ
ಮತ್ತು ಅವರ ಹೆಸರಿನಲ್ಲಿ

ಸಿದ್ದ. ಅನುಕೂಲ 3/2/2022
(ಬಿ.ಹೆಚ್. ಅನಿಲ್ ಕುಮಾರ್)

ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ
ಹಾಗೂ ಅಧ್ಯಕ್ಷರು, ಅನುಸೂಚಿ
ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿ,
ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ

ಇವರಿಗೆ:

1. ಮಹಾಲೇಖಪಾಲರು, (ಲೆಕ್ಕ ಪರಿಶೀಲನೆ-II), ಕರ್ನಾಟಕ, ಬೆಂಗಳೂರು.
2. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಆರ್ಥಿಕ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
3. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಇಂಧನ ಇಲಾಖೆ, ಬೆಂಗಳೂರು
4. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
5. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಅರಣ್ಯ, ಪರಿಸರ ಮತ್ತು ಜೀವಿಶಾಸ್ತ್ರ, ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
6. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಗ್ರಾಮೀಣಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ
7. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಮೂಲಸೌಕರ್ಯ ಅಭಿವೃದ್ಧಿ, ಬಂದರು ಮತ್ತು ಒಳನಾಡು ಜಲಸಾರಿಗೆ ಇಲಾಖೆ
8. ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿಗಳು, ವಸತಿ ಇಲಾಖೆ.
9. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು, ಆರ್ಥಿಕ ಇಲಾಖೆ (ವೆಚ್ಚ), ಬೆಂಗಳೂರು.
10. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು ಜಲಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ಬೆಂಗಳೂರು
11. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು, ಸಣ್ಣನೀರಾವರಿ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
12. ಪ್ರಧಾನ ಇಂಜಿನಿಯರ್, ರಸ್ತೆ, ಯೋಜನೆ ಮತ್ತು ಆಸ್ತಿ ನಿರ್ವಹಣೆ ಕೇಂದ್ರ, (PRAMC), ಬೆಂಗಳೂರು- ಇವರು ಈ ಸಂಪುಟಗಳನ್ನು ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯ ಅಂತರ್ಜಾಲದಲ್ಲಿ ಪ್ರಕಟಿಸುವುದು.
13. ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಸಂಪರ್ಕ ಮತ್ತು ಕಟ್ಟಡಗಳು (ದಕ್ಷಿಣ), (ಉತ್ತರ), (ಈಶಾನ್ಯ) ಮತ್ತು ಕೇಂದ್ರ ವಲಯಗಳು, ಬೆಂಗಳೂರು, ಧಾರವಾಡ, ಕಲಬುರಗಿ, ಶಿವಮೊಗ್ಗ.
14. ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಜಲಸಂಪನ್ಮೂಲ ಅಭಿವೃದ್ಧಿ ಸಂಸ್ಥೆ, ಆನಂದರಾವ್ ವೃತ್ತ, ಬೆಂಗಳೂರು -ತಮ್ಮ ಇಲಾಖೆಯ ವೆಬ್‌ಸೈಟ್‌ನಲ್ಲಿ ಪ್ರಕಟಿಸಲು

ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ನಡವಳಿಗಳು

ವಿಷಯ: 2023-24ನೇ ಸಾಲಿನ ಏಕರೂಪ ಅನುಸೂಚಿ ದರಪಟ್ಟಿಗಳನ್ನು ಪರಿಷ್ಕರಿಸಿ ತಯಾರಿಸಲು ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡವನ್ನು (Technical Working Group) ಪುನರ್ ರಚಿಸುವ ಬಗ್ಗೆ.

- ಉಲ್ಲೇಖ 1. ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: ಲೋಇ 65 ಆರ್‌ಡಿಎಫ್ 2018, ದಿನಾಂಕ: 04.04.2019.
2. ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: ಆಇ 259 ಆಕೋ-2/2018, ದಿನಾಂಕ: 17.02.2020.
3. ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: ಲೋಇ 51 ಆರ್‌ಡಿಎಫ್ 2019,ಬೆಂಗಳೂರು, ದಿನಾಂಕ:18.03.2022, 25-03-2022 ಮತ್ತು 31-03-2022.

ಪ್ರಸ್ತಾವನೆ:

ಮೇಲೆ (1)ರಲ್ಲಿ ಒದಲಾದ ಸರ್ಕಾರದ ಆದೇಶದಲ್ಲಿ ಅನುಸೂಚಿ ದರಗಳ ರಚನಾ ಸಮಿತಿಯು ತಯಾರಿಸುವ 2019-20ನೇ ಸಾಲಿನ ಏಕ ರೂಪ ದರಪಟ್ಟಿಯನ್ನು ಪರಿಶೀಲಿಸಲು "ಅನುಸೂಚಿ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿ"ಯನ್ನು ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ ಇವರ ಅಧ್ಯಕ್ಷತೆಯಲ್ಲಿ ವಿವಿಧ ಇಲಾಖೆಗಳ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು / ಕಾರ್ಯದರ್ಶಿಗಳ ಸದಸ್ಯರುಗಳನ್ನು ಒಳಗೊಂಡು ಸೃಜಿಸಲಾಗಿರುತ್ತದೆ. ಈ ಸಮಿತಿಯು ಏಕರೂಪ ದರಪಟ್ಟಿಯ ರಚನಾ ಸಮಿತಿಯು ತಯಾರಿಸುವ ದರಪಟ್ಟಿಗಳನ್ನು ಪರಿಶೀಲಿಸಿ ಜಾರಿಗೊಳಿಸಲು ಕ್ರಮವಹಿಸಲು ಆರ್ಥಿಕ ಇಲಾಖೆಯ ಟಿಪ್ಪಣಿ ಸಂಖ್ಯೆ: ಆಇ 259 ಆಕೋ-2/2018, ದಿನಾಂಕ:14.03.2019ರನ್ವಯ ಆದೇಶ ಹೊರಡಿಸಲಾಗಿರುತ್ತದೆ.

ಮೇಲೆ (2)ರಲ್ಲಿ ಒದಲಾದ ಸರ್ಕಾರದ ಆದೇಶದಲ್ಲಿ ಏಕರೂಪ ಅನುಸೂಚಿ ದರಗಳನ್ನು ತಯಾರಿಸಲು "ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡ" (Technical Working Group) ರಚಿಸಿ ವಿವಿಧ ಇಲಾಖೆಗಳೊಂದಿಗೆ ಸಭೆಯನ್ನು ನಡೆಸಿ ಮಾರ್ಚ್-2020ರ ಮಾಹೆಯೊಳಗೆ ಏಕರೂಪ ದರಪಟ್ಟಿಯನ್ನು ಸರ್ಕಾರಕ್ಕೆ ಮುಂದಿನ ಕ್ರಮಕ್ಕಾಗಿ ಸಲ್ಲಿಸುವಂತೆ ಆದೇಶ ಹೊರಡಿಸಲಾಗಿರುತ್ತದೆ.

ಮೇಲೆ (3)ರಲ್ಲಿ ಒದಲಾದ ಸರ್ಕಾರದ ಆದೇಶಗಳಲ್ಲಿ ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡದ ಮಾರ್ಗದರ್ಶನದಲ್ಲಿ ವಿವಿಧ ಇಲಾಖೆಗಳು ತಯಾರಿಸಿರುವ ಕೆಳಕಂಡ 2021-22ನೇ ಸಾಲಿನ ಅನುಸೂಚಿತ ಏಕರೂಪ ದರಪಟ್ಟಿಗಳ ಸಂಪುಟಗಳನ್ನು ಮುಂದಿನ ಆದೇಶದವರೆಗೆ ಜಾರಿಗೆ ತರಲಾಗಿದೆ.

ಕ್ರ.ಸಂ	ಇಲಾಖೆಗಳು	ನೋಡಲ್ ಇಲಾಖೆಗಳು	ಏಕರೂಪ ದರಪಟ್ಟಿಯ ಸಂಪುಟ ಸಂಖ್ಯೆ
1	PWD, & PRED(Including Buildings*)	PWD	I, II & III
2	WRDO, MI & KPCL	WRDO	IV
3	BWSSB /KUWS&DB /RWS	BWSSB	V
4	KPTCL, ESCOMS, PWD ELECTRICAL	BESCOM	VI
5	PORTS & IWTD	PORTS	VII
6	FOREST, WATERSHED & HORTICULTURE	FOREST	VIII

ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: ಆಇ 259 ಆಕೋ-/2018, ದಿನಾಂಕ:17.02.2020. ಆದೇಶದಂತೆ ಹಾಗೂ ಉಲ್ಲೇಖ(3)ರಲ್ಲಿ ಈಗಾಗಲೇ ಪ್ರಕಟಿಸಿರುವ 2021-22ನೇ

Nattamiah

ಸಾಲಿನ ಏಕರೂಪ ದರಪಟ್ಟಿಗಳ ಸಂಪುಟಗಳನ್ನು ಪರಿಷ್ಕರಿಸಿ 2023-24ನೇ ಸಾಲಿನ ಏಕರೂಪ ದರಪಟ್ಟಿಗಳನ್ನು ತಯಾರಿಸಲು ಕ್ರಮ ವಹಿಸಬೇಕಾಗಿರುವ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ಈ ಕೆಳಕಂಡಂತೆ ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡವನ್ನು (Technical Working Group) ಪುನರ್ ರಚಿಸಲು ನಿರ್ಧರಿಸಲಾಗಿದೆ.

ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ ಲೋಇ 86 ಆರ್‌ಡಿಎಫ್ 2022, ಬೆಂಗಳೂರು.

ದಿನಾಂಕ: 13.02.2023

ಪ್ರಸ್ತಾವನೆಯಲ್ಲಿ ವಿವರಿಸಲಾದ ಅಂಶಗಳ ಹಿನ್ನೆಲೆಯಲ್ಲಿ, 2023-24ನೇ ಸಾಲಿನ ರಾಜ್ಯವ್ಯಾಪಿ ಏಕರೂಪ ದರಪಟ್ಟಿ ಸಂಪುಟ-I ರಿಂದ VIII ಪರಿಷ್ಕರಿಸಲು ಈ ಕೆಳಕಂಡ ಸದಸ್ಯರುಗಳನ್ನೊಳಗೊಂಡಂತೆ ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡವನ್ನು (Technical Working Group) ಪುನರ್ ರಚಿಸಿ ಆದೇಶಿಸಿದೆ.

ಕ್ರ. ಸಂ	ಶ್ರೀಯುತ/ಅಧಿಕಾರಿಗಳು	
1.	ಆರ್. ಜೈಪ್ರಸಾದ್, ನಿವೃತ್ತ ಪ್ರಧಾನ ಇಂಜಿನಿಯರ್	ಅಧ್ಯಕ್ಷರು
2.	ಬಿ. ಗುರುಪ್ರಸಾದ್, ನಿವೃತ್ತ ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ ಮತ್ತು ಪ್ರಧಾನ ಇಂಜಿನಿಯರ್, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ	ಸದಸ್ಯರು
3.	ಕೆ. ಮೋಹನ್ ನಿವೃತ್ತ ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ.	ಸದಸ್ಯರು
4.	ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಗ್ರಾಮೀಣ ನೀರು ಸರಬರಾಜು ಇಲಾಖೆ, ಕಾವೇರಿ ಭವನ, ಕೆಜಿ ರಸ್ತೆ, ಬೆಂಗಳೂರು.	ಸದಸ್ಯರು
5.	ರಮೇಶ್ ಹೆಚ್.ಜಿ. ಜನರಲ್ ಮ್ಯಾನೇಜರ್, Quality Standard and Safety, BESCO, ಬೆಂಗಳೂರು	ಸದಸ್ಯರು
6.	ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಬೆಂಗಳೂರು ನಗರ ನೀರು ಸರಬರಾಜು ಮತ್ತು ಒಳಚರಂಡಿ ಮಂಡಳಿ	ಸದಸ್ಯರು
7.	ರವಿಕುಮಾರ, ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್ (ನಿವೃತ್ತ) ಗ್ರಾಮೀಣಾಭಿವೃದ್ಧಿ ಮತ್ತು ಪಂಚಾಯತ್ ರಾಜ್ ಇಲಾಖೆ	ಸದಸ್ಯರು
8.	ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್, ಬೆಂಗಳೂರು ವೃತ್ತ, ಗ್ರಾಮೀಣಾಭಿವೃದ್ಧಿ ಮತ್ತು ಪಂಚಾಯತ್ ರಾಜ್ ಇಲಾಖೆ	ಸದಸ್ಯರು
9.	ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್, ಬೆಂಗಳೂರು ವೃತ್ತ, ಸಣ್ಣ ನೀರಾವರಿ ಇಲಾಖೆ, ಜಯನಗರ, ಬೆಂಗಳೂರು	ಸದಸ್ಯರು
10.	ತಾರಾನಾಥ್ ಎಸ್. ರಾಧೋಡ್, ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್, ಕರ್ನಾಟಕ ಜಲ ಸಾರಿಗೆ ಮಂಡಳಿ, ಕಾರವಾರ	ಸದಸ್ಯರು
11.	ರಾಜೇಶ್, ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್ (ವಿದ್ಯುತ್ ವಿಭಾಗ) ಲೋಇ ಬೆಂಗಳೂರು	ಸದಸ್ಯರು
12.	ಶ್ರೀಮತಿ ಪವಿತ್ರ, ಉಪ ಮುಖ್ಯ ಇಂಜಿನಿಯರ್ ಕೆಯುಡಬ್ಲ್ಯುಎಸ್‌ಎಸ್‌ಬಿ, ಬೆಂಗಳೂರು.	ಸದಸ್ಯರು

(Handwritten Signature)


ಕ್ರ. ಸಂ	ಶ್ರೀಯುತ/ಅಧಿಕಾರಿಗಳು	
13.	ಕೃಷ್ಣರಾವ್, ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್, ಕೆಇಆರ್‌ಎಸ್, ಮೈಸೂರು	ಸದಸ್ಯರು
14.	ಶ್ರೀನಿವಾಸ್, ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್, ಎಂ & ಇ ವಿಭಾಗ, ಜಲಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ಬೆಂಗಳೂರು	ಸದಸ್ಯರು
15.	ಕೆ.ವಿ. ಗೋಪಾಲಕೃಷ್ಣ, ನಿವೃತ್ತ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ	ಸದಸ್ಯರು
16.	ಎನ್. ಬಿ. ಅನ್ನರ್ ಪಾಷ, ನಿವೃತ್ತ ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್,	ಸದಸ್ಯರು
17.	ಅರಣ್ಯ ಸಂರಕ್ಷಣಾಧಿಕಾರಿ, ಅರಣ್ಯ ಇಲಾಖೆ.	ಸದಸ್ಯರು
18.	ಶ್ರೀಮತಿ ದಿವ್ಯ, ಸಹಾಯಕ ನಿರ್ದೇಶಕರು, ತೋಟಗಾರಿಕೆ ಇಲಾಖೆ	ಸದಸ್ಯರು
19.	ಅಧಿಕೃತ ಅಭಿಯಂತರರು, ಲೋಕೋಪಯೋಗಿ ವೃತ್ತ, ಬೆಂಗಳೂರು.	ಸದಸ್ಯ ಕಾರ್ಯದರ್ಶಿ/ ಸಮನ್ವಯಾಧಿಕಾರಿ

- i) ಈ ತಂಡವು ವಿವಿಧ ಇಲಾಖೆಗಳ ಸದಸ್ಯರೊಂದಿಗೆ ಸಭೆಯನ್ನು ನಡೆಸಿ ಏಪ್ರಿಲ್-2023ರ ಅಂತ್ಯದೊಳಗೆ ವಿವಿಧ ಇಲಾಖೆಗಳ ಏಕರೂಪ ದರಪಟ್ಟಿಯನ್ನು ಪರಿಷ್ಕರಿಸಿ ಸಲ್ಲಿಸುವುದು.
- ii) ವಿವಿಧ ಇಲಾಖೆಗಳ ಸದಸ್ಯರು ಏಕರೂಪ ದರಪಟ್ಟಿಯ ತಯಾರಿಕೆ, ವಿಶಿಷ್ಟ ವಿವರಣೆ ಹಾಗೂ ಡೇಟಾ ವಿಶ್ಲೇಷಣೆ ಮುಂತಾದ ವಿವರಗಳನ್ನು ತಾಂತ್ರಿಕ ತಂಡದೊಂದಿಗೆ ಚರ್ಚಿಸಿ ಅಂತಿಮಗೊಳಿಸುವುದು ಹಾಗೂ ಪರಿಷ್ಕರಿಸಿದ ಕರಡು ಏಕರೂಪ ದರಪಟ್ಟಿಗಳಿಗೆ ಆಯಾ ಇಲಾಖೆಯ ಸಕ್ಷಮ ಪ್ರಾಧಿಕಾರದ ಅನುಮೋದನೆ ಪಡೆದು ಸಲ್ಲಿಸುವುದು.
- iii) ಮೇಲ್ಕಂಡ ತಂಡದ ಅಧಿಕಾರೇತರ ಸದಸ್ಯರುಗಳಿಗೆ ಸೇವಾ ಶುಲ್ಕವನ್ನು ನೀಡುವ ಕುರಿತಂತೆ ಸಮನ್ವಯಾಧಿಕಾರಿಯಾಗಿರುವ ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್, ಲೋಕೋಪಯೋಗಿ ವೃತ್ತ, ಬೆಂಗಳೂರು ಇವರು ಕ್ರಮ ವಹಿಸುವುದು.
- iv) ಈ ಕಾರ್ಯವನ್ನು ನಿರ್ವಹಿಸಲು ಅಗತ್ಯವಿರುವ ಕಛೇರಿಯ ಸ್ಥಳಾವಕಾಶವನ್ನು ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಸಂಪರ್ಕ ಮತ್ತು ಕಟ್ಟಡಗಳು (ದಕ್ಷಿಣ) ಕಛೇರಿಯ 3ನೇ ಮಹಡಿಯಲ್ಲಿ, ಸಭಾಂಗಣ ಮತ್ತು ಪೀಠೋಪಕರಣ, ಲೇಖನ ಸಾಮಗ್ರಿಗಳು ಹಾಗೂ ಇತರೆ ಅಗತ್ಯ ಸೌಕರ್ಯಗಳನ್ನು ಒದಗಿಸುವುದು.
- v) ಈ ಏಕರೂಪ ದರಪಟ್ಟಿಗಳ ಪರಿಷ್ಕರಣೆಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ಸಂಬಂಧಪಟ್ಟ ಇಲಾಖೆಗಳ ಮುಖ್ಯ ಇಂಜಿನಿಯರ್/ ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್‌ಗಳು ಸೂಕ್ತ ಸಲಹೆ ಮತ್ತು ಅಭಿಪ್ರಾಯಗಳನ್ನು ಕಾರ್ಯ ನಿರತ ತಂಡದ ಮಾಹಿತಿಗೆ ಸಲ್ಲಿಸುವುದು.

Retthannak

vi) ತಾಂತ್ರಿಕ ಕಾರ್ಯ ನಿರತ ತಂಡವು 2023-24ನೇ ಸಾಲಿನ ಎಲ್ಲ ಸಂಪುಟಗಳ ಪರಿಷ್ಕರಣೆಯನ್ನು ಏಪ್ರಿಲ್-23ರ ಅಂತ್ಯದೊಳಗೆ ಪೂರ್ಣಗೊಳಿಸಿ ಸಕ್ಷಮ ಪ್ರಾಧಿಕಾರಕ್ಕೆ ಸಲ್ಲಿಸುವುದು.

ಕರ್ನಾಟಕ ರಾಜ್ಯಪಾಲರ ಆದೇಶಾನುಸಾರ
ಮತ್ತು ಅವರ ಹೆಸರಿನಲ್ಲಿ

 13/02/2023
(ಕೆ.ಎಸ್. ಹರಿಶ್)

ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿ,
ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ (ನಬಾರ್ಡ್)

ಇವರಿಗೆ:

1. ಮಹಾಲೇಖಪಾಲರು, (ಲೆಕ್ಕ ಪರಿಶ್ಕೆ-II), ಕರ್ನಾಟಕ, ಬೆಂಗಳೂರು.
2. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಆರ್ಥಿಕ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
3. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ.
4. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಇಂಧನ ಇಲಾಖೆ, ಬೆಂಗಳೂರು
5. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
6. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಅರಣ್ಯ, ಪರಿಸರ ಮತ್ತು ಜೀವಿಶಾಸ್ತ್ರ ಇಲಾಖೆ, ಬೆಂಗಳೂರು. ಬಹುಮಹಡಿ ಕಟ್ಟಡಗಳು, ಬೆಂಗಳೂರು
7. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಗ್ರಾಮೀಣಾಭಿವೃದ್ಧಿ ಮತ್ತು ಪಂಚಾಯತ್ ರಾಜ್ ಇಲಾಖೆ, ಬಹುಮಹಡಿ ಕಟ್ಟಡಗಳು, ಬೆಂಗಳೂರು
8. ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿ, ವಸತಿ ಇಲಾಖೆ.
9. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು, ಆರ್ಥಿಕ ಇಲಾಖೆ (ವೆಚ್ಚ), ಬೆಂಗಳೂರು.
10. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು ಜಲಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ಬೆಂಗಳೂರು
11. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು, ಸಣ್ಣನೀರಾವರಿ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
12. ವ್ಯವಸ್ಥಾಪಕ ನಿರ್ದೇಶಕರು, ಬೆಸ್ಕಾಂ, ಬೆಂಗಳೂರು
13. ವ್ಯವಸ್ಥಾಪಕ ನಿರ್ದೇಶಕರು, ಕೆಪಿಟಿಸಿಎಲ್, ಬೆಂಗಳೂರು
14. ಮುಖ್ಯ ಅರಣ್ಯ ಸಂರಕ್ಷಣಾಧಿಕಾರಿ, ಅರಣ್ಯ ಭವನ, ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು
15. ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಸಂಪರ್ಕ ಮತ್ತು ಕಟ್ಟಡಗಳು (ದಕ್ಷಿಣ), (ಉತ್ತರ), (ಈಶಾನ್ಯ) ಮತ್ತು ಕೇಂದ್ರ ವಲಯಗಳು, ಬೆಂಗಳೂರು, ಧಾರವಾಡ, ಕಲಬುರಗಿ, ಶಿವಮೊಗ್ಗ.
16. ಮುಖ್ಯ ಇಂಜಿನಿಯರ್‌ಗಳು, ಇತರೆ ಇಲಾಖೆಗಳು.
17. ಎಲ್ಲಾ ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್‌ಗಳು, ಲೋಇ ಮತ್ತು ಇತರೆ ಇಲಾಖೆಗಳು.
18. ಎಲ್ಲಾ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್‌ಗಳು, ಲೋಇ ಮತ್ತು ಇತರೆ ಇಲಾಖೆಗಳು.

ಪ್ರತಿ ಮಾಹಿತಿಗಾಗಿ.

1. ಶ್ರೀ ಆರ್. ಜೈಪ್ರಸಾದ್, ನಿವೃತ್ತ ಪ್ರಧಾನ ಇಂಜಿನಿಯರ್,
2. ಶ್ರೀ. ಬಿ. ಗುರುಪ್ರಸಾದ್, ನಿವೃತ್ತ ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ ಮತ್ತು ಪ್ರಧಾನ ಇಂಜಿನಿಯರ್,
3. ಕಾರ್ಯ ನಿರತ ತಂಡದ ಎಲ್ಲ ಸದಸ್ಯರು



ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ನಡವಳಿಗಳು

ವಿಷಯ:- 2023-24ನೇ ಸಾಲಿನ ಏಕರೂಪ ಅನುಸೂಚಿತ ದರಪಟ್ಟಿಯ ಪ್ರಕಟಣೆ

- ಓದಲಾಗಿದೆ. -**
1. ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ ಪಿಡಬ್ಲ್ಯುಡಿ 65 ಆರ್‌ಡಿಎಫ್ 2018 ದಿನಾಂಕ 04-04-2019.
 2. ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ ಪಿಡಬ್ಲ್ಯುಡಿ 86 ಆರ್‌ಡಿಎಫ್ 2022 ದಿನಾಂಕ 13.02.2023.
 3. ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಸಂಪರ್ಕ ಮತ್ತು ಕಟ್ಟಡಗಳು (ದಕ್ಷಿಣ), ಬೆಂಗಳೂರು ಇವರ ಪತ್ರ ಸಂಖ್ಯೆ :ಮುಇಂಸಂಕದ:ಸಾಕೋ:ಸಇ-2: 2023-24 ದಿನಾಂಕ:15-11-2023.
 4. ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಜಲಸಂಪನ್ಮೂಲ ಇಲಾಖೆ ಇವರ ಪತ್ರ ಮುಇಂ/ಜಸಂಇ/ಉ ಮತ್ತು ಮೌ ಘಟಕ/ದಪ/2023-24 203 ದಿನಾಂಕ 20-09-2023.
 5. ಮುಖ್ಯ ಇಂಜಿನಿಯರ್ (ವಿನ್ಯಾಸ ಮತ್ತು ಗುಣ ಆಶ್ವಾಸನೆ) ಬಿಡಬ್ಲ್ಯುಎಸ್‌ಎಸ್‌ಬಿ ಇವರ ಪತ್ರ No. BWSSB/CE (D & QA)/ACE (D)/TA/970/2023-24 dated 20-09-2023.
 6. ಬೆಸ್ಕಾಂ ಪತ್ರ ಸಂಖ್ಯೆ ಬೆವಿಕಂ/ಪ್ರ.ವ್ಯ/ಗು, ಪ್ರ ಮತ್ತು ಸು/ಉಪ್ರವ್ಯ-4/ಸ.ಪ್ರ.ವ್ಯ-5/ಡಿ‌ಸಿ-35/2023-24/821-22 ದಿನಾಂಕ 12-07-2023.

ವಿಳಿವಳಿ:-

ರಾಜ್ಯದ ಪ್ರಮುಖ ಇಲಾಖೆಗಳಾದ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ, ಜಲಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ವಸತಿ ಇಲಾಖೆ, ಇಂಧನ ಇಲಾಖೆಗಳ 2021-22ನೇ ಸಾಲಿನ ಏಕರೂಪ ದರಪಟ್ಟಿ ಸಂಪುಟ-1,2,3,4,5,6,7 ಮತ್ತು 8ರ ಸಂಪುಟಗಳ ಅನುಸೂಚಿತ ದರಗಳನ್ನು (Schedule of Rates) ಮೇಲೆ ಓದಲಾದ ಕ್ರ.ಸಂ-1ರ ಆದೇಶದಂತೆ ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯನ್ನು ನೋಡಲ್ ಇಲಾಖೆಯನ್ನಾಗಿ ನೇಮಿಸಿದ ಹಿನ್ನೆಲೆಯಲ್ಲಿ 2021-22ನೇ ಸಾಲಿನಲ್ಲಿ ಜಾರಿಗೆ ತಂದು ಪ್ರಕಟಿಸಲಾಗಿತ್ತು. ಈ ಎಲ್ಲ ಸಂಪುಟಗಳನ್ನು 2023-24ನೇ ಸಾಲಿನಲ್ಲಿ ಪರಿಷ್ಕರಿಸಲು ನಿರ್ಧರಿಸಿದ್ದು, ಅದರಂತೆ ಈ ಕಾರ್ಯವನ್ನು ಮೇಲೆ ಓದಲಾದ ಕ್ರ.ಸಂ-2 ಸರ್ಕಾರದ ಆದೇಶದನ್ವಯ ಶ್ರೀ.ಆರ್.ಜೈಪ್ರಸಾದ್, ನಿವೃತ್ತ ಪ್ರಧಾನ ಇಂಜಿನಿಯರ್, ಇವರ ಅಧ್ಯಕ್ಷತೆಯಲ್ಲಿ ವಿವಿಧ ಇಲಾಖೆಗಳ ನಿವೃತ್ತ ಹಾಗೂ ಅಧಿಕಾರಿಗಳನ್ನು ಒಳಗೊಂಡಂತೆ ಪುನರ್ ರಚಿಸಲಾದ ತಾಂತ್ರಿಕ ಕಾರ್ಯ ಪಡೆ (Technical Working Group)ಗೆ ವಹಿಸಲಾಯಿತು. ಸದರಿ ತಂಡವು 2021-22ನೇ ಸಾಲಿನಲ್ಲಿ ಪ್ರಕಟಿಸಲಾದ ಏಕರೂಪ ಅನುಸೂಚಿತ ಸಂಪುಟ-1ರಿಂದ 6ರನ್ನು

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ಪುನರ್ ಅಧ್ಯಯನ ಮಾಡಿ, ಆಯಾ ಇಲಾಖೆಯ ಅಧಿಕಾರಿಗಳೊಂದಿಗೆ ಅನೇಕ ಸಭೆಗಳನ್ನು ನಡೆಸಿದ್ದು 2023-24ನೇ ಸಾಲಿನ ಕರಡು ಏಕರೂಪ ದರಪಟ್ಟಿಗಳ ಸಂಪುಟಗಳು 1ರಿಂದ 6ನ್ನು ಸಿದ್ಧಪಡಿಸಿ, ಸರ್ಕಾರದ ಅನುಮೋದನೆಗೆ ಶಿಫಾರಸ್ಸು ಮಾಡಿರುತ್ತದೆ.

SR's OF ORGANIZATIONS CONCERNED	NODAL ORGANIZATION	2023-24 UNI SR Volume
PWD (C&B), PRED	PWD	I, II & III
WRDO, MI & KPCL	WRDO	IV
BWSSB, KUWSDB & RWS	BWSSB	V
KPTCL, ESCOMS, PWD ELECTRICAL	BESCOM	VI
PORTS & IWTD & Airports	PORTS	Not updated/revised by the TWG for 2022-23
FOREST, WATERSHED, HORTICULTURE	FOREST	

ಈ ದರಪಟ್ಟಿಗಳಲ್ಲಿ ಕೆಳಕಂಡ ಅಂಶಗಳನ್ನು ಅಳವಡಿಸಿಕೊಳ್ಳಲಾಗಿದೆ.

- ನಿರ್ಮಾಣ ಸಾಮಗ್ರಿಗಳ ದರಗಳನ್ನು ಎಲ್ಲ ಇಲಾಖೆಗಳಿಗೆ ಅನ್ವಯವಾಗುವಂತೆ ಏಕರೂಪ ದರಪಟ್ಟಿಯಲ್ಲಿ ಅಳವಡಿಸಿದೆ.
- 2022-23ನೇ ಸಾಲಿನಲ್ಲಿ ಕಾರ್ಮಿಕ ಇಲಾಖೆಯು ಪ್ರಕಟಿಸಿರುವಂತೆ ಕೂಲಿ ಕಾರ್ಮಿಕರ ದರಗಳನ್ನು (Zone-II rates) ಕನಿಷ್ಠ ದರಗಳನ್ನು ಸಹ ಏಕರೂಪ ದರಪಟ್ಟಿಯಲ್ಲಿ ಅವಳಡಿಸಲಾಗಿದೆ.
- ರಾಷ್ಟ್ರೀಯ ಹೆದ್ದಾರಿ ವಲಯದ 2022ನೇ ಸಾಲಿನ ದರಪಟ್ಟಿಯಂತೆ ಯಂತ್ರೋಪಕರಣಗಳ ಬಾಡಿಗೆ ದರಗಳನ್ನು ಏಕರೂಪ ದರಪಟ್ಟಿಯಲ್ಲಿ ಅಳವಡಿಸಲಾಗಿದೆ.
- ಗುತ್ತಿಗೆದಾರರ ಲಾಭಾಂಶವನ್ನು ಗರಿಷ್ಠ ಶೇ10% ಪ್ರತಿಶತ ಅಥವಾ ಆಯಾ ಇಲಾಖೆಗಳು ನಿಗದಿಪಡಿಸಿರುವ ಇವುಗಳಲ್ಲಿ ಯಾವುದು ಕಡಿಮೆಯೋ ಅದನ್ನು ಏಕರೂಪ ದರಪಟ್ಟಿಯಲ್ಲಿ ಅಳವಡಿಸಲಾಗಿದೆ.
- Overhead charges ದರಗಳನ್ನು ಗರಿಷ್ಠ ಶೇ10% ಪ್ರತಿಶತ ಏಕರೂಪ ದರಪಟ್ಟಿಯಲ್ಲಿ ಅಳವಡಿಸಲಾಗಿದೆ.
- Area specific loading ಎಲ್ಲ ಇಲಾಖೆಗಳ ಕಾಮಗಾರಿಗಳಿಗೆ ಅನ್ವಯವಾಗುವಂತೆ ಏಕರೂಪ ದರಪಟ್ಟಿ ಸಂಪುಟ-1ರಲ್ಲಿ ಅಳವಡಿಸಲಾಗಿದೆ.

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- Earth work, Cement concrete items with shuttering and surveying ಐಟಂಗಳನ್ನು ಸಹ ಈ ದರಪಟ್ಟಿಯಲ್ಲಿ ಎಲ್ಲ ಇಲಾಖೆಗಳಿಗೆ ಅನ್ವಯವಾಗುವಂತೆ ಏಕರೂಪ ದರಪಟ್ಟಿ ಸಂಪುಟ-1ರಲ್ಲಿ ಅಳವಡಿಸಿರುತ್ತದೆ.
- ಇತರೆ ಇಂಜಿನಿಯರಿಂಗ್ ಇಲಾಖೆಗಳು ತಮ್ಮ ಕಾರ್ಯಕ್ಷೇತ್ರಕ್ಕೆ ಅವಶ್ಯವಿರುವಂತಹ specific construction materials and itemsಗಳನ್ನು ತಮ್ಮ ದರಪಟ್ಟಿಯಲ್ಲಿ ಪ್ರತ್ಯೇಕವಾಗಿ ಅಳವಡಿಸಿಕೊಂಡಿರುತ್ತವೆ.

ಮೇಲಿನ ಅಂಶಗಳನ್ನು ಪರಿಗಣಿಸಿ ವಿವಿಧ ಇಲಾಖೆಗಳ ತಂಡಗಳು 2023-24ನೇ ಸಾಲಿನ ಏಕರೂಪ ಅನುಸೂಚಿ ದರಗಳನ್ನು ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡದ ಮಾರ್ಗದರ್ಶನದಂತೆ 2022-23ನೇ ಸಾಲಿನ ಏಕರೂಪ ಅನುಸೂಚಿತ ದರಗಳನ್ನು ತಯಾರಿಸಲಾಗಿರುತ್ತದೆ.

ಅಂತಿಮಗೊಳಿಸಿದ 2023-24ನೇ ಸಾಲಿನ ಕರಡು ಏಕರೂಪ ಅನುಸೂಚಿತ ದರಪಟ್ಟಿ ಸಂಪುಟ-I, II, III, IV, V & VIಅನ್ನು ಮೇಲೆ ಓದಲಾದ ಕ್ರ.ಸಂ-3ರಿಂದ 6ರಲ್ಲಿ ಸರ್ಕಾರದಿಂದ ಅನುಮೋದನೆ ದೊರಕಿಸಿಕೊಡಲು ನೋಡಲ್ ಇಲಾಖೆಗಳು ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡದ ಮೂಲಕ ಸರ್ಕಾರಕ್ಕೆ ಸಲ್ಲಿಸಿರುತ್ತದೆ.

ಈ ಎಲ್ಲ ಕರಡು ಏಕರೂಪ ಅನುಸೂಚಿ ದರಪಟ್ಟಿಗಳ ಬಗ್ಗೆ ದಿನಾಂಕ:07-11-2023 ರಂದು ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿಗಳು, ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ ಇವರ ಅಧ್ಯಕ್ಷತೆಯಲ್ಲಿ ನಡೆದ ಏಕರೂಪ ದರಗಳ ಪರಿಶೀಲನಾ ಸಮಿತಿಯಲ್ಲಿ ಸಂಬಂಧಪಟ್ಟ ಇಲಾಖೆಗಳು ಮತ್ತು ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡದೊಂದಿಗೆ ಚರ್ಚಿಸಿದ್ದು, ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡದ ಮಾರ್ಗದರ್ಶನದಲ್ಲಿ ವಿವಿಧ ಇಲಾಖೆಗಳು ಅಂತಿಮಗೊಳಿಸಿರುವ ಏಕರೂಪ ದರಪಟ್ಟಿ ಸಂಪುಟಗಳು-1 ರಿಂದ 6 ಅನ್ನು ಅಂಗೀಕರಿಸಿ ಜಾರಿಗೆ ತರಲು ನಿರ್ಧರಿಸಲಾಗಿದ್ದು, ಅದರಂತೆ ಕೆಳಕಂಡಂತೆ ಆದೇಶಿಸಲಾಗಿದೆ.

**ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ ಲೋಇ 86 ಆರ್‌ಡಿಎಫ್ 2022, ಬೆಂಗಳೂರು
ದಿನಾಂಕ:15-11-2023**

ತಾಂತ್ರಿಕ ಕಾರ್ಯನಿರತ ತಂಡದ ಮಾರ್ಗದರ್ಶನದಲ್ಲಿ ನೋಡಲ್ ಇಲಾಖೆಗಳು ತಯಾರಿಸಿರುವ ಕೆಳಕಂಡ 2023-24ನೇ ಸಾಲಿನ **Common Schedule of Rates Volume-I to VI** ಎಲ್ಲ ಇಲಾಖೆಗಳಿಗೆ ಅನ್ವಯವಾಗುವಂತೆ ತಕ್ಷಣದಿಂದ ಹಾಗೂ ಮುಂದಿನ ಆದೇಶದವರೆಗೆ ಜಾರಿಗೆ ತರಲಾಗಿದೆ.

UNI SRs 2023-24	2023-24 UNI SR Volume
Common material rates, labour rates, buildings and roads and bridges.	I, II & III

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UNI SRs 2023-24	2023-24 UNI SR Volume
WRDO, MI & KPCL organization specific for irrigation and dam works.	IV
BWSSB , KUWSDB & RWS for water supply and sanitary works.	V
KPTCL, ESCOMS, PWD ELECTRICAL for transmission, distribution and consumption related works.	VI

ಸರ್ಕಾರದ ಎಲ್ಲಾ ಇಲಾಖೆಗಳು/ನಿಗಮ/ಮಂಡಳಿ/ ಸಂಸ್ಥೆಗಳು ತಕ್ಷಣದಿಂದಲೇ ಜಾರಿಗೆ ಬರುವಂತೆ 2023-24ನೇ ಸಾಲಿನ ಏಕರೂಪ ದರಪಟ್ಟಿಯ ದರಗಳನ್ನು ಅಂದಾಜು ತಯಾರಿಕೆ, ಗುತ್ತಿಗೆ ಪ್ರಕ್ರಿಯೆ ಮತ್ತು ಅನುಷ್ಠಾನಗೊಳಿಸುವಲ್ಲಿ ಅಳವಡಿಕೊಳ್ಳತಕ್ಕದ್ದು.

ಈ ಏಕರೂಪ ಅನುಸೂಚಿತ ಎಲ್ಲ ಸಂಪುಟವನ್ನು ಆಯಾ ಇಲಾಖೆಗಳ ಅಂತರ್ಜಾಲದಲ್ಲಿ ಪ್ರಕಟಿಸುವುದು. 2023-24ನೇ ಸಾಲಿನ ಎಲ್ಲ ಸಂಪುಟಗಳನ್ನು eproc-2 ತಂತ್ರಾಂಶದಲ್ಲಿ ಕಡ್ಡಾಯವಾಗಿ ಅಳವಡಿಸಲು ನೋಡಲ್ ಇಲಾಖೆಗಳು ಕ್ರಮ ವಹಿಸುವುದು.

ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್, ಬೆಂಗಳೂರು ವೃತ್ತ, ಬೆಂಗಳೂರು ಇವರು ಸಿಮೆಂಟ್, ಉಕ್ಕು ಮತ್ತು ಡಾಂಬರು ಬೆಲೆಗಳನ್ನು ಪ್ರತಿ ತ್ರೈಮಾಸಿಕ ಅವಧಿಗೆ ಪ್ರತಿಶತ ಶೇ.10% ಕ್ಕಿಂತ ದರ ವ್ಯತ್ಯಾಸವಾದಲ್ಲಿ ಪರಿಷ್ಕೃತ ದರಗಳನ್ನು ಧಾರವಾಡ, ಮಂಗಳೂರು ಮತ್ತು ಬಳ್ಳಾರಿ ವೃತ್ತಗಳ ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್‌ಗಳೊಂದಿಗೆ ಸಮಾಲೋಚಿಸಿ ಪ್ರಕಟಿಸುವುದು.

ವಿದ್ಯುತ್ ಇಲಾಖೆಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ಮುಖ್ಯ ನಿರ್ಮಾಣ ಸಾಮಗ್ರಿಗಳಾದ Aluminum, copper, Steel, Insulating material, PVC/XLPE compound, CRGO core, Transformer oil ದರಗಳು IEEMA ಪ್ರಕಾರ ಪ್ರತಿ ತ್ರೈಮಾಸಿಕ ಅವಧಿಗೆ ಪರಿಷ್ಕೃತ ದರಗಳನ್ನು ಅಳವಡಿಸಿಕೊಳ್ಳತಕ್ಕದ್ದು. ಇದೇ ರೀತಿ ಇತರ ಇಲಾಖೆಗಳ ಮುಖ್ಯ ಸಾಮಗ್ರಿಗಳ ದರಗಳನ್ನು ಅಳವಡಿಸಿಕೊಳ್ಳತಕ್ಕದ್ದು.

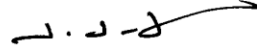
ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಬಿಡಬ್ಲ್ಯುಎಸ್‌ಎಸ್‌ಬಿ ಇವರು ಕೆಯುಡಬ್ಲ್ಯುಎಸ್‌ಎಸ್‌ಬಿ ಮತ್ತು ಆರ್‌ಡಿಡಬ್ಲ್ಯು ಅಂಡ್ ಎಸ್‌ಡಿ ಇಲಾಖೆಗಳೊಂದಿಗೆ ಸಮಾಲೋಚಿಸಿ ಎಲ್ಲ ರೀತಿಯ ಕೊಳವೆಗಳ (pipes) ಬೆಲೆಗಳನ್ನು ಪ್ರತಿ ತ್ರೈಮಾಸಿಕ ಅವಧಿಗೆ ಅಥವಾ ಶೇ.10ಕ್ಕಿಂತ ದರ ವ್ಯತ್ಯಾಸವಾದಲ್ಲಿ ಪರಿಷ್ಕೃತ ದರಗಳನ್ನು ಪ್ರಕಟಿಸುವುದು.

ಈ ಅನುಸೂಚಿ ಏಕರೂಪ ದರಪಟ್ಟಿ ಸಂಪುಟ-IV, V VIಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಎಲ್ಲ ಸಾಧ್ಯತೆ ಮತ್ತು ಭಾದ್ಯತೆಗಳನ್ನು ಸಂಬಂಧಪಟ್ಟ ಇಲಾಖೆಗಳು ಹೊಂದಿರುತ್ತವೆ. (WRD, MI, KPCL-Vol IV, BWSSB , KUWSDB & RWS-Vol V, Escoms, KPTCL and PWD-Vol-VI)

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ಆರ್ಥಿಕ ಇಲಾಖೆಯ ಸುತ್ತೋಲೆ ಸಂಖ್ಯೆ ಆಇ 447 ವೆಚ್ಚ-12 /2022 ದಿನಾಂಕ: 30.07.2022 ರಂತೆ ಶೇ.18% ಜಿಎಸ್‌ಟಿ ಪ್ರತಿಶತವನ್ನು ಅಂದಾಜುಪಟ್ಟಿಯಲ್ಲಿ ಪ್ರತ್ಯೇಕವಾಗಿ ಸೇರ್ಪಡೆ ಮಾಡುವುದು.

ಕರ್ನಾಟಕ ರಾಜ್ಯಪಾಲರ ಆದೇಶಾನುಸಾರ ಮತ್ತು ಅವರ ಹೆಸರಿನಲ್ಲಿ



(ಡಾ.ಎಸ್. ಸೆಲ್ವಕುಮಾರ್)

ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿ
ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆ
ಹಾಗೂ ಅಧ್ಯಕ್ಷರು, ಅನುಸೂಚಿ
ದರಗಳ ಅಂಗೀಕಾರ ಸಮಿತಿ,

ಇವರಿಗೆ:

1. ಮಹಾಲೇಖಪಾಲರು, (ಲೆಕ್ಕ ಪರಿಶೋಧನೆ-II), ಕರ್ನಾಟಕ, ಬೆಂಗಳೂರು.
2. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಆರ್ಥಿಕ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
3. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಜಲಸಂಪನ್ಮೂಲ ಇಲಾಖೆ.
4. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಇಂಧನ ಇಲಾಖೆ, ಬೆಂಗಳೂರು
5. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
6. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ಅರಣ್ಯ, ಪರಿಸರ ಮತ್ತು ಜೀವಿಶಾಸ್ತ್ರ, ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
7. ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿಗಳು, ಗ್ರಾಮೀಣಾಭಿವೃದ್ಧಿ ಮತ್ತು ಪಂಚಾಯತ್‌ರಾಜ್ ಇಲಾಖೆ.
8. ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿಗಳು, ವಸತಿ ಇಲಾಖೆ.
9. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು, ಆರ್ಥಿಕ ಇಲಾಖೆ (ವೆಚ್ಚ), ಬೆಂಗಳೂರು.
10. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು, ಆರ್ಥಿಕ ಇಲಾಖೆ (ಆಯವ್ಯಯ), ಬೆಂಗಳೂರು
11. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು ಜಲಸಂಪನ್ಮೂಲ ಇಲಾಖೆ, ಬೆಂಗಳೂರು
12. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು, ಸಣ್ಣನೀರಾವರಿ ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
13. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು, e-governance ಇಲಾಖೆ, ಬೆಂಗಳೂರು.
14. ಪ್ರಧಾನ ಇಂಜಿನಿಯರ್, ರಸ್ತೆ, ಯೋಜನೆ ಮತ್ತು ಆಸ್ತಿ ನಿರ್ವಹಣೆ ಕೇಂದ್ರ, (PRAMC), ಬೆಂಗಳೂರು- 6-ಸಂಪುಟಗಳನ್ನು ((PORTS & IWTD & Airports), (FOREST, WATERSHED, HORTICULTURE) ಹೊರತುಪಡಿಸಿ) ಲೋಕೋಪಯೋಗಿ ಇಲಾಖೆಯ ಅಂತರ್ಜಾಲದಲ್ಲಿ ಪ್ರಕಟಿಸುವುದು.
15. ಮುಖ್ಯ ಇಂಜಿನಿಯರ್, ಸಂಪರ್ಕ ಮತ್ತು ಕಟ್ಟಡಗಳು (ದಕ್ಷಿಣ), (ಉತ್ತರ), (ಈಶಾನ್ಯ) ಮತ್ತು ಕೇಂದ್ರ ವಲಯಗಳು, ಬೆಂಗಳೂರು, ಧಾರವಾಡ, ಕಲಬುರಗಿ, ಶಿವಮೊಗ್ಗ.
16. ಮುಖ್ಯ ಇಂಜಿನಿಯರ್‌ಗಳು, ಇತರೆ ಇಲಾಖೆಗಳು.
17. ಎಲ್ಲಾ ಅಧೀಕ್ಷಕ ಇಂಜಿನಿಯರ್‌ಗಳು, ಲೋಕೋಪಯೋಗಿ ಮತ್ತು ಇತರೆ ಇಲಾಖೆಗಳು.
18. ಎಲ್ಲಾ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್‌ಗಳು, ಲೋಕೋಪಯೋಗಿ ಮತ್ತು ಇತರೆ ಇಲಾಖೆಗಳು.

FOREWORD (KPTCL – TRANSMISSION)

The Schedule of Rates was last revised and printed in the year 2019 and was given effect from 1st June 2019. The prices of both labour and materials have registered substantial variation since then. KPTCL prepares estimates for both its Capital works and Revenue works based on the Schedule of Rates, which is revised from time to time, taking into cognizance the movement of prices in the open market to have realistic project estimates.

A Committee headed by the Chief Engineer, Electy (T&P) was formed vide Corporate Order No. KPTCL/B19/7625/86-87 Vol-VI dated 26.08.2021. The task of revision of both Material & Labour Portion was initiated during Feb 2022 by the Committee constituted for the purpose and services of experienced Officers who have been utilized for its compilation and have endeavored to put in their best both in terms of effort and skills. The members of the Committee who played a pivotal role in compiling the revised Schedule of Rate are appended below;

1.	Chief Engineer Electy, (T&P), Bengaluru	Member – Chairman
2.	General Manager (Tech)	Member
3.	Chief Engineer Electy, (P&C), Bengaluru	Member
4.	Chief Engineer Electy (RT & R&D)	Member
5.	Chief Engineer Electy, Tr. Zone, Bengaluru	Member
6.	Financial Advisor, (A&R), Bengaluru	Member
7.	Financial Advisor, (I/A), Bengaluru	Member
8.	Superintending Engineer (Civil), Bengaluru	Member
9.	Superintending Engineer (Planning), Bengaluru	Member – Convener
Invitees:		
1.	Superintending Engineer (Tech), Bengaluru	
2.	Superintending Engineer (T&P), Bengaluru	
3.	Executive Engineers(Ele) Planning, O/o CEE(P&C), Bengaluru	
4.	Assistant General Manager(APCC),KPTCL, Bengaluru	

The Committee has met 13 times and discussed various issues related to revision of rates for its finalization and compilation. Also, discussions were held with the Technical Working Group members of the UNI SR Committee for revision and preparation of Schedule of Rates 2023.

Concept and principles adopted by the Committee for revision of KPTCL SR 2023-24 are as below:

1. Material Portion:

- MWSR-2019 is exclusive of tax component and freight & Insurance (F&I). However, based on the discussions held with the UNI SR Committee, it is decided to have KPTCL SR 2023-24 with the material cost along with F&I @ 2%, Overhead Charges @ 10%, Contractor's Profit @ 10% excluding tax.

Hence, Base Price i.e., the Ex-Works Price along with F&I, Overhead Charges, Contractor's Profit, is considered for KPTCL SR 2023-24.

Principles adopted for arriving at the rates for Major Equipment for preparation of KPTCL SR 2023-24 are as below:

Option A: Latest Purchase Order.

Option B: Average of last 3 years Purchase Orders updated to Mar 2023 indices as per Indian Electricals & Electronics Manufacturers Association (IEEMA).

Rates obtained through direct procurement under 'Procurement of Goods' - Purchase Orders (POs) by both T&P and Tr. Zones.

Wherever Purchase Order (PO) rates for similar materials are available in both T&P and Transmission Zones, then the latest PO rates or the average of the latest POs duly updating it to Mar 2023 indices as per IEEMA is proposed.

Option C: Schedule of Rates of neighbouring State Utilities (AP Transco, Tan Transco, MSETCL, BSPTCL) including PGCIL.

Option D: Average DWA rates after deloading factors such as Tender Premium & Overhead factor.

Option E: MWSR-2019 rate updated to Mar 2023 indices as per IEEMA.

Option F: Average of justifiable Budgetary Offers.

Option G: ESCOM Common SR.

Option H: In the absence of the above options, rates are arrived considering pro rata basis/escalation based on Consumer Price Index (CPI: 22.47% rise in CPI from the year 2019 to 2023)/raw materials costing/retaining KPTCL SR 2018-191 rates/GEM portal rates/MEI Rate Contract.

Year	Cumulative Karnataka State Annual Average Consumer Price Index (CPI)	Difference	Rise	Remarks
2018	7268	1063	17.13%	Rise in CPI from the year 2014 to 2018
2019	7616			
2020	7973			
2021	8398			
2022	8901	1633	22.47%	Rise in CPI from the year 2018 to 2022

Rise in CPI from the year 2018 to 2022 for Material & Labour portion

$$= (8901 - 7268)/7268 * 100 = 22.47 \%$$

New Materials included in KPTCL SR 2023-24:

- 160 MVA, 220/110/11 kV Power Transformer, 400 kV, 80 MVAR Reactor, HPC Conductor & its accessories, 3CX300 Sq mm 66kV UG Cable, 110 kV GIS & Hybrid GIS Modules.
- UG Cables Accessories, Porcelain Long Rod ANTIFOG Insulators, Screened Cable, Earth Continuity Cables, Capacitor Units, LBB Protection Relay, Bird Deflector/Diverter, Water Mist & CAF and ABC Powder type Fire Extinguisher etc.
- OPGW Cable - 48F & its accessories, Fiber to Ethernet Media Converter, SDH Equipment.
- New Bay Integration to SCADA.
- 220 kV, 110 kV & 66 kV Simplex & Duplex C&R Panels compatible to SCADA & compatible for SAS Sub-stations for UG Cable/Overhead Line less than 10 km.

Note: Rates pertaining to latest POs/average of latest POs, average of DWAs, PGCIL & AP Transco rates and the rates obtained through Budgetary Offers are considered for the new materials which are included in KPTCL SR 2023-24.

2. Labour/Erection/Dismantling/Testing & Commissioning Portion:

Methodology followed in arriving at the labour charges for some of the major works is based on the following:

- a. Data of man hour and machinery required for each work obtained from Transmission Zones.
- b. Minimum wages for quality inspector/skilled/unskilled workers employed in Electronics Industries (29) as per the notification no. KAE69 LWA 2022 dated 30.11.2022 of Labour Commission for the year 2023-24.
- c. Rates for repairs of Power Transformers & testing and commissioning charges is proposed based on the man hour calculation, latest awarded rates, average rates of budgetary offers obtained from major firms & MWSR-19 rates escalated by the Consumer Price Index (22.47%).
- d. Labour Rates are inclusive of Overhead Charges @ 10%, Contractor's Profit @ 10% and exclusive of tax component.

3. Civil Portion:

- a. Civil works have been adopted as per the latest KPWD UNI SR.
- b. Organization specific civil works are arrived as per Common KPWD SR by considering Overhead Charges @ 10%, Contractor's Profit @ 10% w.e.f 20.10.2023.
However, the same shall be revised as and when PWD issues a Circular.
- c. Small survey works of less than 1 km shall be rounded off to 1 km.

Following are the types of works carried out in KPTCL:

- Procurement of Material by KPTCL to Stores
- Partial Turn Key Works
- Total Turnkey Works
- Deposit Contribution Works
- Self-Execution Works

The special feature of KPTCL SR 2023-24 is that the material rates are base prices (ex-works) inclusive of F&I charges, Overhead Charges @ 10%, Contractor's Profit @ 10% and exclusive of GST. Freight & Insurance (F&I) @ 2% is considered in the KPTCL SR 2023-24

which was decided by the Committee members during the discussions held in the meeting by referring to various projects handled by KPTCL. Further, common materials/labour available in ESCOM SR & KPWD SR are deleted in KPTCL SR 2023-24. HSN codes are provided for the materials. In case of composite supply, the rate of GST/HSN code applicable to Principal supply is considered for bundle of supply. These HSN codes are only indicative. At the time of bill payment, the HSN codes & taxes applicable as per the actual bill submitted by the supplier shall be considered.

❖ For Direct Procurement of Materials, total of 21% towards Overhead Charges & Contractor's Profit shall be de-loaded

Loading of Overhead Charges @ 10% & Contractor's Profit @ 10% is as under
Example:

Sl. No.	Particulars	Amount in Rs.
1	Basic Materials Rate	100
2	Overhead Charges @ 10% (on Material Cost)	10
3	Contractor's Profit @ 10% (on Materials Cost & Overhead Charges)	11
4	Total Materials cost (Sum of 1, 2 & 3)	121

Sl. No.	Particulars	Amount in Rs.
1	Basic Labour Charge	100
2	Overhead Charges @ 10% (on Labour Charge)	10
3	Contractor's Profit @ 10% (on Labour Charge & Overhead charges)	11
4	Total Labour Charge (Sum of 1, 2 & 3)	121

Hence Material Rates and Labour Charges are loaded 21% on basic rates (Overhead Charges @ 10% & Contractor's Profit @ 10%)

❖ The rates for all the materials, labour & civil portion are exclusive of Area Specific Loading.

A lot of effort has been made for preparation of this Schedule of Rates. I convey my deep appreciation and sincere thanks to all those who have worked hard in the preparation of this document and also convey my thanks to all the members of the Committee who have contributed actively in finalising the KPTCL SR 2023-24.

In case any omission(s) is noticed, it may be brought to the notice of the General Manager (Tech), KPTCL, Kaveri Bhavan, KG Road, Bengaluru - 560 009 for effecting necessary corrections. Suggestions and feedback for further improvements are always welcome.

**Chairman SR Committee
Chief Engineer Electy (T&P),
KPTCL, Bengaluru**

FOREWORD (ESCOMs – DISTRIBUTION)

Schedule of Rates (SR) are a set of information indicating Rates of Various Materials and Labour to be adopted for preparation of Estimates and DPRs closure to realistic which will help ESCOMs to obtain to realistic rate whenever tenders are invited.

After the formation of ESCOMs separate ESCOM wise SRs were being prepared and issued. In the monthly meeting held on 04.05.2009 Chaired by the Principal Secretary to Energy Dept, Government of Karnataka wherein MD KPTCL and MD's of all ESCOM's were present, it was directed to explore the possibility of preparing a Common SR applicable to all the ESCOMs.

Accordingly Common SR across all ESCOM's have been adopted as under

- a. 1st Common SR – with effect from 01.08.2009
- b. 2nd Common SR – with effect from 01.07.2010
- c. 3rd Common SR – with effect from 01.05.2012
- d. 4th Common SR – with effect from 20.11.2014
- e. 5th Common SR – with effect from 10.01.2017
- f. 6th Common SR – with effect from 15.12.2018
- g. 7th Common SR (Uniform SR) – with effect from 31.03.2022

Procedure adopted for Preparing Common SR 2023-24

The Government of Karnataka vide letter number EN 68 VSC 2014 Dt: 20.08.2014 has constituted the Common SR committee comprising of :

1.	Managing Director, BESCOM, Bengaluru	Chairman
2.	Director (Technical), BESCOM, Bengaluru	Member
3.	Director (Technical), MESCOM, Mangaluru	Member
4.	Director (Technical), CESC, Mysore	Member
5.	Director (Technical), HESCOM, Hubli	Member
6.	Director (Technical), GESCOM, Gulbarga	Member

7.	Chief Engineer, T&P, KPTCL	Member
8.	Representative of IEEMA	Member
9.	Representative of Directorate of Economics and Statistics	Member
10.	General Manager, QS&S, BESCO	Convener

The 1st Common SR Committee meeting was held on 13.02.2023 at Bengaluru and issued guidelines for framing CSR 2023-24.

The 2nd Common SR 2023-24 committee meeting was held on 21.03.2023 at Bengaluru and the draft Common SR 2023-24 prepared in accordance with the directions issued in the meeting the 1st meeting held on 13.2.2023 was tabled for discussion before the following members.

Sl. No.	Name of the Officer	Designation
1	Sri. Mahantesh Bilagi	Chairman of CSR Committee
2	Sri. H.J. Ramesh	Director (Technical), BESCO - Member
3	Sri. H.G. Ramesh	Director (Technical), MESCOM - Member
4	Sri. Lokesh L, GM, Tech	Director (Technical), CESC - Member
5	Sri. Srikanth M. Sasalatti	Director (Technical), HESCO - Member
6	Sri. R. D. Chandrashekar	Director (Technical), GESCOM - Member
7	Sri. Rajoji Rao M.L	I/c GM(QS&S), Convener of CSR Committee
8	Sri. R. Jaiprasad	Rtd. Chief Engineer – PWD Chairman of Technical Working Group (TWG)
9	Sri. K.V. Goplakrishna	Rtd. Executive Engineer – PWD Member of TWG
10	Sri. N.B. Anwar Pasha	Rtd Asst Executive Engineer – PWD Member of TWG

METHODOLOGY PROPOSED FOR REVISION

➤ Rates For Materials:

1. Procurement rates of all ESCOMs will be obtained.
2. Weighted average of procurement rates will be worked out.
3. Market rates will be obtained.

4. Updation of existing rates using IEEMA PV formulae by considering March – 2022 as base month and February – 2023 as latest month.
5. If rates are not available in any of the above method, prorata rates worked out on the basis of rates of similar materials. (eg. diff sizes of Transformers, Cables, Conductors & PVC wire etc.)
6. For materials having simple designs/manufacturing process, the rates will be worked out considering
 - i. Raw material cost , ii. Applicable labour charges, iii. Other overheadsIt will be compared with the Procurement prices/Market Rates. (Eg: Pole, conductor, line material etc)

To arrive the rates of poles, the latest raw materials prices such as Cement, Jelly, Steel, Concrete will be obtained from KPWD and the rates will be worked out using the formulae.
7. **Scrap Material:** Rates will be proposed based on the auction rates in BESCO. If auction rates are not available, latest market rates will be adopted.
8. **Civil works:** Prevailing KPWD SR will be considered.
9. **For 33 KV works the following procedure is adopted**
 - Procurement rates of ESCOMs
 - KPTCL SR.
 - IEEMA Updation of existing rates.

The chairman of the TWG sought clarification regarding the inclusion of the parameters such as Overhead charges, Contractor's profit and Area Specific loading to arrive at the unit price for individual items similar to the methodology adopted in PWD

The following was clarified.

In PWD, departmental procurement of materials and departmental labour works are not there, all works are executed on Turnkey Basis (through contract agency), as such they have included the contractor's profit and overhead charges in the item wise rate to arrive the items wise unit Rates.

In ESCOMs/KPTCL, in addition to executing the works on Total/Partial Turnkey Basis, large quantities of equipments/materials are also purchased departmentally and the manufacturer should supply such goods to the department stores. As such the rates arrived in SR will be unit rates without any of the above components. However the above parameters will be included as per the committee direction to arrive at the total estimate cost.

➤ **Labour Charges:**

1. The labour charges in Common SR 2021-22 are updated considering the percentage difference in the labour index of GoK issued by Directorate of Economics and Statistics.
2. The labour charges adopted in common SR 2021-22 were based on GoK labour index of 7973
3. The labour index as per Directorate of Economics & Statistics, GoK Letter No. DES/SIP/PWX/06/2023 Dtd 10.02.2023 is 8901 which is 11.64% higher.
4. Considering the above facts and 1% Labour cess which is deducted from the contractor's bill and paid to Labour department, as such the increased labour index is rounded off to 13% and proposed for adoption for revising the labour charges

During the discussion, Sri. K.V. Gopalakrishna, Rtd Executive Engineer, PWD – Member of TWG stated that 1% labour cess shall be borne by the contractor, hence it shall not be included in the labour charges to arrive at higher percentage.

All the committee members accepted to a rounded off value of 12% rise on the prevailing labour charges.

The 3rd Common SR 2023-24 committee meeting was held on 27.04.2023, revised draft Common SR 2023-24 prepared in accordance with the directions issued in the meeting held on 21.03.2023 at Bengaluru was tabled for discussion before the following members

Sl. No.	Name of the Officer	Designation
1	Sri. Mahantesh Bilagi	Chairman of Common SR Committee
2	Sri. H.J. Ramesh	Director (Technical), BESCO – Member
3	Sri. H.G. Ramesh	Director (Technical), MESCOM – Member
4	Sri. Umesh Chandra	Director (Technical), CESC – Member
5	Sri. Srikanth M Sasalatti	Director (Technical), HESCO – Member
6	Sri. R.D. Chandrashekar	Director (Technical), GESCOM – Member
7	Sri. R. Jayakumar, DT, KPTCL	Director (Technical), KPTCL – Invitee
8	Sri. B.J. Umesh	Chief Engineer Ele, T&P, KPTCL – Member
9	Sri. S.T. Shantamallappa	GM(QS&S), Convenor of CSR Committee
10	Sri. K.V. Goplakrishna	Rtd. Executive Engineer – PWD Member of TWG
11	Sri. N.B. Anwar Pasha	Rtd Asst Executive Engineer – PWD Member of TWG

The committee deliberated and discussed on the draft proposal placed in the meeting. The methodology adopted for revising material and labour charges were explained.

It was placed before the committee that **all the members of the committee and Technical Working Group committee unanimously accepted to consider the below common procedure while preparing Common SR 2023-24 and to arrive at the amount put to tender, as directed in the proceedings of the Uniform SR Committee, GOK as well as in the 2nd Common SR 2023 Meeting held on 21.03.2023 across the State in all the ESCOMs/KPTCL/PWD Electrical.**

SL No	Particulars
1	Materials cost (Exclusive of 18% GST)
2	Labour charges (Exclusive of 18% GST)
3	Overhead Charges @ 10% (On 1 & 2)
4	Contractor's Profit @ 10% (On 1 to 3)
5	Area Specific Loading on materials & labour charges at applicable rates (On 1 to 4)
6	GST @ 18 % on above (On 1 to 5)
7	Total Cost of Estimate in Rs. (Amount Put To tender) (sum of 1 to 6)

Note:

- The above method shall be adopted for works to be executed under Labour Awards, Partial Turn Key Works, Total Turnkey Works, Deposit Contribution Works, Self-Execution Works.
- For **Self-Execution Works** – 10% Supervision charges + applicable GST on Supervision Charges shall be collected on Total Cost of the Estimate.
- For **Deposit Contribution Works** – Total cost of the estimate + Cost of Tender Premium (if the work is awarded on Tender Basis) + 20% ESCOMs Establishment Cost (Material Cost + Labour Cost + applicable GST on both) shall be collected.
- For **Procurement of Material through Tender** – only Material Cost plus applicable GST shall be considered for amount put to tender.

METHODOLOGY FINALISED FOR REVISION

➤ **Rates Of Materials**

1. Procurement Rates of all ESCOMs were obtained
2. Weighted average of Procurement Rates is worked out.
3. Market rates from various approved manufacturers are obtained

4. Updation of existing rates using IEEMA PV formulae by considering March – 2022 as base month and March – 2023 as latest month
5. If rates were not available in any of the above method prorata rates worked out on the basis of rates of similar materials. (eg. diff sizes of Transformers, Cables, Conductors & PVC wire etc.)
6. For materials having simple designs/manufacturing process, the rates are worked out considering

i. Raw material cost , ii. Applicable labour charges, iii. Other overheads

It is compared with the Procurement prices/Market Rates. (Eg: Pole, conductor, line material etc)

To arrive the rates of poles, latest raw materials prices such as Cement, Jelly, Steel, Concrete were obtained from KPWD and the rates are worked out using the formulae.

7. **Scrap Material:** Rates are proposed based on the auction rates in BESCO. If auction rates are not available, latest market rates are adopted.
8. **Civil works:** Prevailing KPWD SR are to be considered.
9. **For 33 KV works the following procedure is adopted**
 - Procurement rates of ESCOMs
 - KPTCL SR.
 - IEEMA Updation of existing rates.

The committee unanimously agreed to revise the material rates as follows

1. **Consider latest IEEMA Indices and compare with the March 2022 as the base indices (month of effective date of prevailing SR 2021-22)**
2. **If the IEEMA Indices are not available for the materials, Latest PO Rates have to be considered.**
3. **If the rates are not available by the above method, budgetary quotations shall be obtained and the lowest rate should be considered.**

➤ **Labour Charges**

1. The labour charges in Common SR 2021-22 are updated considering the percentage difference in the labour index of GoK issued by Directorate of Economics and Statistics.
2. The labour charges adopted in common SR 2021-22 were based on GoK labour index of 7973
3. The labour index as per Directorate of Economics & Statistics, GoK Letter No. DES/SIP/PWX/06/2023 Dtd 10.02.2023 is 8901 which is 11.64% higher.

4. However as per the guidelines issued by Volume – I of PWD SR the labour charges have to be calculated based on the Notification No. **KAE 69 LWA 2022 Dated 30.11.2022** with effective from 01.04.2023 issued by GoK Labour Department
5. Also as directed in the Volume – I of PWD SR, Zone – II rates rounded off to next higher value is considered for preparation of Rate analysis. Skilled Labour Rate is Rs 658.42/Day (rounded off to Rs. 659) and Unskilled Labour Rate is Rs. 611.84/Day (rounded off to Rs. 612)

The committee unanimously agreed for revision of Labour charges as per the GoK, Labour department minimum wages circular.

After the detailed discussions with the Technical Working Group, it was approved

GENERAL GUIDELINES:

- **Purchase of Small Items:** The LEC's carrying out works on labour contract basis is authorized to purchase small items other than Pole, Conductors, Transformers, Lighting Arresters, H.T. Insulators, Meters and GOS at SR Rates wherever the execution of the work is held up due to non-availability of such materials, provided the cost of such purchase is limited to 10% of the total estimate cost and after obtaining the specific approval of the Jurisdictional Executive Engineer by the way of an OM.
- **Statutory Payments:**
 - a. The prevailing rates of inspection of works revised vide No: E.N.71 EBS 2007, dated: 28.08.08 by Energy Department, Government of Karnataka and are duly enclosed in SR and instructed to include the relevant rates of Electrical inspectorate charges in all estimates and DPRS to be prepared. Whenever the inspectorate charges are revised the same shall be followed.
 - b. Road cutting, footpath cutting charges etc., payable to civic bodies shall be included in the estimate wherever applicable.
- **Usage Of ACSR Conductor**
 - The Squirrel ACSR conductor shall not be used for any new works (B.O. No. B19/6723/95-96/21.06.2000 of KEB.
 - The Average span for new 11 KV lines in Urban areas shall be 40 Mtrs. In Rural areas the average span length shall be 50 Mtrs. However the average span will be 60 Mtrs. in respect of lines drawn to IP Sets.
 - **11kV Lines:** Minimum size of the conductor to be used for all new 11 KV lines shall be Rabbit ACSR only.

- **LT Lines:**

- **BESCOM:** Minimum size of conductor to be used for phases and neutral shall be Rabbit ACSR conductor for Urban & Rural Area.
- **Other ESCOMs:** The usage of Conductor for Urban & Rural area as per the respective ESCOMs Norms.
- **Returning of the ACSR Conductor:** While executing the re-conductoring work the released conductor shall be returned to stores as credit in accordance with circular No. BESCOM/GM(T)/BC-20/F-664/05-06/CYS-174 Dtd 10.01.2006.

- **Transformers**

- a. As per MOP directions, only Star 1(Previous 4 Star) rated transformers have to be used in Rural areas and Star 2 (Previous 5 Star) rated transformers have to be used in Urban/City areas.
- b. For Self-execution and layout works only Star 2 (Previous 5 Star) Transformers have to be provided.

- **Concreting & Civil Works**

- Cement Concrete Mix 1:2:4 using 20 mm nominal size graded crushed coarse aggregates shall be provided for Pole Base Concreting, Pole Concreting, Pole Coping, Guy Concreting etc,. The rates of CC 1:2:4 shall be considered as per Item No. 2.1.6 of Volume – I, KPWD SR 2023-24
- For all other civil works such construction of platforms for erection of Transformers, HT/LT Metering Cubicle, LTFP, RMU, CSS and any other heavy equipments, the rates shall be considered as per Item No. 2.2.1 of Volume – I, KPWD SR 2023-24

- **Earth Work:**

- Digging of Pits “for erection of various sizes of poles, for providing of GI Pipe type Earthing and for Guy Set” the rates provided in Common SR 2023-24 has to be followed.
- For all other Earth Excavation works such as HT/LT UG Cable Trenches, RMU Foundation, Refilling of Earth, Lifting of Excess Earth, the rates shall be considered as per Volume – I of KPWD SR 2023-24.

- **Hiring Charges:**

For all hiring charges of Machineries, the rates shall be considered as per Volume – I, III & IV of KPWD SR 2023-24

➤ **Providing Of GOS And HG Fuse Unit:**

All transformers above and inclusive of 25 KVA capacities are to be provided with GOS and HG fuse units.

➤ **Providing Distribution Boxes And LT Protection Kit for DTCs:**

As per Board order No. KEB/308/3/(82-83) dated: 25.02.1993 of KEB and as per the decision of Technical Committee meeting held on 25.06.1993, 25/63/100 KVA transformer shall be provided with LT Protection Kit. Transformers with 250 KVA capacities and above shall be provided with LT Distribution Box with MCCB. In city limits transformers with 100 KVA capacities shall be provided with LT Distribution Box with MCCB, the rate has been furnished in the Common SR.

➤ **EG Stirrups:**

As per Government Electrical Inspectorate order No. CEG/D/T/13306/86-87 dated: 17.12.1986, E.G. Stirrups shall be used in the following locations:

- Within the town/village limits.
- In the factory premises.

➤ **Guy set:**

Guy set includes Anchor Rod, Turn buckle, Guy wire, Strain Insulator, Guy clamp with Bolts, Nuts and Washers

➤ **Self-Execution Works & Life Time Guarantee:**

Where ever Dry Type Transformers, Cable Entry Type Transformers, Compact Sub-Stations are provisioned in the estimate/used in the field procured by the prospective consumer for self - execution works, the equipment shall be maintained for the entire life time by the consumer. In all Self-Execution works provision shall be made for Star 2 (Previously 5 Star) Transformers.

Material & Labour charges not provisioned

The rates in respect of items both material & labour, which are not found in this schedule of rates, but need to be provided in the estimate may be obtained from the office of Quality, Standard & Safety, Corporate Office, BESCO or from the concerned Corporate office of other ESCOMs. When the rates are approved at other ESCOMs the same shall be intimated to GM(QS&S), BESCO for incorporating the same in the Common SR 2023-24.

NOTE:

- a. Material code number for all materials have been provided in the SR and the same has to be used while preparation of the **estimate and in the indents**.
- b. All the field officers and inspecting officers should ensure that the materials used shall confirm to the relevant IS specifications and the works executed are in accordance with the approved drawings/stipulated norms. The UG cable/PVC wires used for the work shall carry ISI markings.

Following are the types of works carried out in ESCOMs:

- Departmental Works (Material procured by ESCOMs & Labour work by ESCOMs Employees)
- Partial Turn Key/Labour Award Works
- Total Turnkey Works
- Deposit Contribution Works
- Self-Execution Works
- Procurement of Material by ESCOMs

After the detailed discussion & deliberations with the Technical Working Group on Overhead charges and Contractor's Profit to be on par with PWD, the Technical Working Group recommended loading of Overhead Charges @ 10% & Contractor's Profit @ 10% in the Material Rates & Labour Charges. The same has been approved by UNI SR Committee Chairman.

Note:

- The Material Rates furnished in Common SR 2023-24 are Basic prices (ex-works) inclusive of F&I charges, Overhead Charges & Contractor's Profit and exclusive of GST
- The Labour Charges furnished in Common SR 2023-24 are inclusive of Overhead Charges & Contractor's Profit and exclusive of GST
- For Procurement of Materials by ESCOMs, a total of 21% towards Overhead Charges & Contractor's Profit shall be de-loaded for arriving at the cost of amount put to tender for inviting tenders.
- For the preparation of Estimates to carry out the works by departmentally procured materials and labour work by departmental employees, a total of 21% towards Overhead Charges & Contractor's Profit shall be de-loaded from the Material Rates & Labour Charges.

Loading of Overhead Charges @ 10% & Contractor's Profit @ 10% is as under

Example:

Sl. No.	Particulars	Amount in Rs.
1	Basic Material Rate	100
2	Overhead Charges @ 10% (on Material Cost)	10
3	Contractor's Profit @ 10% (on Material Cost & Overhead Charges)	11
4	Total Materials cost (Sum of 1, 2 & 3)	121

Sl. No.	Particulars	Amount in Rs.
1	Basic Labour Charge	100
2	Overhead Charges @ 10% (on Labour Charge)	10
3	Contractor's Profit @ 10% (on Labour Charge & Overhead charges)	11
4	Total Labour Charge (Sum of 1, 2 & 3)	121

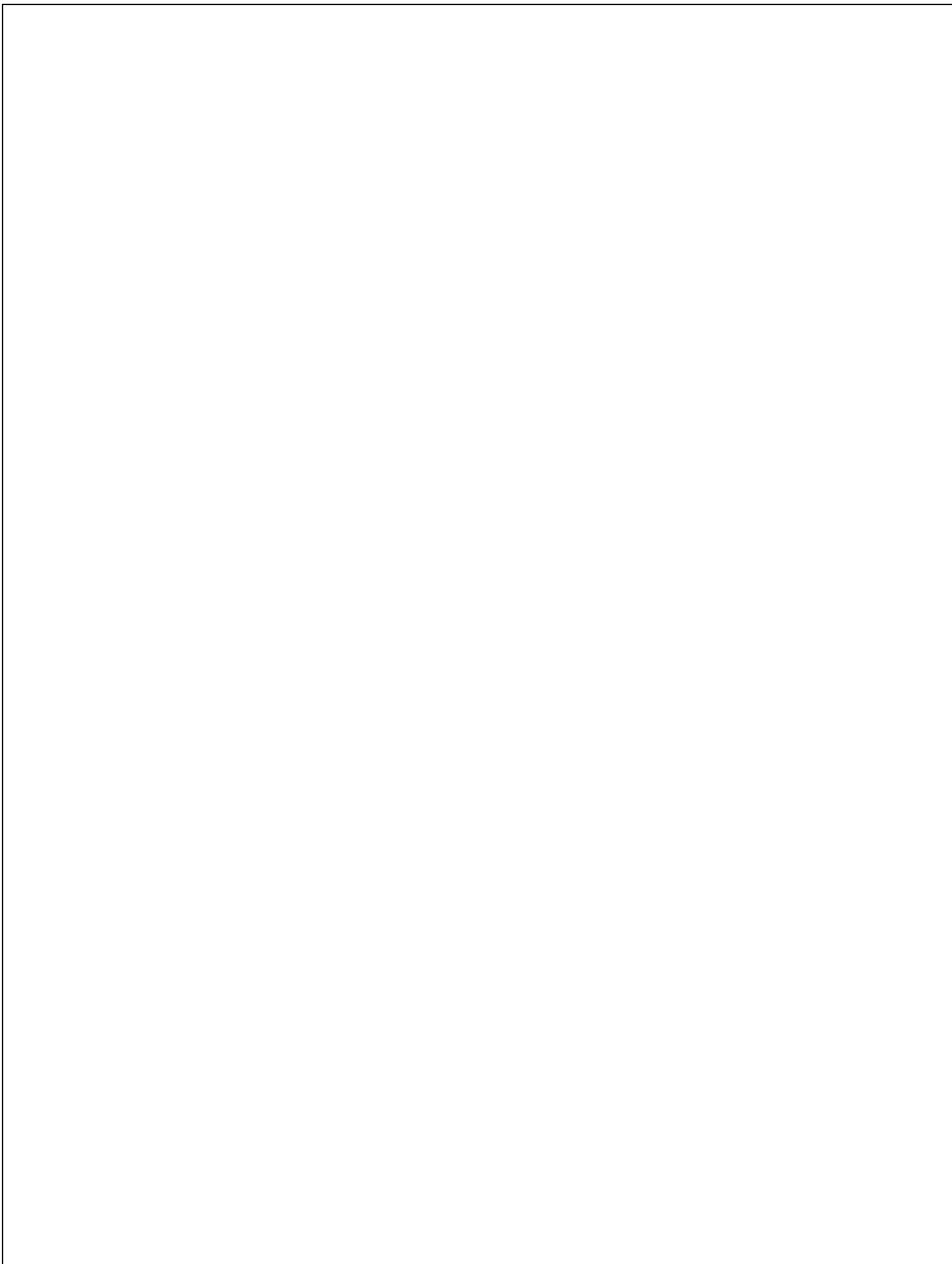
Material Rates and Labour Charges are loaded 21% on basic rates (Overhead Charges @ 10% & Contractor's Profit @ 10%)

I convey my deep appreciation and thanks to all those who have worked hard in the preparation of this SR and also convey my sincere thanks to all the members of the Technical Working Group and UNI SR Committee who have contributed actively in finalising the Common Schedule of Rates 2023-24.

The purpose of UNI SR for all Govt departments is **"ONE ITEM IN ONE ORGANIZATION"**, hence the materials which are required for execution of the work and which are not available in this Common SR 2023-24, should be searched in other Govt department SR. If the required material is not found in any of the SR, it should be brought to the notice of the Convener of SR Committee.

In case of any additions/deletions/corrections noticed in the Common SR 2023-24, it may be brought to the notice of the Convener of SR Committee & General Manager, QS&S, BESCO Corporate Office, KR Circle, Bengaluru - 560 001 for effecting necessary corrections. Suggestions and feedback for further improvements are always welcome.

(S.T. SHANTAMALLAPPA)
CONVENER SR COMMITTEE &
GENERAL MANAGER (ELE.), Q, S&S, BESCO.



GENERAL NOTES TO THE ELECTRICAL SR OF PWD BUILDING CIRCLE FOR THE YEAR 2023-24.

1. The Schedule of Rates is a set of information indicating the rates of various material components, labour and detailed specification drawn for finished item of works which have to be adopted for preparation of Estimates.
2. The material component rates indicated in the SR are the prevailing market rates inclusive of all Lead, Lift, loading and unloading charges to work spot and exclusive of GST.
3. GST of 18% shall be added separately in the estimate
4. Any changes in the GST rates of items will be made as per the Government of Karnataka circulars.
5. In the tender notification, a separate clause mentioning "GST shall be paid to the tendered amount separately"
6. For ensuring the quality aspect of the materials used by the contractors such as Cable, Switches etc., it is necessary that the contractor shall furnish the approved quality control test certificates for these materials including the finished items. Department will have the right to get these materials tested at the cost of contractor.
7. The Labour rates considered as per the Labour Department's rates for the FY 2023-24 of Zone-2.
8. The specifications drawn are based on the prevailing BIS/IEC/IS.
9. The rates for the finished items required accessories of works are arrived by adopting the Material components, labour charges, necessary over heads, contractor profit.
10. Energy saving devices as per ECBC codes shall be adopted to conserve electricity.
11. Aluminium wires shall not be used for building wiring including maintenance works.

12. Wires in a conduit shall occupy only 50% to 60% of the inner section of the conduit.
13. The Location and the purpose of the Building shall be considered for finalizing the Lux levels and Fixtures.
14. LED Light Fixtures must be used for outdoor & indoor application to conserve electric energy.
15. Outdoor Street Luminaries shall follow IS: 1944 (Part 1 & Part II) 1970 document for good & uniform illumination on road.
16. Capacitor bank shall be provided for inductive loads to maintain the power factor of a system nearer to unity power factors.
17. All the field Officers and Inspecting Officers should ensure that the material used shall conform to the relevant IS Specifications and the works executed are in accordance with the approved drawings/stipulated norms. The cables/PVC wires used for the works shall carry ISI markings.
18. HT Installations shall be provided with suitable security, fencing/conforming to Government Electrical Inspectorate (GEI) norms.
19. It is mandatory for electrical licensed contractor who is executing the electrical work to obtain approval from ESCOM's/KPTCL/CEIG for arranging power supply, however necessary deposit amount shall be paid by the department. The concerned Engineer in charge of the work shall include this clause as part of tender & agreement.
20. Earth wire connectivity with 1.0 sqmm FRLS wire shall be provided for all light points. (Internal/external Electrification)

(H.P RAJESH)
Executive Engineer (Electrical)
Public Works Department

29. Employment in Electronics Industries

Notification No. KAE 69 LWA 2022, dated 30-11-2022

Minimum Wages With effect from 30-11-2022.

Cost of Living Allowance to be paid over and above 7616 points

Cost of Living Index: 8901- 7616 = 1285 points

Minimum wages and VDA from 01-04-2023 to 31-03-2024

SCHEDULE

Sl. No.	Class of Employment	Minimum rates of wages								
		Zone-I		Zone-II		Zone-III		Zone-IV		
		Per Day	Per Month	Per Day	Per Month	Per Day	Per Month	Per Day	Per Month	
1	2	3	4	5	6	7	8	9	10	
I	Highly Skilled									
	Production Manager	Basic	688.31	17895.99	625.73	16269.08	568.85	14790.07	517.14	13445.52
	Sales Executive	VDA	59.31	1542.00	59.31	1542.00	59.31	1542.00	59.31	1542.00
	Assembling Supervisor									
	Quality Inspector and equivalent job	Total	747.62	19437.99	685.04	17811.08	628.16	16332.07	576.45	14987.52
II	Skilled:									
	Diploma Technician, Lab Technician, Technician, Electrician, Operator, Radio and T.V. Mechanic Assembling Operator (ITI & Diploma Holder), Computer Operator/ Machine Operator, Punch Operator, Cameraman, H. Wireman, Turner, Printer, Die Fitter, Fitter, Designer, Cabinet fitter, Buffer, Moulder, Machineman,	Basic	659.03	17134.66	599.11	15576.96	544.65	14160.87	495.14	12873.52
		VDA	59.31	1542.00	59.31	1542.00	59.31	1542.00	59.31	1542.00
		Total	718.33	18676.66	658.42	17118.96	603.96	15702.87	554.44	14415.52

	Winder,	Basic	659.03	17134.66	599.11	15576.96	544.65	14160.87	495.14	12873.52
	Imprignation	VDA	59.31	1542.00	59.31	1542.00	59.31	1542.00	59.31	1542.00
	Plant Operator,	Total	718.33	18676.66	658.42	17118.96	603.96	15702.87	554.44	14415.52
	Expose Plant Operator, Assembler, Coilman, Carpenter									
III	Semi-Skilled:									
	Store Keeper									
	Assistant Assembler									
	Wireman									
	Test Fitter									
	Assistant Die.Fitter									
	Assistant Fitter									
	Assistant Turner	Basic	629.74	16373.32	572.49	14884.84	520.45	13531.67	473.14	12301.52
	Assistant Designer	VDA	59.31	1542.00	59.31	1542.00	59.31	1542.00	59.31	1542.00
	Coil.Winder	Total	689.05	17915.32	631.80	16426.84	579.76	15073.67	532.44	13843.52
	Assistant Cabinet Fitter									
	Transformer Winder									
	Decorator									
	Fireman									
	Moulder Grade.II									
	Drill man									
	Paper Cutting Swaping									
	(Hand Operator)									
	Can.Fitter									
	Assistant Technician									
	Assistant carpenter									
	Aligner									
IV	Un-Skilled:									
	Assistant, Helper, Packer, Attender, Watchman, cleaner, Gardener, Curling, Sweeper & other unskilled labourer	Basic	607.78	15802.32	552.53	14365.75	502.3	13059.8	456.64	11872.52
		VDA	59.308	1542.00	59.308	1542.00	59.308	1542.00	59.308	1542.00
		Total	667.09	17344.32	611.84	15907.75	561.61	14601.8	515.94	13414.52

Office Staff & Drivers

1	Manager/ Personal Officer/ Mess Manager & other Equivalent jobs	Basic	663.00	17238.05	602.73	15670.95	547.94	14246.32	493.14	12821.69
		VDA	59.31	1542.00	59.31	1542.00	59.31	1542.00	59.31	1542.00
		Total	722.31	18780.05	662.04	17212.95	607.24	15788.32	552.45	14363.69
2	Assistant Manager/ Assistant Personal Manager/ Senior Accountant & other Equivalent jobs	Basic	640.38	16649.75	582.16	15136.13	529.24	13760.12	476.31	12384.11
		VDA	59.31	1542.00	59.31	1542.00	59.31	1542.00	59.31	1542.00
		Total	699.68	18191.75	641.47	16678.13	588.54	15302.12	535.62	13926.11
3	Senior Clerk,Cashier, Judgement Writer,Sonogra pher,StoreKee per,Receptioni st & Other Equivalent Jobs	Basic	615.09	15992.23	559.17	14538.39	508.34	13216.72	457.50	11895.05
		VDA	59.31	1542.00	59.31	1542.00	59.31	1542.00	59.31	1542.00
		Total	674.39	17534.23	618.48	16080.39	567.64	14758.72	516.81	13437.05
4	Junior Clerk, Booking Clerk, Computer operator, Typist, Telephone Operator, Data Entry operator and Other equivalent Jobs.	Basic	599.11	15576.96	544.65	14160.87	495.14	12873.52	445.62	11586.17
		VDA	59.31	1542.00	59.31	1542.00	59.31	1542.00	59.31	1542.00
		Total	658.42	17118.96	603.96	15702.87	554.44	14415.52	504.93	13128.17

5	Heavy Vehicle Driver, tractor Driver, multi-axle & Large Vehicle Driver, Earth movers, Crane Drivers, Road rollers, & road construction vehicle drivers.	Basic	615.09	15992.23	559.17	14538.39	508.34	13216.72	457.50	11895.05
		VDA	59.31	1542.00	59.31	1542.00	59.31	1542.00	59.31	1542.00
		Total	674.39	17534.23	618.48	16080.39	567.64	14758.72	516.81	13437.05
6	Car Driver, Jeep Driver, Light Vehicle Driver, Tum-tum, three wheeler Drivers.	Basic	599.11	15576.96	544.65	14160.87	495.14	12873.52	445.62	11586.17
		VDA	59.31	1542.00	59.31	1542.00	59.31	1542.00	59.31	1542.00
		Total	658.42	17118.96	603.96	15702.87	554.44	14415.52	504.93	13128.17

Zone I: Notified areas of Bruhat Bengaluru Mahanagara Palike and Agglomeration Areas.

Zone II: Notified areas of all the Corporations in the State other than BBMP and Agglomeration Areas.

Zone III: All District Head Quarters Other than the places mentioned in Zone I and Zone -II

Zone – IV: All other Places of the State other than the places mentioned in Zone -I, Zone-II and Zone -III.

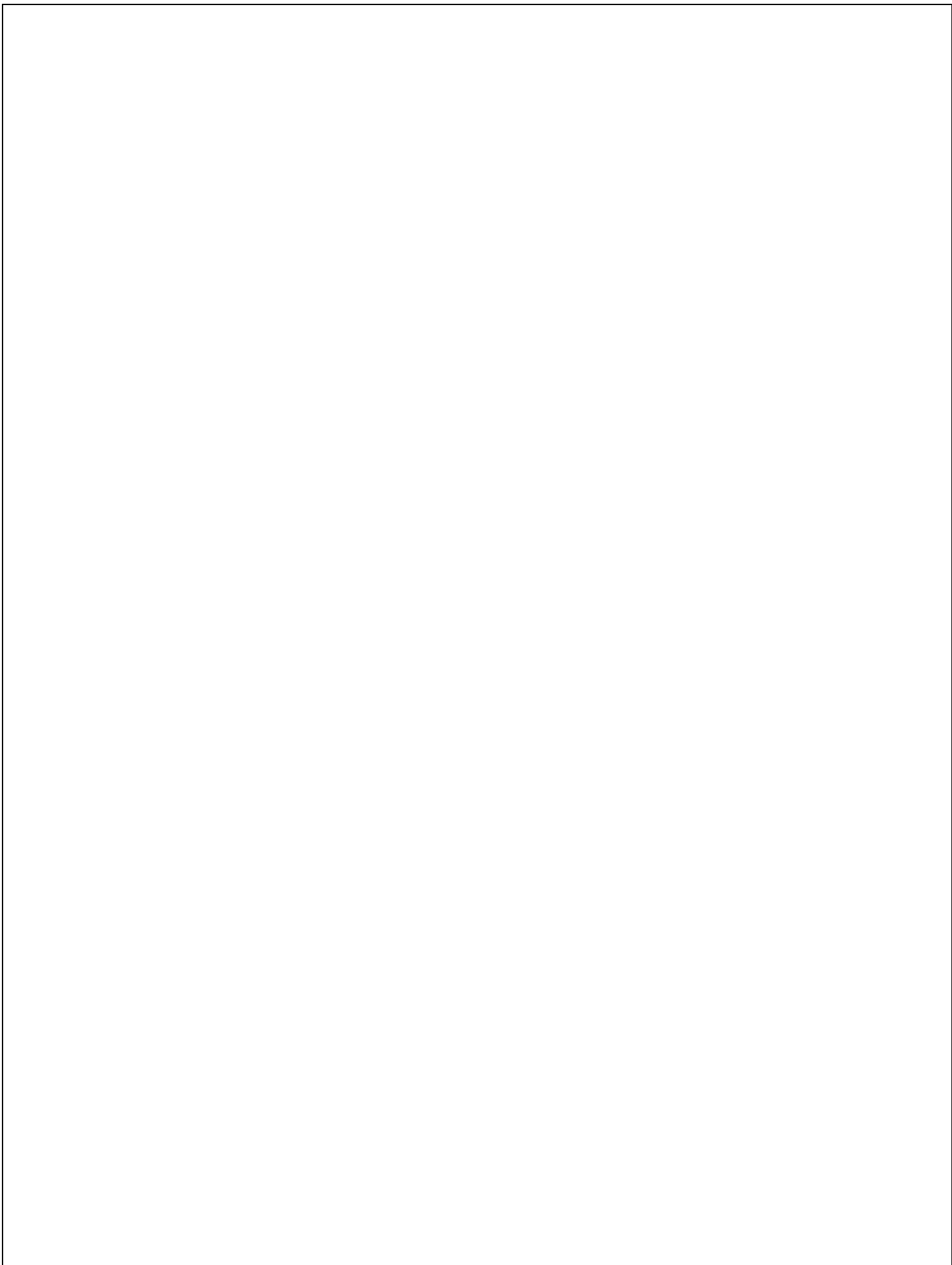
V.D.A : In addition to the basic wages, all Category of Employees in the state shall be paid V.D.A. at the rate of 4 Paise per point over and above 7616 points.

Area Specific Loading (Extracted from Volume – I of KPWD SR 2023-24)

Sl. No	Category	Additional Loading charges
1	Tier-I City – Bruhat Bangaluru Mahanagara Palike Limits (BBMP)	10%
1a	BDA developed and notified areas	7.5%
1b	BMRDA and upto 3 KM Periphery	3%
2	Corporation Limits of Tier-II Cities	5%
3	Other Cities/City Municipal Council Limits	3%
4	Kalyana Karnataka	5%
5	Restricted areas - Jails/Forest/Sewerage Works/Works under unhygienic/Hazardous & Breakdown Works (for existing Electrical Network)	12%
6	Major Irrigation Command Area/Mining Area/Major Industries	5%
7	Coastal Area (upto 25 KM from Coast), Tidal Wave Area, Heavy Rainfall area 1600 mm and above	12%
8	Hilly Terrain above 300 m from the nearest Town/City	12%

Note:

- *Anyone Area Specific Loading shall be operated in a particular instance.*
- *Area Specific Loading shall not be considered for the areas which are not covered under the above table*





**Abstract for preparation of
Estimates for KPTCL**

A. Abstract for preparation of Estimates for Sub-station/Transmission Line Works (Partial Turnkey/Total Turnkey)

Sl. No.	Particulars	Amount in Rs.
1	Material Cost	
2	Labour/Erection/Dismantling charges and Testing & Commissioning Charges	
3	Cost of Civil Engineering Works	
4	Basic Rate (Sum of Sl No. 1 to 3)	
5	Area Specific Loading on Basic Rates (Sl No. 4) wherever applicable	
6	Applicable GST on Sl No. 4 & 5	
7	Cost of the Estimate (Sum of Sl No. 4 to 6) Amount put to Tender	
8	Statutory Charges such as PTCC, Electrical Inspectorate, Payment towards Civic Bodies etc.,	
9	Forest Clearance, Tree/Crop Cut Compensation etc.,	
10	Land/Corridor/Tower Foot Area Compensation etc.,	
11	Total Cost of Estimate (Sum of Sl No. 7 to 10)	

Note:

1. Sl. No. 7 is considered as Amount Put to Tender and the same will be considered for comparison purpose also.
2. Sl. No. 8 to 10 is only for preparation of DPR as these are statutory requirement which will be paid by KPTCL during execution of work.

B. Abstract for preparation of Estimates for Deposit Contribution Works

Sl. No.	Particulars	Amount in Rs.
1	Material Cost	
2	Labour/Erection/Dismantling charges and Testing & Commissioning Charges	
3	Cost of Civil Engineering Works	
4	Basic Rate (Sum of Sl No. 1 to 3)	
5	Area Specific Loading on Basic Rates (Sl No. 4) wherever applicable	
6	Applicable GST on Sl No. 4 & 5	
7	Cost of the Estimate (Sum of Sl No. 4 to 6) Amount put to Tender	
8	Statutory Charges such as PTCC, Electrical Inspectorate, Payment towards Civic Bodies etc.,	
9	Applicable GST on Sl No. 8	
10	Forest Clearance, Tree/Crop Cut Compensation, Land Compensation etc.,	
11	Total Cost of Estimate (Sum of Sl No. 7 to 10)	

Note:

1. Consultancy Fee @ 15% on the Total Estimate Cost (Sl No. 11) + applicable GST on Consultancy Fee shall be collected. Separate receipt shall be drawn towards Payment of Consultancy Fee & GST.
2. Establishment charges @ 5% (for Govt. Works) / @ 10% (Non Govt. Works) on {Total Estimate Cost (Sl No. 11) + Consultancy Fee with GST} + applicable GST on establishment Charges shall be collected.
3. The Applicant shall deposit the difference in cost of the work before award of work.

C. Abstract for preparation of Estimates for Self Execution Works

Sl. No.	Particulars	Amount in Rs.
1	Material Cost	
2	Labour/Erection/Dismantling charges and Testing & Commissioning Charges	
3	Cost of Civil Engineering Works	
4	Basic Rate (Sum of Sl No. 1 to 3)	
5	Area Specific Loading on Basic Rates (Sl No. 4) wherever applicable	
6	Applicable GST on Sl No. 4 & 5	
7	Cost of the Estimate (Sum of Sl No. 4 to 6) Amount put to Tender	
8	Statutory Charges such as PTCC, Electrical Inspectorate, Payment towards Civic Bodies etc., and Forest Clearance/Tree Cut Compensation, Crop Compensation, Land Compensation etc	
9	Total Estimate Cost (Sum of Sl No. 7 & 8)	

Note:

1. Supervision Charges @ 2.5% (for NHAI, BMRCL, All Infrastructure Developers crossing National Highways)/@ 5% (for others) on Total Estimate Cost (Sl. No. 7) + applicable GST on Supervision Charges shall be collected.
2. Statutory Charges shall be paid by the Applicant.



**Abstract for preparation of
Estimates for ESCOMs**

**A. Abstract for preparation of Estimates for
DEPARTMENTAL WORKS for ESCOMs
(Materials supplied by ESCOMs with ESCOMs Employees)**

Sl. No.	Particulars	Amount in Rs.
1	Material Cost (Exclusive of GST) Material Supplied by ESCOMs	
2	Labour Charges (Exclusive of GST) Carried out by ESCOMs Employees	
3	Basic Rate (Sum of Sl No. 1 & 2)	
4	Area Specific Loading on Basic Rates (Sl No. 3) wherever applicable	
5	Applicable GST on Sl No. 3 & 4	
6	Cost of Estimate (Sum of Sl No. 3 to 5)	
7	Statutory Charges as per actuals (Inspectorate Charges, Civic Body Charges, Compensation Etc.,)	
8	Total Cost of Estimate (Sum of Sl No. 6 & 7)	

Note: 21% of Overhead Charges & Contractor's Profit shall be de-loaded for the materials supplied by ESCOMs and labour charges as the work is carried out by ESCOMs employees i.e., on 1. Material Cost (Exclusive of GST) Material Supplied by ESCOMs & 2. Labour Charges (Exclusive of GST) carried out by ESCOMs employees

**B. Abstract for preparation of Estimates for PARTIAL
TURNKEY/LABOUR AWARD WORKS (Materials supplied by
ESCOMs)**

Sl. No.	Particulars	Amount in Rs.
1a	Material Cost (Exclusive of GST) Material Supplied by ESCOMs	
1b	Material Cost (Exclusive of GST) Material Supplied by Agency	
2	Labour Charges (Exclusive of GST)	
3	Basic Rate (Sum of Sl No. 1a, 1b & 2)	
4	Area Specific Loading on Basic Rates (Sl No. 3) wherever applicable	
5	Applicable GST on Sl No. 3 & 4	
6	Cost of Estimate (Sum of Sl No. 3 to 5) (Amount Put To Tender)	
7	Statutory Charges as per actuals (Inspectorate Charges, Civic Body Charges, Compensation Etc.,)	
8	Total Cost of Estimate (Sum of Sl No. 6 & 7)	

Note: 21% of Overhead Charges & Contractor's Profit shall be deloaded for the materials supplied by ESCOMs i.e., on 1a. Material Cost (Exclusive of GST) Material Supplied by ESCOMs

**C. Abstract for preparation of Estimates for TOTAL
TURNKEY**

Sl. No.	Particulars	Amount in Rs.
1	Material Cost (Exclusive of GST)	
2	Labour Charges (Exclusive of GST)	
3	Basic Rate (Sum of Sl No. 1 & 2)	
4	Area Specific Loading on Basic Rates (Sl No. 3) wherever applicable	
5	Applicable GST on Sl No. 3 & 4	
6	Cost of Estimate (Sum of Sl No. 3 to 5) (Amount Put To Tender)	
7	Statutory Charges as per actuals (Inspectorate Charges, Civic Body Charges, Compensation Etc.,)	
8	Total Cost of Estimate (Sum of Sl No. 6 & 7)	

D. Abstract for preparation of estimates on DEPOSIT CONTRIBUTION WORK (For Total Turnkey/Partial Turnkey/Labour Award)

Sl. No.	Particulars	Amount in Rs.
1a	Material Cost (Exclusive of GST) Material Supplied by ESCOMs	
1b	Material Cost (Exclusive of GST) Material Supplied by Agency	
2a	Labour Charges (Exclusive of GST) Carried out by ESCOMs Employees	
2b	Labour Charges (Exclusive of GST) Carried out by Agency	
3	Basic Rate (Sum of Sl No. 1a, 1b, 2a & 2b)	
4	Area Specific Loading on Basic Rates (Sl No. 3) wherever applicable	
5	Applicable GST on Sum of Sl No. 3 & 4	
6	Cost of Estimate (Sum of Sl No. 3 to 5) (Amount Put To Tender)	
7	Statutory Charges as per actuals + applicable GST on Statutory Charges (Inspectorate Charges, Civic Body Charges, Compensation Etc.,)	
8	Total Cost of Estimate (Sum of Sl No. 6 & 7)	

Note:

- 1) **Government Works:** Total cost of the estimate + Cost of Tender Premium (if the work is awarded on Tender Basis) + 5% ESCOMs Establishment Cost (on Total cost of the estimate) shall be collected.
- 2) **Other than Government Works:** Total cost of the estimate + Cost of Tender Premium (if the work is awarded on Tender Basis) + 10% ESCOMs Establishment Cost (on Total cost of the estimate) shall be collected.
- 3) **21% of Overhead Charges & Contractor's Profit shall be deloaded for the materials supplied by ESCOMs and labour charges if the work is carried out by ESCOMs employees i.e., on 1a. Material Cost (Exclusive of GST) Material Supplied by ESCOMs & 2a. Labour Charges (Exclusive of GST) carried out by ESCOMs employees.**
- 4) The estimate is only provisional. The final cost of the work shall be worked out after completion of the work and difference amount in respect of material, labour and ESCOMs establishment cost has to be collected from the applicant before commissioning

E. Abstract for preparation of estimates on SELF EXECUTION WORK

Sl. No.	Particulars	Amount in Rs.
1	Material Cost (Exclusive of GST)	
2	Labour Charges (Exclusive of GST)	
3	Basic Rate (Sum of Sl No. 1 & 2)	
4	Area Specific Loading on Basic Rates (Sl No. 3) wherever applicable	
5	Applicable GST on Sum of Sl No. 3 & 4	
6	Cost of Estimate (Sum of Sl No. 3 to 5)	
7	Statutory Charges as per actuals (Inspectorate Charges, Civic Body Charges, Compensation Etc.,)	
8	Total Cost of Estimate (Sum of Sl No. 6 & 7)	

- Note:**
- 1. 5% Supervision charges on Sl No. 6 + applicable GST shall be collected.**
 2. All the materials required for execution of works have to be arranged by the agencies.
 3. No material shall be supplied by ESCOMs.
 4. The materials shall conform to ESCOMs specifications and shall be got inspected before execution of work. The material shall be procured by the agencies from the respective ESCOMs approved vendors. Bills and Test Certificate in respect of the materials procured shall be collected from the prospective consumers/representative before commissioning.
 5. Statutory Charges shall be paid by the Applicant.

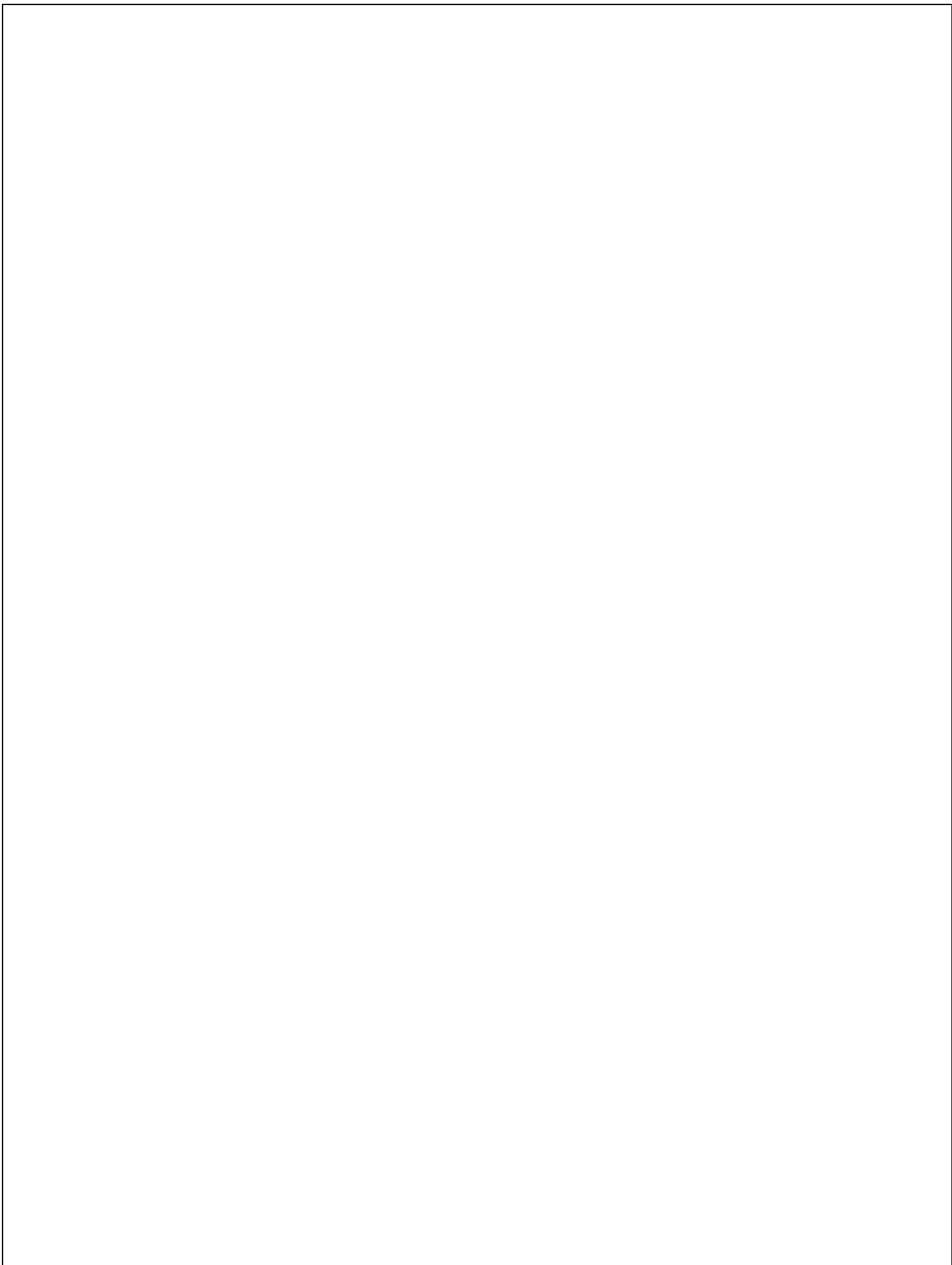
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PART - I
Transmission (KPTCL)



SPECIFICATION FOR WORKS

1. FABRICATION OF STATION STRUCTURES:

Labour charges for fabrication of ODS (as per approved drawing) made out of rolled steel section, equipment mounting structures, inclusive of one coat of good quality red oxide primer. All steel rolled sections shall be free from any imperfections, mill scales, slag intrusions, laminations, fillings rust etc., that may impair the strength, durability and appearance and all members shall be of approved quality. Galvanizing of structure / tower members shall conform to IS 4759-1968 and spring washers shall be galvanized in accordance with IS 1573-1970.

Bolts and nuts shall be of approved KPTCL vendors. All bolts & nuts and washers shall be galvanized in accordance with ISS: 5358-1969. The depth of the bolt shall be such that the thread portion will not be extending upto the plane of contact of the member. The member connected shall bear upon the shank of the bolt and not on the threaded portion of the bolt. The length of the bolt shall extend at least 6 mm beyond the nuts when fully tightened.

2. ERECTION OF TOWERS:

- a) Sorting of Tower parts made out of fabricated angle iron supplied.
- b) Assembling, stub setting and erection of towers including tightening of bolts and nuts.
- c) Riveting of tower bolt ends by heating oxy-acetylene gas and hammering to destroy threads so as to make the tower members theft proof (bolts and nodal points only to be selected and riveted upto a height of 14/15 m as per the direction of Field Engineers).

3. SUPPLYING AND FIXING OF AC DEVICES:

Supplying and fixing G.I. angle iron 45 x 45 x 5 mm (1 m length) with cleats. Bolt & nuts as per specification and fixing above 0.5 m length

each at inner and outer surface of the tower to facilitate running of barbed wire.

4. FIXING OF NAME PLATE, DANGER BOARDS, NUMBER PLATES, PHASE PLATES/TOWER MANUFACTURED AS PER APPROVED DRAWING.

5. STRINGING OF CONDUCTORS:

Hoisting and fixing insulator strings, armour rods, vibration dampers, paving, jointing, terminating, inclusive of labour, T&P like come along, wire ropes, pulleys, rollers, suspension clamps, compression joints, drum stands, manila ropes, mobile hydraulic cranes, puller machine and tensioner, truck, jeep, tractor etc.

6. GROUNDING OF TOWERS:

- a) Grounding of towers including cost of 40 mm class 'B' G.I. Pipe of 3 m length as per specification with 50 mm x 6 mm G.I. Flat, salt and charcoal.
- b) Counter Poise Earthing: Counter poise earth consists of 4 lengths of galvanized steel stranded wires, each fitted/crimped with a lug for connection to the tower leg at one end. The wires are connected to each of the legs and taken radially away from the tower and embedded horizontally 450 mm below ground level. The length of each wire is normally minimum distance of 15 m, but may be increased if the safe permissible resistance is not achieved. The size of the galvanized steel standard wire may be taken equal to the size of the earth conductor.

7. ERECTION, ASSEMBLY AND ALIGNMENT OF OUTDOOR STRUCTURE:

The ODS shall be erected on foundation not less than 14 days after concreting or till such time concrete acquiring strength, either by build up method or section method, positioning, levelling, aligning, plumbing or column/masks shall be done as approved by KPTCL Site Engineer.

Erection, alignment, assembly of fabricated steel lattice structure made out of galvanized MS angles and mounting structure, pedestal structures of CTs, PTs and LAs. All T&P consumable materials shall be arranged by the contractor, such as crane, special tools etc.

8. ERECTION OF POWER TRANSFORMERS:

- a) Fabrication of Power Transformer railing and embedding in Transformer plinth: Formation of rail track with gauge 1676 mm/ 2982 mm, as the case may be, using 40.77 kg rails: providing spacers of 50 x 50 x 6 mm angle iron, at intervals of 1 m, duly welded at the bottom portion of rails. The track shall be embedded in the plinth as per the approved drawing.
- b) Assembly of loose parts supplied separately. All components dispatched separately shall be cleaned, filling of transformer oil/hot oil circulation for heat run.
- c) Wiring, testing, commissioning and wiring of various alarm trip contacts, fan motors, pump motor and other apparatus and earthing of neutrals.
- d) Pre commissioning test like checking of ratio, polarity, phase relationship, resistance measurement of winding insulation resistance, magnetizing current, iron losses, tap changer, buccholtz relay test, checking magnetic oil level gauges, temperature indicators, fans and pumps. Wiring of marshalling box, testing of oil, general inspection and any other test that is required.

9. ERECTION OF BREAKERS:

- a) Erection, assembly, alignment, interpole wiring of breaker and wiring of breaker to connect with related equipment.
- b) Testing and commissioning.

10. ERECTION OF CTs AND PTs:

- a) Erection of CTs and PTs with ground connection and wiring
- b) Testing and commissioning.

- c) Erection of NCTs with the ground connection and wiring.
- d) Testing and commissioning.

11. ERECTION OF ISOLATORS:

- a) Assembly, alignment with ground connection and wiring:
 - i) Upright
 - ii) Under hung
- b) Testing and Commissioning:
 - i) Upright
 - ii) Under hung

12. ERECTION OF LIGHTNING ARRESTORS:

Erection as per approved drawing.

13. FIXING OF PEDESTAL INSULATORS:

Hoisting & fixing of pedestal/post insulators/solid core insulators on steel/mounting structures and formation of stacks as per design.

14. BUSBAR FORMATION:

- a) Main bus (all the three phases) using Bersimis/Moose/Falcon/ Drake/Lynx/Coyote conductors along with fixing of suitable insulators of appropriate voltage class with required height above equipment, including providing jumps to inter connect different segment of the main bus.
- b) Cross bus: Stringing of cross buses made up of conductors with the use of suitable insulator strings of appropriate voltage class insulator, hardware and providing jump connection to the isolators, breakers, CTs, outdoor PLCC equipment's, capacitor banks etc., after installation of these equipment.
- c) Rigid bus: Cutting the tubular bus bars of required size as per drawing installation of main bus, aligning bus post insulator stacks with clamps making V-taps, straight line taps, expansion joints,

bus inserts. Welding aluminium tubes by using pure argon gas with shielding from wind and dust. The welding process to be carried out at the rate of 15-20cm/minute washing with hot water after welding and radiographic testing of joints including cost of gas and all equipment required. The weld shall have average strength from 120-155 kg/cm².

15. EARTH MAT WORKS:

A) The work shall be carried out as per the detailed standard specification for earthing works in a sub-station.

The Scope of work includes the following:

- 1) Excavation for laying earthmat & back filling after laying the earthmat.
- 2) Laying of earthmat duly interleaving, welding and treatment of welded portion by ACB paint.
- 3) Providing 1 m M.S. rod of 25 mm dia along the peripheral earthmat conductor.
- 4) Providing CI pipe/Deep bore electrodes as per specification.
- 5) Providing earthing connection from equipment to earthmat / C.I. Pipe / Deep bore electrode.
- 6) Providing earthing connection from switchgear panel, control room, 11kV outgoing feeders (within Sub-station fencing) to C.I. Pipe and to earthmat.
- 7) Providing earthing for station fencing separately.
- 8) Spreading of Jelly in the yard as per design requirement.
- 9) The chemical treatment with Sodium based bentonite wherever suggested shall be carried out as per the detailed standard specifications.
- 10) Providing 450 mm dia Hume pipe collar for all electrodes in the earthmat area and labelling.

B) Method of application of Sodium Bentonite for Earth Electrodes / Earthmat Conductors.

I. Quantity:

1. Density=1
2. Swell Index by volume ≥ 8 .
3. Ph value to be between 8 and 10.
4. Resistivity $\leq 10 \Omega\text{m}$.

With the above minimum parameters, the requirement of dry Bentonite for a treatment volume of 1 m^3 will be 125 kg.

Based on the above, the requirement of dry Bentonite for electrodes and earthmat conductors will be:

Sl. No.	Type of Electrode	Requirement of dry Bentonite
1	Cast Iron Pipe electrode of 100 mm Id. 13 mm thick, 275 m long as per IS-3040-1987 for a treatment of 150 mm around the electrode.	45 kg/electrode
2	M.S.Flat conductor of earthmat in Sub-station for a treatment of 150mm around the MS Flat conductor.	9 kg/m

Note: The random samples of Bentonite shall be got tested for suitability for earthing at any NABL accredited lab before use.

II. Application:

a) Preparation of slurry:

The slurry shall be prepared in the following proportion.

1 kg of dry Bentonite + 200 gm of common Salt + 8 Litres of ordinary tap water.

This ratio shall be maintained for the entire requirement of treatment volume.

This slurry shall be poured around the electrode/earthmat conductor immediately after preparation of slurry & using suitable formers.

To obtain good contact between soil and the electrode, the slurry must be allowed to swell around the electrode/earthmat conductor. This can be achieved only when the slurry is poured around the electrode immediately after the slurry is prepared.

b) Treatment for pipe electrode:

i) Former for pipe electrode:

A cylindrical former may be formed using sheet steel with 338 mm dia for Galvanized pipe electrode and 426 mm dia for Cast iron pipe electrode.

At the top of cylindrical former, two hooks shall be provided at diametrically opposite ends & a sling attached to these hooks for pulling of the cylindrical former after treatment.

The height of cylindrical former may be kept at around 90 cm. If the height is increased further, there may be difficulty in pulling the former of the treatment.

ii) Application of Slurry:

First the cylindrical former is placed around the pipe electrode at the bottom. The slurry immediately after preparation is to be poured in the annular space between the pipe electrode and cylindrical former.

The annular space between cylindrical former and the earth pit shall be back filled with normal soil up to the height of the cylindrical former.

Next, the cylindrical former is pulled up after 2 to 3 hrs so that the bottom of the cylindrical former is at the top of the first filling.

Process as above is repeated for the entire length of the pipe electrode.

c) Treatment for earthmat conductor:

i) Former for earthmat conductor:

Two parallel sheet steel plates of 300 mm height and 3 m length shall be formed duly welding MS Rods of 350 mm length at the top of the plates at 1 m spacing to maintain 350 mm distance between the plates.

Hooks shall be provided to the plates for pulling the plate former after treatment.

ii) Application of Slurry:

The MS Flat earthmat conductor shall be raised 150 mm above the bottom of the trench by suitably placing small brick pieces along the length of the MS Flat.

The plate former shall be placed in the trench along the MS Flat so that the plates are equidistant from the MS Flat.

The slurry shall be poured immediately after preparation into the plate former (there may be need to block the ends of the plate former to retain the slurry).

The space between plates and trench shall be back filled with normal soil up to the height of the plates.

The plate former and end blocks may be removed by pulling up after 2 to 3 hrs, former placed for the next length of the MS Flat.

C) Laying of Earthmat:

1. Earthmat shall be laid for the entire area as per earthmat drawing, even though only one transformer is installed in the first phase.

2. While installing the earthmat, the rows and columns shall be interleaved like a woven mat to obtain better mechanical strength and electrical continuity.
3. MS Flat of the designed cross section shall be laid at the designed depth and spacing duly straightening and removing any bends.
4. As the standard length of flats available in the market are around 6 m in length. For continuous running of earthmat, straight joints are required. When such straight joints are made, a minimum overlap equal to the width of the flat shall be maintained.
5. The overlap portion shall be welded on all four sides by continuous welding. To facilitate welding on all four sides, welding work shall be done on the natural ground surface and then laid in the trench.
6. A thick 2 coats of Anti-corrosive bituminous paint shall be applied at the welded joints duly removing the deposited weld, flux and any burrs.
7. After laying the flats in the trench and interleaving, all the perpendicular crossings of flats shall be welded and applied a thick coat of ACB paint as above.

The ACB paint shall be applied only to the welded portion.

8. Projections of flat at the periphery of the earthmat should be avoided and the overlap shall be in flush with the edge of the peripheral flat of earthmat. At these joints, the welding shall be continuous on all the three sides.
9. The peripheral MS round rod of 25 mm dia shall be driven into the ground at locations shown in the earthmat drawing. Before driving these rods, the top 50 mm portion of the rod shall be flattened and bent & then welded properly to the MS Flat of

earthmat firmly. The other end of the rod shall be sharpened for easy driving.

10. When hard soils such as Fissured rock/Gravel/Laterite etc., are encountered at the Sub-station site during excavation for laying the earthmat and chemical treatment with Sodium bentonite clay is not suggested in the design then soft soil or tank clay shall be used for back filling the trenches of earthmat to a height of 0.3 m. This helps in getting good compactness around earthmat conductors and improvement in metal/soil contact.
11. When the Sub-station yard is terraced i.e., at different levels, it shall be ensured that the earthmat is continuous and interconnection of earthmat is made firmly between different levels.
12. The Transformer plinth, Control room and outdoor switch shall be surrounded by MS Flat of designed cross section at the designed depth and the earthmat conductor shall be terminated at the surrounding MS Flat by welding.
13. The earthmat shall be run below the concrete cable duct wherever the mat encounters cable duct path.
14. When structures come in the way of earthmat conductor, one or two conductors may be slightly shifted. However, the designed spacing must be maintained for other earthmat conductors.

D) Earth Connections:

- 1) All earth connections from equipment/cast iron pipe electrode to the earthmat shall be made using Galvanised Iron Flats of cross section equal to the MS Flat of earthmat. **All earth connections are to be made only by welding.** Suitable laps and bends shall be formed while making earth connections from equipment to the earthmat.

2) Power Transformer Neutral:

Two distinct continuous earth conductors (Galvanized Iron Flats without any joints as far as possible) shall be run in opposite directions from the power transformer neutral to the cast iron pipe electrode provided for the purpose by welding. Further, these cast iron pipe electrodes shall be connected to the earthmat by welding using Galvanized Iron Flats. If a joint is unavoidable in the neutral earth connection, then the joint shall be made above the ground level so that it is visible for inspection.

3) Lightning Arrestors:

Each phase of the lightning arrester base plate shall be connected to the cast iron pipe electrode provided for that individual phase by running Galvanized Iron Flat from the base plate. The cast iron pipe in turn shall be connected to the earthmat by welding using Galvanized Iron Flat. A flexible braided earth bond connection shall be made firmly between the base terminal and the Galvanized Iron Flat. **The length of the earth connection shall be as minimum as practicable.**

4) Lighting Mast:

The earth conductor (GI flat) from the top of the Mast shall be run up to an independent CI pipe electrode, which in turn shall be connected to the earthmat through proper continuous welding. Each lighting mast shall be connected to the earthmat through independent CI pipe electrode.

5) Switchgear/11kV Outdoor Bank:

A minimum of two cast iron pipe electrodes are to be provided at both ends of the switch gear.

Each 11kV Outdoor (PCVCB) bank shall be connected to earthmat through a CI pipe electrode.

6) Control Room:

A minimum of two cast iron pipe electrodes are to be provided around the control room. The control panel earth bus shall be connected to earthmat through the CI Pipe electrodes provided as above.

The control panel body & earth points shall be connected to the control panel earth bus.

7) Non Current Carrying Metal Parts:

All non-current carrying metal parts such as Transformer body, Circuit breaker body, Current transformer body, Outdoor structure & Isolator structure are to be directly connected to the earthmat using Galvanised Iron Flats with two distinct connections run in opposite directions. For the isolator structure, a GI Flat shall be run from the mounting pedestal channel duly welding the 3 channels to the GI Flat connected to the earth running down to the earthmat. The operating handles of isolators are to be connected to the earth conductors (Galvanised Iron Flat) using braided earth bonds.

E) Earthing of Power Cables (11kV Class):

1. Three Core Cables:

The sheath of the cables are to be directly connected to the earthmat at their terminations and joints i.e., at both switch gear and terminating pot heads.

2. Single Core Cables:

Sheaths of single core cable shall be earthed at only one end, preferably transformer end. By running a Galvanised Iron flat from the pot head structure at the top to the earthmat and connecting the cable sheath to this Galvanised Iron Flat firmly. Wooden clamps are to be provided for Single core cable in the supporting structure and metal clamps shall be avoided.

F) Out Going 11kV Feeders:

1) When the feeders are erected within the Sub-station fence:

The pot head cable sheath is to be earthed and connected to the earthmat through independent cast iron pipe electrode by running designed size as per R&D approved earth mat design and Galvanized Iron Flat from top of the structure upto the CI pipe electrodes. In turn, these CI electrodes are to be connected to the earthmat. All these connections shall be made by welding. Further, the cross braces at the top of the structure provided for line take off and GOS mounting frame shall also be connected to this GI flat by welding.

2) When the feeders are erected outside the Sub-station fence:

The cable sheath of the pot head shall be connected to CI pipe electrode of the feeder as mentioned in clause F(1) above.

Further, a MS flat of minimum size 50 x 6 mm shall be run at a depth of 0.9 m near the CI electrodes provided for the feeders and these electrodes shall be connected to the MS flat so buried by welding using Galvanised Iron Flats.

The feeder earth system shall not be connected to the Sub-station earthmat and should always be isolated from the Sub-station earth.

G) Sub-Station Fencing:

- a) Fence earthing shall be isolated from the main earthing of the Sub-station. The Sub-station fence and fence earthing shall be provided at a distance of minimum 1.5 m away from the edge of the Sub-station earthmat along the periphery.
- b) A separate earthing conductor of minimum size 50 x 6 mm MS Flat should be run along the perimeter of the fence at a depth of 0.9 m below the ground surface. The perimeter fence is to be connected to this MS Flat through independent vertical electrodes (CI Pipe Electrodes) using Galvanised Iron Flat of minimum size 50 x 6 mm.

The connections are to be made by welding. When chain link/barbed wire fence is provided, two flats shall be welded on either side of the fence vertically abutting the fence and these flats are to be welded to the flat run below the ground through the CI pipe electrode.

- c) The metal gate and the fence shall be firmly bonded.
- d) The CI pipe electrodes shall be provided at corners and mid points of the fence if the perimeter is more than 100 m, other wise CI pipe electrodes may be provided only at the corners or mid points.
- e) The fence earth and Sub-station earthmat shall not have any electrical tie and should be physically separate.

H) Supplying and spreading of Jelly in Station Yard (Crushed Rock Surface Layer):

20/25 mm metal (Baby granite jelly) to a height of 100 mm with all lead and lifts shall be provided over the area as mentioned in the design.

I) Separation between Cast Iron Pipe Electrodes:

1. The separation between any two CI pipe electrodes in the Sub-station yard has to be maintained equal to twice the length of CI pipe electrodes. This is very important due to the fact that close electrodes experience an increase in their earth resistance due to mutual interference. It shall be ensured that the CI pipe electrodes are uncoated. Refer sketch in this book for general arrangement of CI pipe electrodes.
2. **The location of Cast Iron Pipe electrodes shall be planned earlier keeping in view the following:**
 - a) The CI pipe electrode for Lightning Arrester and Power Transformer neutral shall be as near as practicable to the respective equipment.
 - b) The distance between any two CI pipe electrodes should not be less than twice the length of the CI pipe electrode.

- c) The Lightning Arrester earth connection should not be run over the ground surface. They should be directly run vertically down, upto the mat depth and connected to the earthmat at the nearest point at that depth.

3. Providing Cast Iron Pipe Electrode as per specification:

CI pipe electrodes of 100 mm Id. 13 mm thick, machinable grade, 2.75 m long and **uncoated** pipe shall be provided at the locations specified in the design.

The CI pipe shall be provided with a split clamp made out of 50 x 6 mm G.I. Flat and welded to the CI pipe 50 mm below the top edge of the pipe.

The pipe shall be buried such that, only 150 mm length of the CI pipe is above the ground level.

A minimum of 150 mm around the electrode for the entire length of the electrode shall be treated as follows:

A homogeneous mixture of Coke/Charcoal, Common Salt & Sand shall be used for treatment. Coke/Charcoal, Common Salt shall be in equal proportion by **weight** and sand shall be equal to the combined volume of Coke/Charcoal and Common Salt for preparing the homogeneous mixture.

Only lumps of Coke/Charcoal shall be used as it has to hold the electrolyte. After installing the CI Pipe electrode, the area around the electrode shall be watered several times a day for one week to allow the electrolyte to percolate down the entire length of the electrode.

Please refer sketch in this book for details.

4. Providing Deep Bore Electrode as per specification (If recommended in design):

A 150 mm bore shall be drilled at the specified location using borewell machine for a depth as specified by R&D.

40 mm dia MS round rod shall be used as electrode and lowered into the bore for required depth. To obtain continuous length of the rod, straight joints are to be made by welding. At the straight joints, the rods shall be welded using 50 x 6 mm GI Flats as shown in sketch.

The annular space shall be filled with Sodium bentonite slurry till the entire bore length of required depth is covered. The slurry level sinks after few hours. This is again to be filled with slurry and the process is continued until the entire length is filled with bentonite and no further sinking takes place.

Generally, 100 kg of bentonite is required per electrode and in some cases where lot of crevices are formed during drilling, another 50 to 100 kg of bentonite is required for 50 m length of deep bore electrode.

J) Laying of Power Cables and Control Cables:

The power cables & control cables shall be laid in a separate concrete duct. A clearance of minimum of 0.6 m shall be maintained between any earthmat conductor and the power/control cables. Parallelism of power/control cables with earthing conductors should be avoided, especially at the entry point of control room.

K) Labelling Of Pipe Electrodes:

The individual pipe electrodes shall be labelled for proper identification. This is a statutory requirement. The label boards shall be welded to the electrode to avoid misplacement.

L) Safety:

- 1) Metal piping should not be used for water supply within the Sub-station yard.
- 2) The Sub-station shall have a dedicated Auxiliary Transformer installed within the Sub-station yard with its neutral firmly

connected to the Sub-station earthmat through an independent electrode. For no reason, the power supply from the Sub-station auxiliary transformer should be extended beyond the Sub-station yard.

16. SUB-STATION YARD LIGHTNING:

- a) Supply and erection of fabricated clean, supporting structure/ tubular pole provided with two coats enamelled paint of approved quality and colour. The pole/structure shall have MS Plates of size 300 x 6 mm long GI Pipe for cable entry at the bottom of the structure and shall be fitted to control box having size 200 x 200 x 125 mm with front opening cover with looping arrangements and providing and fixing 30 A D.P.(Bakelite) on member of 4 way connector in case of looping. The pole structure shall be erected in cement concrete work (1:3:6) including excavation and refilling as per IS:2713-1980.
- b) Supplying and fixing of sodium vapour lamps/LED.

17. PAINTING:

- a) Supplying and painting of two coats of good quality red oxide primer after cleaning and scrapping the surface.
- b) As above with aluminium paint.
- c) As above with synthetic enamel paint.

18. BATTERY SET:

Installing and assembling, filling of electrolyte and wiring, test charging and discharging.

19. CONTROL CABLE / POWER CABLES:

Laying, wiring, termination of Control and power cables: Laying of control and power cables in cable ducts, erection in the switchyard of proper termination at both ends, cable marks/tag enroute. Preparation of cable schedule, supply of all cable accessories including cable

glands, terminals, identification tags, ferrule at both ends. Cable shall be on cable racks in built trenches/excavated trench pulled through pipe/conduit laid in concrete run and clamped on wall/ceiling. The cables in duct shall run on cable ladder with separate tiers for power and control cables.

The design, manufacturing, installation, testing and performance shall comply with the following standards.

IS : 9537 : Rigid steel conduit for electrical wiring.

IS : 3450 : Flexible steel conduit for electrical wiring.

IS : 3837 : Accessories for rigid steel conduit for electrical wiring.

IS : 1239 : Steel tubes, tubular and other wrought steel fittings.

IS : 458 : Pre-cast concrete pipe (with and without reinforcement).

IS : 5216 : Recommendations on safety procedure and practice in electrical work.

IS : 8309 : Compression type tubular terminal ends for aluminium conductors of insulated cables.

IS : 2633 : Methods for testing uniformity of coating zinc coated articles.

IS : 573 : Tri-sodium phosphate.

Provide junction boxes as per specification. Terminal block shall be rated for 1100 V and 15 A, non-disconnecting type complete with insulated bushings, terminal studs, nuts lock nuts, identification strips etc.

Each cable and conduit run should be tagged with numbers that appear in the cable and the conduit schedule. Tag shall be of aluminium with numbers punched on it and securely attached to the cable conduit by not less than two runs of 20 SWG. G.I. wire conforming to IS: 280. Cable tags shall be of rectangular shape for power cables and circular shape for control cables. Location of cables laid directly with underground cable joints shall be indicated with cable

marker made of galvanized iron plates. Underground cable joints shall be indicated with cable markers with an additional inscription "Cable Joints". The marker shall project 150 mm above ground level and be spaced at intervals of 30 m and at every change in direction located on both sides of the road and drain crossings.

20. COLONY AND SUB-STATION YARD BOUNDARY FENCING INCLUDING ERECTION OF SUPPORTS:

- 1) Security fencing using chain link/mesh
- 2) Barbed wire fencing.

21. ERECTION OF PLCC EQUIPMENT:

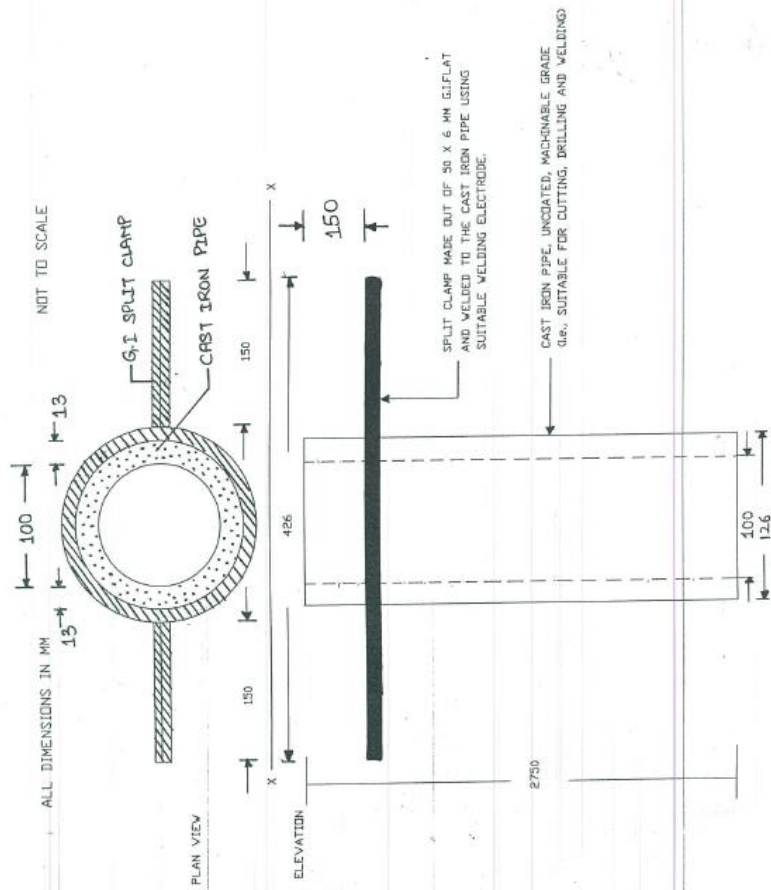
- a) Erection of mounting structure for coupling capacitor.
- b) Erection of coupling device/wave traps/line matching units.

22. CAPACITOR BANKS OF DIFFERENT VOLTAGE CLASSES:

Levelling of site, excavation of pits, casting of foundations for elevating structure of concrete plinth and other mounting structures as applicable as per approved drawing, erecting elevating structure and mounting racks painting wherever required, assembling of capacitor units on the racks, making individual connections, bank formation, associated equipment like surge arrestors, disconnectors, CTs, Circuit breakers, Current limiting reactor, Neutral CTs, Voltage transformers, Relay Panels, Control cables etc., in a complete manner, testing and commissioning of the capacitor banks.

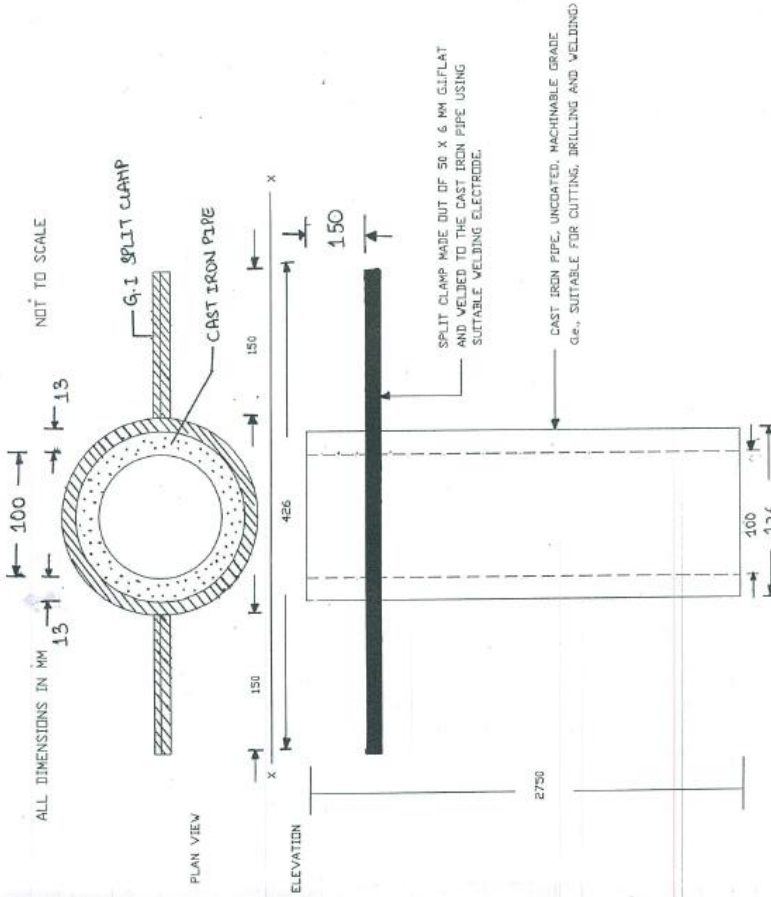
KARNÁTAKA POWER TRANSMISSION CORPORATION LIMITED

DETAILS OF CAST IRON PIPE EARTH ELECTRODE FOR STATIONS
(WITH NORMAL TREATMENT)



- NOTE: *
- * TREATMENT AROUND THE ELECTRODE SHALL BE GIVEN 150MM ALL AROUND THE CAST IRON PIPE FOR THE ENTIRE LENGTH WITH A HOMOGENEOUS MIXTURE OF COKE/CHARCOAL (IN LUMPS), COMMON SALT AND SAND.
 - * CHARCOAL AND COMMON SALT SHALL BE TAKEN IN EQUAL PROPORTION BY WEIGHT AND SAND EQUAL TO THE COMBINED VOLUME OF CHARCOAL AND COMMON SALT FOR FORMING THE HOMOGENEOUS MIXTURE.
 - * ONLY LUMPS OF COKE/CHARCOAL SHALL BE USED AS IT HAS TO HOLD THE ELECTROLYTE.

DETAILS OF CAST IRON PIPE EARTH ELECTRODE FOR STATIONS
(WITH SODIUM BENTONITE TREATMENT)



- NOTE: *
- * SODIUM BENTONITE TREATMENT SHALL BE GIVEN 150MM ALL AROUND THE CAST IRON PIPE FOR THE ENTIRE LENGTH.
 - * THE FOLLOWING PROPORTIONS SHALL BE MAINTAINED FOR BENTONITE TREATMENT - SODIUM BENTONITE 1KG + 200 GRAMS COMMON SALT + 8 LITRES ORDINARY WATER
 - * BEFORE USE THE SODIUM BENTONITE SHALL BE GOT TESTED AT NABL ACCREDITED LABORATORY AND REPORT SHALL BE SUBMITTED TO THIS OFFICE.

SUPERINTENDING ENGINEER (ELEC)
RESEARCH AND DEVELOPMENT CENTRE

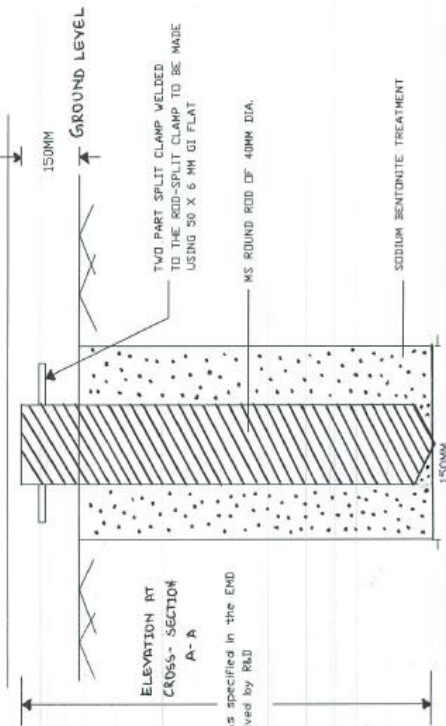
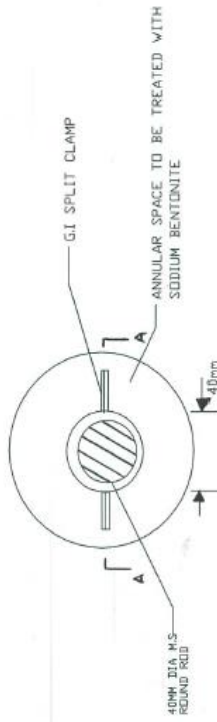
KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

TYPICAL ARRANGEMENT OF DEEP BORE EARTH ELECTRODE

NOT TO SCALE

150MM

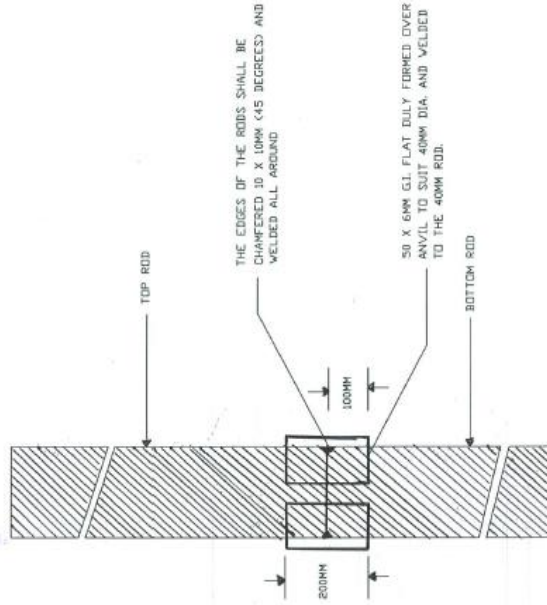
PLAN VIEW



METHOD OF JOINING TWO RODS TO OBTAIN REQUIRED CONTINUOUS LENGTH

NOT TO SCALE

ALL DIMENSIONS IN MM



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Part - I

Rates for Major Works Materials/Equipment

(Rates are exclusive of GST)

PART-I:
Rates for Major Works Materials/Equipment
(Exclusive of GST)

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
1	<p>POWER TRANSFORMER :</p> <p>1.1 500 MVA, 400/220/33 kV three phase Inter-Connecting Transformer : 3 Ph, 50 Hz, Core type, 2 winding Auto Transformer Star/Star/Delta, Vector Group: Yna0d11, OLTC, Cooler control cubicle, RTCC Panel, Oil and 10% spare oil in non-returnable drums etc., complete with 2x50% separate Radiator Bank on right side, with Numerical RTCC and condition controlled maintenance free type breather with suitable terminal connectors on HV, IV, LV side etc., as per specification (excluding Temperature monitoring system using Fibre optic sensor, Online Dissolved Gas & Moisture Analyser, Online insulating oil drying system)</p> <p>1.2 315 MVA, 400/220/33 kV three phase Inter-Connecting Transformer : 3 Ph, 50 Hz, Core type, 2 winding Auto Transformer Star/Star/Delta, Vector Group: Yna0d11, OLTC, Cooler control cubicle, RTCC Panel, Oil and 10% spare oil in non-returnable drums etc., complete with 2x50% separate Radiator Bank on right side, with Numerical RTCC and condition controlled maintenance free type breather with suitable terminal connectors on HV, IV, LV side etc., as per specification (excluding Temperature monitoring system using Fibre optic sensor, Online Dissolved Gas & Moisture Analyser, Online insulating oil drying system).</p> <p>1.3 167 MVA, 400/220/33 kV single phase Inter-Connecting Transformer : 1 Ph, 50 Hz, Core type, 2 winding Auto Transformer Star/Star/Delta, Vector Group: Yna0d11, OLTC, Cooler control cubicle, RTCC Panel, Oil and 10% spare oil in non-returnable drums etc., complete with 2x50% separate Radiator Bank on right side, with Numerical RTCC and condition controlled maintenance free type breather with suitable terminal connectors on HV, IV, LV side etc., as per specification (excluding Temperature monitoring system using Fibre optic sensor, Online Dissolved Gas & Moisture Analyser, Online insulating oil drying system).</p>	Set	8504	22,53,64,920
		Set		15,11,89,500
		Set		5,28,05,610

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
1.4	150 MVA, 220/66/11 kV Power Transformer : 3 Ph, 50 Hz, Core type, 3 winding Transformer Star/Star/Delta, Vector Group: YNyn0d11, OLTC, Bushing CT for Tertiary of ratio 1515/1A, 5P20, 15VA, ONAN/ONAF/OFAF with Fan control cubicle, RTCC Panel, Numerical RTCC panel with fibre optic temperature sensor, first filling of oil and 10% spare oil in non-returnable drums, etc., complete with 2x50% separate Radiator Bank on left side and terminal connector suitable for Single Drake ACSR/Double Drake ACSR on primary and secondary side of Transformer and Neutral connectors suitable for copper flats as per technical specification.	No.		11,83,15,010
1.5	160 MVA, 220/110/11 kV Power Transformer : 3 Ph, 50 Hz, Core type, 2 winding Auto Transformer Star/Delta, Vector Group: Yna0d11, OLTC, Bushing CT for Tertiary of ratio 1616/1A, 5P20, 15VA, ONAN/ONAF/OFAF with Fan control cubicle, RTCC Panel, Numerical RTCC panel, fibre optic temperature sensor, first filling of oil and 10% spare oil in non-returnable drums, etc., complete with 2x50% separate Radiator Bank on left side and terminal connector suitable for double Drake ACSR on primary and secondary side of the Transformer and neutral connectors suitable for copper flats, etc., as per technical specification.	No.		9,11,15,420
1.6	100 MVA, 220/66/11 kV Power Transformer : 3 Ph, 50 Hz, Core type, 3 winding Transformer Star/Star/Delta, Vector Group: YNyn0d11, OLTC, Bushing CT for Tertiary of ratio 1000/1A, 5P20, 15VA, ONAN/ONAF/OFAF with Fan control cubicle, RTCC Panel, Numerical RTCC panel with fibre optic temperature sensor, first filling of oil and 10% spare oil in non-returnable drums, etc., complete with 2x50% separate Radiator Bank on left side and terminal connector suitable for Single Drake ACSR/Double Drake ACSR on primary and secondary side of Transformer and Neutral connectors suitable for copper flats as per technical specification.	No.		7,98,12,810
1.7	100 MVA, 220/110/11 kV Power Transformer : 3 Ph, 50 Hz, Core type, 2 winding Auto Transformer Star/Delta, Vector Group: Yna0d11, OLTC, Bushing CT for Tertiary of ratio 1000/1A, 5P20, 15VA, ONAN/ONAF/OFAF with Fan control cubicle, RTCC Panel, Numerical RTCC panel, fibre optic temperature sensor, first filling of oil and 10% spare oil in non-returnable drums, etc., complete with 2x50% separate Radiator Bank on left side and terminal connector suitable for Drake ACSR on primary and secondary side of the Transformer and neutral connectors suitable for copper flats, etc., as per technical specification.	No.		6,40,24,730

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
1.8	31.5 MVA, 66/11 kV Transformer : 3 Ph, 50 Hz, Core type, 2 winding Delta/Star, Vector Group: DYn11, OLTC, ONAN/ONAF with Fan control cubicle, RTCC Panel, Numerical RTCC panel with fibre optic temperature sensor, first filling of oil and 10% spare oil in non-returnable drums, etc., complete with Terminal connector suitable for single Drake ACSR on primary side of Transformer and copper flat on 11 kV and neutral side as per technical specification.	No.		3,17,27,410
1.9	20 MVA, 110/33-11 kV Transformer : 3 Ph, 50 Hz, Core type, 2 winding Delta/Star, Vector Group: DYn11, OLTC, ONAN/ONAF with Fan control cubicle, RTCC Panel, first filling of oil and 10% spare oil in non-returnable drums, etc., complete with Terminal connector suitable for single Drake ACSR on primary side of Transformer and copper flat on 11 kV side and on neutral side as per technical specification.	No.		2,58,11,720
1.10	16/20 MVA, 66/11 kV Transformer : 3 Ph, 50 Hz, Core type, 2 winding Delta/Star, Vector Group: DYn11, OLTC, ONAN/ONAF with Fan control cubicle, RTCC Panel, first filling of oil and 10% spare oil in non-returnable drums, etc., complete with Terminal connector suitable for single Drake ACSR on primary side of Transformer and copper flat on 11 kV side and on neutral side as per technical specification.	No.		2,21,06,700
1.11	12.5 MVA, 66/11 kV Transformer : 3 Ph, 50 Hz, Core type, 2 winding Delta/Star, Vector Group: Dyn11, OLTC, RTCC Panel, first filling of oil and 10% spare oil, etc., complete with Terminal connector suitable for single Drake ACSR on primary side and copper flat on 11 kV side and on neutral side as per technical specification.	No.		1,59,07,870
1.12	10 MVA, 110/33-11 kV Transformer : 3 Ph, 50 Hz, Core type, 2 winding Delta/Star, Vector Group: Dyn11, OLTC, RTCC Panel, first filling of oil and 10% spare oil, etc., complete with Terminal connector suitable for single Drake ACSR on primary side and copper flat on 11 kV side and on neutral side as per technical specification.	No.		1,11,61,040
1.13	8 MVA, 66/11 kV Transformer : 3 Ph, 50 Hz, Core type, 2 winding Delta/Star, Vector Group: Dyn11, OLTC, RTCC Panel, first filling of oil and 10% spare oil, etc., complete with Terminal connector suitable for single Drake ACSR on primary side and copper flat on 11 kV side and on neutral side as per technical specification.	No.		1,01,80,940

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
1.14	1 MVA, 33/0.433 kV Transformer : 3 Ph, 50 Hz, Core type, 2 winding Delta/Star, ONAN Vector Group : DYn11, OLTC, Oil, etc., complete with suitable terminal connectors as per technical specification.	No.		22,78,430
1.15	EHV Grade unused uninhibited mineral insulating oil in new steel barrels of 210 litres capacity strictly conforming to IEC 60296 (latest version) (>170kV class)	kL	2710	1,25,840
1.16	New uninhibited Natural Ester insulating oil conforming to IEC 62770 (latest version) for filling of tanks, radiators & OLTC at proper level including 10% extra oil for topping up supplied in non-returnable containers suitable for outdoor storage	kL	2710	2,75,880
2	400 kV REACTOR :		8504	
2.1	400 kV Class, 125 MVAr Reactor with oil, suitable terminal connector on HV side & neutral side with condition controlled maintenance free type breather etc., as per specification (excluding temperature monitoring system using fibre optic sensors, online dissolved gas & moisture analyzer, online insulating oil drying system).	Set		9,62,67,600
2.2	400 kV Class, 80 MVAr Reactor with oil, suitable terminal connector on HV side & neutral side with condition controlled maintenance free type breather etc., as per specification (excluding temperature monitoring system using fibre optic sensors, online dissolved gas & moisture analyzer, online insulating oil drying system).	Set		7,88,65,380
2.3	400 kV Class, 63 MVAr Reactor with oil, suitable terminal connector on HV side & neutral side with condition controlled maintenance free type breather etc., as per specification (excluding temperature monitoring system using fibre optic sensors, online dissolved gas & moisture analyzer, online insulating oil drying system).	Set		7,08,43,080
3	EHV CIRCUIT BREAKER :		8536	
3.1	SF6 type with operating mechanism and marshalling box along with associated support structure and terminal connector etc., as per technical specification.			
3.1.1	420 kV Class, 63 kA, 3150 A (without closing resistors)	Set		28,38,660

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
3.1.2	420 kV Class, 63 kA, 3150 A (with closing resistors)	Set		40,72,860
3.1.3	Controlled Switching Device for Circuit Breaker as per technical specification	Set		5,78,380
3.2	220 kV, 50 kA class, SF-6 Circuit Breaker with terminal connector suitable for Al. tube/conductor with spring/semi-pneumatic/pneumatic type operating mechanism and mounting structure etc., as per technical specification.	No.		16,78,270
3.3	110 kV, 40 kA class, SF-6 Circuit Breaker with terminal connector suitable for Al. tube/conductor with spring/semi-pneumatic/pneumatic type operating mechanism and mounting structure etc., as per technical specification.	No.		7,03,010
3.4	66 kV, 40 kA class, SF-6 Circuit Breaker with terminal connector suitable for Al. tube/conductor with spring/semi-pneumatic/pneumatic type operating mechanism and mounting structure etc., as per technical specification.	No.		7,03,010
3.5	33 kV, 25 kA class, SF-6 Circuit Breaker with terminal connector suitable for Al. tube/conductor with spring operating mechanism and mounting structure etc., as per technical specification.	No.		5,77,170
3.6	33 kV, 2500 A, 25 kA Outdoor Vacuum Circuit Breaker with terminal connector suitable for Al. tube/conductor and mounting structure etc., as per technical specification.	No.		3,17,020
4	11 kV SWITCH GEAR :		8537	
4.1	11 kV PCVCB, 500 MVA, 25 kA, 1600 A incomer 1250 A feeder			
	Incomer Panel	No.		8,28,850
	Feeder Panel	No.		6,83,650
	Feeder Panel for Capacitor Bank	No.		7,62,300
4.2	11 kV PCVCB, 500 MVA, 25 kA, 1250 A incomer 800 A feeder			
	Incomer Panel	No.		8,04,650
	Feeder Panel	No.		6,19,520
	Feeder Panel for Capacitor Bank	No.		7,24,790

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
4.3	11 kV PCVCB, 350 MVA, 25 kA, 1250 A incomer, 800 A feeder (SCADA compatible)			
	Incomer Panel	No.		8,04,650
	Feeder Panel	No.		6,14,680
	Feeder Panel for Capacitor Bank	No.		7,17,530
4.4	11 kV MCVCB, 500 MVA, 31.5 kA, 2000 A incomer, 1250 A feeder (SAS compatible)			
	Incomer Panel	No.		12,60,820
	Feeder Panel	No.		10,53,910
	Bus Coupler	No.		11,16,830
	Feeder Panel for Capacitor Bank	No.		11,60,390
4.5	11 kV MCVCB, 500 MVA, 31.5 kA, 2000 A incomer 1250 A feeder (DAS compatible)			
	Incomer Panel	No.		12,95,910
	Feeder Panel	No.		11,70,070
	Bus Coupler	No.		13,28,580
	Feeder Panel for Capacitor Bank	No.		12,32,990
4.6	11 kV MCVCB, 500 MVA, 25 kA, 1600 A incomer, 1250 A feeder (SCADA compatible)			
	Incomer Panel	No.		9,71,630
	Feeder Panel	No.		8,60,310
	Bus Coupler	No.		8,26,430
	Feeder Panel for Capacitor Bank	No.		9,64,370
4.7	11 kV MCVCB, 500 MVA, 25 kA, 1600 A incomer 1250 A feeder (SCADA-DAS compatible)			
	Incomer Panel	No.		10,23,660
	Feeder Panel	No.		9,88,570
	Bus Coupler	No.		10,26,080
	Feeder Panel for Capacitor Bank	No.		10,57,540

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
4.8	11 kV MCVCB, 500 MVA, 25 kA, 1250 A incomer 800 A feeder			
	Incomer Panel	No.		9,54,690
	Feeder Panel	No.		8,49,420
	Bus Coupler	No.		8,26,430
4.9	11 kV MCVCB, 350 MVA, 25 kA, 1250 A incomer 800 A feeder (SCADA compatible)			
	Incomer Panel	No.		9,53,480
	Feeder Panel	No.		8,47,000
	Bus Coupler	No.		8,01,020
4.10	Adapter Panel for MCVCB		8537	
	Adapter Panel (1250 A)	No.		1,99,650
	Adapter Panel (2000 A)	No.		2,26,270
	Adapter Panel (3000 A)	No.		2,34,740
4.11	Annunciator Panel for the following combinations (for both MCVCB & PCVCB)		8531	
	1I/c + 4F	No.		1,40,360
	1I/c + 5F	No.		1,80,290
	2I/c + 8F	No.		2,52,890
	1I/c + 4F + 1CB	No.		1,65,770
	1I/c + 5F + 1CB	No.		2,05,700
	1I/c + 6F + 1CB	No.		2,21,430
	1I/c + 7F + 1CB	No.		2,38,370
	2I/c + 8F + 2CB	No.		3,02,500
	2I/c + 8F + 1BC	No.		2,75,880
	2I/c + 10F + 1BC	No.		3,02,500
2I/c + 12F + 1BC	No.		3,30,330	

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
	2I/c + 14F + 1BC	No.		3,72,680
	2I/c + 16F + 1BC	No.		4,10,190
	2I/c + 7F + 1BC + 1CB	No.		2,91,610
	2I/c + 9F + 1BC + 1CB	No.		3,19,440
	2I/c + 13F + 1BC + 1CB	No.		3,73,890
	Annunciator Panel for Single Feeder	No.		52,030
	Annunciator Panel for Two Feeders	No.		71,390
	Annunciator Panel for Three Feeders	No.		90,750
	Annunciator Panel for Four Feeders	No.		1,10,110
	Annunciator Panel for One Capacitor Bank Panel	No.		71,390
	Annunciator Panel for Two Capacitor Bank Panel	No.		1,10,110
	Annunciator Panel for Three Capacitor Bank Panel	No.		1,40,360
4.12	LT Switchgear (Indoor) as per technical specification		8537	
4.12.1	415 V Main Switch Board	Set		22,27,610
4.12.2	415 V ACDB	Set		20,15,860
4.12.3	415 V MLDB	Set		23,83,700
4.12.4	415 V Emergency LDB	Set		10,72,060
4.12.5	ETV Tariff Metering Cubicle	No.		13,93,920
5	CURRENT TRANSFORMER :		8504	
5.1	5 Cores with marshalling boxes, terminal connectors etc., complete as per technical specification			
5.1.1	420 kV Class, 63 kA CT with ratio 3000-2000-1000/1-1-1-1 A	No.		6,24,360
5.1.2	420 kV Class, 63 kA CT with ratio 2000-1000-500/1-1-1A plus additional 2 cores of 2000-1000/1-1 A	No.		5,92,900
5.1.3	220 kV Class, 40 kA CT with ratio 3000-2000/1-1-1-1 A	No.		3,55,740
5.1.4	220 kV Class, 40 kA CT with ratio 1600-800/1-1-1-1 A	No.		3,55,740

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
5.2	Oil filled Current Transformer 0.2s class with terminal connector suitable for Al. tube/conductor with marshalling box etc., complete as per technical specification.		8504	
5.2.1	220 kV Class : 3000-1600-800-400-300/ 1-1-1 A plus 2 cores of 1200/1 A			3,55,740
5.2.2	220 kV Class : 1200-800-400-300/1-1-1 A plus 2 cores of 1200/1 A	No.		3,55,740
5.2.3	220 kV Class : 800-600-400-300/1-1-1 A plus 2 cores of 800/1 A	No.		3,55,740
5.2.4	110 kV Class : 1000-600/1-1-1 A	No.		1,41,570
5.2.5	110 kV Class : 600-400/1-1-1 A	No.		1,41,570
5.2.6	110 kV Class : 400-200/1-1-1 A	No.		1,35,520
5.2.7	110 kV Class : 200-100/1-1-1 A	No.		1,34,310
5.2.8	66 kV Class : 1600-1000/1-1-1 A	No.		1,33,100
5.2.9	66 kV Class : 1200-800/1-1-1 A	No.		1,33,100
5.2.10	66 kV Class : 1000-600/1-1-1 A	No.		1,19,790
5.2.11	66 kV Class : 800-400/1-1-1 A	No.		98,010
5.2.12	66 kV Class : 400-200/1-1-1 A	No.		98,010
5.2.13	66 kV Class : 200-100/1-1-1 A	No.		67,760
5.2.14	33 kV Class : 400-200/1-1-1 A	No.		42,350
5.2.15	33 kV Class : 200-100/1-1-1 A	No.		42,350
5.2.16	11 kV NCT : 2000-1200/1-1-1 A	No.		59,290
5.2.17	11 kV NCT : 1200-800/1-1-1 A	No.		56,870
5.2.18	11 kV NCT : 800-400/1-1-1 A	No.		49,610
5.2.19	11 kV NCT : 600-300/1-1-1 A	No.		47,190
5.3	11 kV CT : Indoor/Outdoor			
5.3.1	11 kV CT : 2000-1200/1-1-1 A (for Incomer/Bus Coupler of 31.5 kA SWG) INDOOR	No.		42,350

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
5.3.2	11 kV CT : 2000-1200/1-1-1 A (for Incomer/Bus Coupler of 31.5 kA SWG) OUTDOOR	No.		59,290
5.3.3	11 kV CT : 1200-800/1-1-1 A (for Incomer/Bus Coupler of 25 kA SWG) INDOOR	No.		37,510
5.3.4	11 kV CT : 1200-800/1-1-1 A (for Incomer/Bus Coupler of 25 kA SWG) OUTDOOR	No.		56,870
5.3.5	11 kV CT : 800-400/1-1-1 A (for Incomer/Bus Coupler of 25 kA SWG) INDOOR	No.		36,300
5.3.6	11 kV CT : 800-400/1-1-1 A (for Incomer/Bus Coupler of 25 kA SWG) OUTDOOR	No.		49,610
5.3.7	11 kV CT : 600-300/1-1-1 A (for feeders of 31.5 kA SWG) INDOOR	No.		33,880
5.3.8	11 kV CT : 600-300/1-1-1 A (for feeders of 31.5 kA SWG) OUTDOOR	No.		47,190
5.3.9	11 kV CT : 400-200/1-1-1 A (for feeders of 31.5 kA SWG) INDOOR	No.		25,410
5.3.10	11 kV CT : 400-200/1-1-1 A (for feeders of 31.5 kA SWG) OUTDOOR	No.		41,140
5.3.11	11 kV CT : 200-100/1-1-1 A (for feeders of 25 kA SWG) INDOOR	No.		22,990
5.3.12	11 kV CT : 200-100/1-1-1 A (for feeders of 25 kA SWG) OUTDOOR	No.		35,090
6	CAPACITOR VOLTAGE TRANSFORMER :		8504	
6.1	420 kV Class, 8800 PF, CVT, single phase, outdoor type with 3 secondaries, 5 Cores with marshalling boxes, terminal connectors etc., complete as per technical specification.	No.		3,56,950
6.2	245 kV CVT, 4400 PF, 1 Ph CVT with 2 secondaries, terminal connector suitable for Al. tube/conductor with marshalling box etc., complete as per technical specification.	No.		1,62,140
6.3	245 kV CVT, 4400 PF, 1 Ph CVT with 3 secondaries, terminal connector suitable for Al. tube/conductor with marshalling box etc., complete as per technical specification.	No.		1,62,140

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
6.4	245 kV CVT, 8800 PF, 1 Ph Outdoor type CVT with 2 secondaries, terminal connector suitable for Al. tube/conductor with marshalling box etc., complete as per technical specification.	No.		1,73,030
6.5	245 kV CVT, 8800 PF, 1 Ph Outdoor type CVT with 3 secondaries, terminal connector suitable for Al. tube/conductor with marshalling box etc., complete as per technical specification.	No.		1,73,030
7	VOLTAGE TRANSFORMER : Single phase, oil filled, outdoor type VT with terminal connector suitable for Al. tube/conductor with marshalling box etc., complete as per technical specification.		8504	
7.1	220 kV/ $\sqrt{3}$ / 110 V/ $\sqrt{3}$ - 110 V/ $\sqrt{3}$ - 110 V/ $\sqrt{3}$	No.		2,78,300
7.2	110 kV/ $\sqrt{3}$ / 110 V/ $\sqrt{3}$ - 110 V/ $\sqrt{3}$ - 110 V/ $\sqrt{3}$	No.		1,50,040
7.3	66 kV/ $\sqrt{3}$ / 110 V/ $\sqrt{3}$ - 110 V/ $\sqrt{3}$ - 110 V/ $\sqrt{3}$	No.		99,220
7.4	33 kV/ $\sqrt{3}$ / 110 V/ $\sqrt{3}$ - 110 V/ $\sqrt{3}$	No.		45,980
7.5	11 kV / 110 V - 110 V (Three Phase)	No.		41,140
7.6	11 kV / 110 V - 110 V (Single Phase)	No.		36,300
8	SURGE ARRESTOR : 390 kV Class, Metal oxide type Arrestor class : SH with insulating base, surge monitor, terminal connectors etc.		8535	
8.1		No.		1,64,560
	Porcelain/Polymer (with terminal connector suitable for Al. tube/conductor)			
8.2	198 kV Metal Oxide with surge counter Arrestor class : Station Medium Duty (SM) - Discharge Class 3 - for Overhead Line, Transformer & UG Cable	No.		59,290
8.3	96 kV Metal Oxide with surge counter Arrestor class : Discharge Class 3 (Station Medium Duty (SM)) - for Transformer & UG Cable	No.		43,560
8.4	96 kV Metal Oxide with surge counter Arrestor class : Discharge Class 2 (Station Low Duty (SL)) - for Overhead Line	No.		41,140

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
8.5	60 kV Metal Oxide with surge counter Arrestor class : Discharge Class 3 (Station Medium Duty (SM)) - for Transformer & UG Cable	No.		33,880
8.6	60 kV Metal Oxide with surge counter Arrestor class : Discharge Class 2 (Station Low Duty (SL)) - for Overhead Line	No.		31,460
8.7	30 kV Metal Oxide with surge counter Arrestor class : Discharge Class 3 (Station Medium Duty (SM)) - for Transformer & UG Cable	No.		4,840
8.8	30 kV Metal Oxide with surge counter Arrestor class : Discharge Class 2 (Station Low Duty (SL)) - for Overhead Line	No.		4,840
9	ISOLATOR : Isolator with operating mechanism and marshalling boxes, terminal connectors etc., as per technical specification		8535	
9.1	420 kV, 63 kA, 3150 A Double Break Type			
9.1.1	3 pole with single earth switch	Set		20,18,280
9.1.2	3 pole with double earth switch	Set		22,65,120
9.2	420 kV, 63 kA, 3150 A Pantograph Type			
9.2.1	3 Pole with single earth switch	Set		13,83,030
9.2.2	3 Pole without earth switch	Set		11,33,770
9.3	420 kV, 63 kA, 3150 A Horizontal Centre Break Type			
9.3.1	3 Pole with single earth switch	Set		10,80,530
9.3.2	3 Pole with double earth switch	Set		12,95,910
9.4	420 kV, 63 kA, 2000 A Horizontal Centre Break Type			
9.4.1	3 Pole with single earth switch	Set		9,82,520
9.4.2	3 Pole with double earth switch	Set		11,78,540
9.5	245 kV, 40 kA, 3000 A Double Break Type			
9.5.1	3 Pole with single earth switch	Set		8,49,420
9.5.2	3 Pole without earth switch	Set		7,44,150

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
9.6	245 kV, 40 kA, 2500 A Double Break Type			
9.6.1	3 Pole with one earth switch	Set		7,07,850
9.6.2	3 Pole with two earth switch	Set		7,42,940
9.6.3	1 Pole (3ph) Tandem operated ISO without earth switch	Set		6,72,760
9.6.4	3 Pole without earth switch	Set		6,19,520
9.6.5	3 Pole underhung Isolator without earth switch	Set		6,19,520
9.7	220 kV, 2500 A, 40 kA for three seconds short time current rating, electrically cum manually operated double break type with solid core insulator, terminal connector suitable for Al. tube/conductor, marshalling box etc., complete as per technical specification			
9.7.1	Upright with Earth Switch (Live Point Height 5750 mm)	Set		7,07,850
9.7.2	Upright without Earth Switch (Live Point Height 5750 mm)	Set		5,91,690
9.7.3	Upright without Earth Switch (Live Point Height 8250 mm)	Set		6,00,160
9.7.4	Underhung without Earth Switch (13000 mm Mounting Height)	Set		6,19,520
9.8	220 kV, 1250 A, 40 kA for three seconds short time current rating, electrically cum manually operated double break type disconnects with solid core insulators, terminal connector suitable for Al. tube/conductor, marshalling box etc., complete as per technical specification			
9.8.1	Upright with Earth Switch (Live Point Height 5750 mm)	Set		5,66,280
9.8.2	Upright without Earth Switch (Live Point Height 5750 mm)	Set		4,74,320
9.8.3	Upright without Earth Switch (Live Point Height 8250 mm)	Set		4,80,370
9.8.4	Underhung without Earth Switch (13000 mm Mounting Height)	Set		4,96,100
9.9	110 kV, 1250 A, 40 kA double break electrically cum manually operated isolators with solid core insulator, terminal connector suitable for Al. tube/conductor, marshalling box etc., complete as per technical specification			
9.9.1	Upright with Earth Switch (Live Point Height 4600 mm)	Set		3,93,250

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
9.9.2	Upright without Earth Switch (Live Point Height 4600 mm)	Set		3,33,960
9.9.3	Upright without Earth Switch (Live Point Height 6350 mm)	Set		3,42,430
9.9.4	Underhung without Earth Switch (11000 mm Mounting Height)	Set		3,48,480
9.10	110 kV, 1250 A, 40 kA double break manually operated isolators with solid core insulator, terminal connector suitable for Al. tube/conductor, marshalling box etc., complete as per technical specification			
9.10.1	Upright with Earth Switch (Live Point Height 4600 mm)	Set		3,81,150
9.10.2	Upright without Earth Switch (Live Point Height 4600 mm)	Set		3,21,860
9.10.3	Upright without Earth Switch (Live Point Height 6350 mm)	Set		3,29,120
9.11	66 kV, 2000 A, 40 kA double break electrically cum manually operated isolators with solid core insulator, terminal connector suitable for Al. tube/conductor, marshalling box etc., complete as per technical specification			
9.11.1	Upright with Earth Switch (Live Point Height 4250 mm)	Set		2,90,400
9.11.2	Upright without Earth Switch (Live Point Height 4250 mm)	Set		2,46,840
9.11.3	Upright without Earth Switch (Live Point Height 5500 mm)	Set		2,52,890
9.11.4	Underhung without Earth switch (Live Point Height 13125 mm)	Set		2,61,360
9.11.5	Underhung without Earth switch (Live Point Height 8125 mm)	Set		2,61,360
9.12	66 kV, 1250 A, 40 kA double break electrically cum manually operated isolators with solid core insulator, terminal connector suitable for Al. tube/conductor, marshalling box etc., complete as per technical specification			
9.12.1	Upright with Earth Switch (Live Point Height 4250 mm)	Set		2,90,400
9.12.2	Upright without Earth Switch (Live Point Height 4250 mm)	Set		2,46,840

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
9.12.3	Upright without Earth Switch (Live Point Height 5500 mm)	Set		2,52,890
9.12.4	Underhung without Earth switch (Live Point Height 13125 mm)	Set		2,61,360
9.12.5	Underhung without Earth switch (Live Point Height 8125 mm)	Set		2,61,360
9.13	66 kV, 1250 A, 40 kA double break manually operated isolators with solid core insulator, terminal connector suitable for Al. tube/conductor, marshalling box etc., complete as per technical specification			
9.13.1	Upright with Earth Switch (Live Point Height 4600 mm)	Set		2,78,300
9.13.2	Upright without Earth Switch (Live Point Height 4600 mm)	Set		2,33,530
9.13.3	Upright without Earth Switch (Live Point Height 5500 mm)	Set		2,40,790
9.14	33 kV, 800 A, 25 kA Isolators, double break with manual operating mechanism, with solid core insulator, terminal connector suitable for Al. tube/conductor, marshalling box etc., complete as per technical specification			
9.14.1	Upright with Earth Switch (Live Point Height 3750 mm)	Set		84,700
9.14.2	Upright without Earth Switch (Live Point Height 3750 mm)	Set		70,180
9.14.3	Upright without Earth Switch (Live Point Height 4750 mm)	Set		95,590
10	BATTERY SET :		8507	
10.1	Plante/Grid Plate Type			
10.1.1	48 V, 100 AH	Set		1,80,290
10.1.2	48 V, 200 AH	Set		3,37,590
10.1.3	48 V, 300 AH	Set		4,88,840
10.1.4	48 V, 400 AH	Set		6,38,880
10.1.5	110 V, 200 AH	Set		6,03,790
10.1.6	220 V, 300 AH	Set		22,73,590
10.1.7	220 V, 600 AH	Set		45,99,210

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
10.2	BATTERY CHARGER :		8504	
10.2.1	48 V, 200 AH Float cum Boost Charger, 75 A	No.		2,78,300
10.2.2	48 V, 300 AH Float cum Boost Charger, 100 A	No.		3,40,010
10.2.3	48V, 400 AH Float cum Boost Charger, 100 A	No.		4,01,720
10.2.4	110 V, 15 A float and 30 A boost (with float and boost battery charger as per technical specification).	Set		1,69,400
10.2.5	2 x 220 V, 300 AH (with 2 nos. of float and 2 nos. of float cum boost including control panels, change over arrangement etc., complete as per technical specification along with 2 separate DC Distribution Panels (Indoor) 1I/C+20 O/G SFU 60A+20 O/G SFU 30A.	Set		9,64,370
10.2.6	2 x 220 V, 600 AH (with 2 nos. of float and 2 nos. of float cum boost including control panel, change over arrangement etc., complete as per technical specification along with 2 separate DC Distribution Panels (Indoor).	Set		18,17,420
11	LTAC PANEL & ACDB :		8537	
11.1	For 400 kV and 220 kV Sub-station			
11.1.1	48 V DCDB independent change over between DC source 1 and 2 with 20 feeders	No.		96,800
11.1.2	AC Distribution Box Single front (Outdoor type) 6 Terminal one I/C of 100A MCCB 20kA + 6 O/G MCB 16A + 1 O/G of 100A, HRC fuse, complete as per technical specification.	No.		43,560
11.1.3	AC Distribution Box Double front (Outdoor type) 24 Terminal 2 I/C of 100A MCCB 20kA + 24 O/G MCB 16A + 2 O/G of 100A, HRC fuse, complete as per technical specification.	No.		1,22,210
11.1.4	LTAC Panel (Indoor), 415 V as per technical specification comprising of voltmeter and ammeter, 2 I/C ACB, 800A + 2 O/G SFU, 200A + 8 O/G SFU, 100A + 14 O/G SFU, 63A + 12 O/G, 32A + 1B/C SFU, 800A + 1DG change over switch 300A etc., complete as per technical specification.	No.		6,17,100
11.1.5	DC Distribution Panel (Indoor), 1 I/C SFU 200A + 20 O/G SFU 63A + 20 O/G SFU 32A with relays for DC failure & DC Bus earth fault as per technical specification.	No.		96,800

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
11.2	For 110 kV and 66 kV Sub-station			
11.2.1	AC Distribution Box Single front (Outdoor type) 6 Terminal, one I/C of 100A MCCB 20kA + 6 O/G MCB 16A + 1 O/G of 100A, HRC fuse, complete as per technical specification.	No.		72,600
11.2.2	LTAC Panel (Indoor), 415 V as per technical specification comprising of voltmeter and ammeter, 1 I/C MCCB 200A + 2 nos. 3 Phase 63A O/G SFU, + 2 nos. 3 Phase 32A O/G SFU 100A + 14 O/G SFU, 6 nos. 3 Phase 16A SFU etc., complete as per technical specification.	No.		85,910
11.2.3	DC Distribution Panel (Indoor) as per technical specification comprising of earth fault indicator, indication circuit for AC mains failure, 1 no. 100A SFU for I/C + 12 nos. 32A SFU for O/G, complete as per technical specification.	No.		52,030
12	CAPACITOR BANK with 0.2% Series Reactor & NCT Design, engineering, supply, erection of Capacitor Bank with internal fuses, terminal connector, Neutral CTs & 0.2% series reactors on neutral side with elevating/mounting structure and with 10% spare capacitors complete (This does not include breaker, panel, civil works like excavation and foundation concreting works)		8532	
12.1.1	123 kV, 20 MVAR (Double Star, Double Bank of 4 x 5 MVAR)	Set		41,93,860
12.1.2	123 kV, 24 MVAR (Double Star connected Bank of 2 x 12 MVAR)	Set		41,04,320
12.1.3	123 kV, 24 MVAR (Double Star, Double Bank of 4 x 6 MVAR)	Set		50,38,440
12.1.4	72.5 kV, 20 MVAR (Double Star connected Bank of 4 x 5 MVAR)	Set		40,61,970
12.1.5	72.5 kV, 24 MVAR (Double Star connected Bank of 2 x 12 MVAR)	Set		49,12,600
12.1.6	12.1 kV, 5.8 MVAR Star connected Capacitor Bank	Set		11,43,450
12.1.7	12.1 kV, 2.9 MVAR Star connected Capacitor Bank	Set		5,38,450
12.2	Capacitor Unit			
12.2.1	484 kVAR, 6.99 kV, 1 Ph, 50 Hz, Internal Fuse Capacitor Unit	No.		52,030
12.2.2	242 kVAR, 6.99 kV, 1 Ph, 50 Hz, Internal Fuse Capacitor Unit	No.		41,140

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
13	COPPER CONTROL CABLE :		8544	
13.1	2C x 2.5 Sq mm	m		94
13.2	2C x 6 Sq mm	m		154
13.3	2C x 10 Sq mm	m		202
13.4	2C x 70 Sq mm	m		1,915
13.5	2C x 150 Sq mm	m		3,257
13.6	4C x 2.5 Sq mm	m		142
13.7	4C x 4 Sq mm	m		177
13.8	4C x 6 Sq mm	m		247
13.9	4C x 10 Sq mm	m		375
13.10	4C x 16 Sq mm	m		560
13.11	4C x 25 Sq mm	m		866
13.12	5C x 2.5 Sq mm	m		249
13.13	7C x 2.5 Sq mm	m		298
13.14	10C x 2.5 Sq mm	m		313
13.15	14C x 2.5 Sq mm	m		417
13.16	19C x 2.5 Sq mm	m		525
14	1.1 kV Class Armoured Aluminium Cable with glands/lugs/ferrules :		8544	
14.1	1C x 630 Sq mm	m		750
14.2	4C x 6 Sq mm	m		99
14.3	4C x 70 Sq mm	m		542
14.4	4C x 95 Sq mm	m		762
14.5	4C x 240 Sq mm	m		1,966
15	Copper PVC Instrumentation Cable, Armoured (Screened Cable) Copper Cable with glands/lugs/ferrules :		8544	
15.1	1P x 0.5 Sq mm	m		28
15.2	2P x 0.5 Sq mm	m		56
15.3	4P x 0.5 Sq mm	m		77
15.4	8P x 0.5 Sq mm	m		132

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.	
16	CONTROL & RELAY PANEL :		8537		
	16.1 400 kV Class				
	16.1.1	400 kV Panel for Line - Type 4L	No.	15,82,680	
	16.1.2	400/220/33 kV Transformer Panel - Type 4T	No.	21,90,100	
	16.1.3	400 kV Reactor Panel	Set	19,71,090	
	16.1.4	400 kV Bus Coupler Panel	No.	13,47,940	
	16.1.5	400 kV Tie Panel	No.	13,47,940	
	16.1.6	400 kV Duplicate Bus Bar Protection Panel - Type 4BB (As per Annexure - Bus Bar Panel - SAS)	No.	53,10,690	
	16.1.7	33/0.433 kV Transformer Panel	No.	6,48,560	
	16.2	110 kV, 66 kV & 33 kV Sub-station : Simplex 110 V DC compatible to SCADA complete as per technical specification			
	16.2.1	110 kV Panel for Overhead Line	No.	4,56,170	
	16.2.2	110 kV Panel for UG Cable/OH Line (less than 5 km)	No.	6,40,090	
	16.2.3	66 kV Panel for Overhead Line	No.	4,56,170	
	16.2.4	66 kV Panel for UG Cable/OH Line (less than 5 km)	No.	6,40,090	
	16.2.5	110/33 kV Transformer Panel	No.	7,78,030	
	16.2.6	110/11 kV Transformer Panel	No.	6,31,620	
	16.2.7	66/11 kV Transformer Panel	No.	6,31,620	
	16.2.8	33 kV Panel for Overhead Line	No.	2,14,170	
	16.3	C&R Panel compatible to SCADA for installation in 220 kV Sub-station : Duplex type, 220 V DC complete as per technical specification			
	16.3.1	220 kV Panel for Overhead Line - Type 2L	No.	18,87,600	
16.3.2	220 kV Panel for UG Cable/OH Line (less than 10 km) - Type 2L	No.	22,77,220		
16.3.3	220/110/11 kV Transformer Panel - Type 2T1	No.	21,02,980		
16.3.4	220/66/11 kV Transformer Panel - Type 2T6	No.	21,88,890		

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
16.3.5	220 kV Panel for Bus Coupler - Type 2BC	No.		12,55,980
16.3.6	220 kV Panel for Bus Bar Protection - Type 2BBA	No.		31,00,020
16.3.7	110 kV Panel for Overhead Line - Type 1L	No.		7,84,080
16.3.8	110 kV Panel for UG Cable/OH Line (less than 5 km) - Type 1L	No.		9,78,890
16.3.9	110 kV Panel for Bus Coupler - Type 1BC	No.		5,46,920
16.3.10	110/11 kV Transformer Panel - Type 1T1	No.		9,43,800
16.3.11	66 kV Panel for Overhead Line - Type 6L	No.		7,84,080
16.3.12	66 kV Panel for UG Cable/OH Line (less than 5 km) - Type 6L	No.		9,78,890
16.3.13	66 kV Panel for Bus Coupler - Type 6BC	No.		5,46,920
16.3.14	66/11 kV Transformer Panel - Type 6T1	No.		9,43,800
16.3.15	33 kV Panel for Overhead Line - Type 3L	No.		5,46,920
16.4	C&R Panel compatible to IEC 61850, communication protocol for Sub-station Automation System in 220 kV, 110 kV & 66 kV Sub-station complete as per technical specification			
16.4.1	220 kV Panel for Overhead Line - Type 2L (As per Annexure RPP1-SAS)	No.		15,82,680
16.4.2	220 kV Panel for UG Cable/OH Line (less than 10 km) - Type 2L (As per Annexure RPP1-Cable-SAS)	No.		19,72,300
16.4.3	220/66/11 kV Transformer Panel - Type 2T6 (As per Annexure RPP2-SAS)	No.		21,90,100
16.4.4	220/110/11 kV Transformer Panel - Type 2T1 (As per Annexure RPP2-SAS)	No.		21,04,190
16.4.5	220 kV Panel for Bus Coupler - Type 2BC (As per Annexure RPP1-SAS)	No.		13,47,940
16.4.6	220 kV Panel for Bus Bar Protection - Type 2BBA (As per Annexure RPP3-SAS)	No.		31,00,020
16.4.7	110 kV Panel for Overhead Line - Type 1L (As per Annexure RPP4-SAS)	No.		13,31,000
16.4.8	110 kV Panel for UG Cable/OH Line (less than 5 km) - Type 1L (As per Annexure RPP4-Cable-SAS)	No.		15,25,810

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
16.4.9	110 kV Panel for Bus Coupler - Type 1BC (As per Annexure RPP6-SAS)	No.		11,66,440
16.4.10	110/11 kV Transformer Panel - Type 1T1 (As per Annexure RPP5-SAS)	No.		19,83,190
16.4.11	66 kV Panel for Overhead Line - Type 6L (As per Annexure RPP4-SAS)	No.		13,31,000
16.4.12	66 kV Panel for UG Cable/OH Line (less than 5 km) - Type 6L (As per Annexure RPP4-Cable-SAS)	No.		15,25,810
16.4.13	66 kV Panel for Bus Coupler - Type 6BC (As per Annexure RPP6-SAS)	No.		11,66,440
16.4.14	66/11 kV Transformer Panel - Type 6T1 (As per Annexure RPP5-SAS)	No.		19,83,190
16.4.15	11 kV Panel for Overhead Line - Type 1L Provision for 2 feeders to be made in one panel (As per Annexure RPP7-SAS)	No.		9,80,100
17	Sub-station Automation System Complete Sub-station Automation System including hardware and software for Sub-station and for operation from remote control centre along with associated equipment as per Annexure-SAS of Relay & Protection Panel and Sub-station Automation specification along with OFC and Ethernet switches, separate Auxiliary panel etc.	Set		1,59,16,340
18	TOWER :		7308	
18.1	Fabrication, galvanising and supply of High Tensile Steel tower materials	t		1,48,830
18.2	Fabrication, galvanising and supply of Mild Steel tower materials	t		1,35,520
18.3	Supply of galvanised Bolts & Nuts	t		1,42,780
18.4	Fabrication, galvanising and supply of Steel Pole Structure (Monopole) : (including cross arms, base plate with anchor bolts, anticlimbing device, step bolts and bolt & nuts/ladder and all other equipment complete as per technical specification)	t		2,38,370
19	TOWER ACCESSORIES :		7308	
19.1	Phase Plates (set of 6 per tower)	Set		528
19.2	Number Plates/Circuit Plates	No.		318
19.3	Danger Plates/Caution Plates (1 no. per tower)	No.		318
19.4	Earth Bond 450 mm Long	No.		538
19.5	Earth Bond 300 mm Long	No.		469

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
20	CONDUCTOR :		7604	
20.1	Bersimis ACSR	m		601
20.2	AAAC Moose	m		552
20.3	Moose ACSR	m		501
20.4	Drake ACSR	m		387
20.5	Lynx ACSR	m		192
20.6	Coyote ACSR	m		139
20.7	7/3.65 mm G.I. Wire for ground conductor	m		121
20.8	7/3.15 mm G.I. Wire for ground conductor	m		88
20.9	High Performance Conductor (HPC) for new Transmission Lines with new Towers/Supports			
20.9.1	High Performance Conductor (HPC) of Ampacity - 1600 A	m		1,236
20.9.2	High Performance Conductor (HPC) of Ampacity - 1400 A	m		1,009
20.9.3	High Performance Conductor (HPC) of Ampacity - 900 A	m		649
20.9.4	High Performance Conductor (HPC) of Ampacity - 700 A	m		504
20.10	High Performance Conductor (HPC) for existing Towers/Supports			
20.10.1	High Performance Conductor (HPC) of Ampacity - 1600 A	m		2,141
20.10.2	High Performance Conductor (HPC) of Ampacity - 1400 A	m		1,874
20.10.3	High Performance Conductor (HPC) of Ampacity - 900 A	m		1,205
20.10.4	High Performance Conductor (HPC) of Ampacity - 700 A	m		937
21	INSULATOR :		8546	
21.1	Solid Core Bus Post Insulator			
21.1.1	Solid Core Bus Post Insulator 400 kV	No.		41,445
21.1.2	Solid Core Bus Post Insulator 220 kV	No.		27,404

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
21.1.3	Solid Core Bus Post Insulator 110 kV	No.		12,055
21.1.4	Solid Core Bus Post Insulator 66 kV	No.		5,434
21.1.5	Solid Core Bus Post Insulator 33 kV	No.		3,653
21.2	Disc Insulator			
21.2.1	Disc Insulator 160 kN	No.		1,188
21.2.2	Disc Insulator 120 kN	No.		802
21.2.3	Disc Insulator 90 kN	No.		593
21.2.4	Disc Insulator 70 kN	No.		518
21.2.5	Antifog Disc Insulator 320 kN	No.		4,642
21.2.6	Antifog Disc Insulator 160 kN	No.		1,441
21.2.7	Antifog Disc Insulator 120 kN	No.		1,235
21.2.8	Pins for above	No.		298
21.2.9	33 kV Pin Insulator with pin	No.		745
21.3	Polymer Long Rod Insulators			
21.3.1	400 kV, 160 kN Tension Type Composite Polymer Long Rod Insulators with sectional length - 3910 mm	Set		9,812
21.3.2	400 kV, 120 kN Suspension Type Composite Polymer Long Rod Insulators with sectional length - 3335 mm	Set		8,886
21.3.3	220 kV, 120 kN Tension Type Composite Polymer Long Rod Insulators with sectional length - 2175 mm	Set		6,159
21.3.4	220 kV, 90 kN Suspension Type Composite Polymer Long Rod Insulators with sectional length - 2030 mm	Set		5,986
21.3.5	110 kV, 90 kN Tension Type Composite Polymer Long Rod Insulators with sectional length - 1160 mm	Set		3,641
21.3.6	110 kV, 90 kN Suspension Type Composite Polymer Long Rod Insulators with sectional length - 1015 mm	Set		3,394
21.3.7	66 kV, 90 kN Tension Type Composite Polymer Long Rod Insulators with sectional length - 725 mm	Set		2,530
21.3.8	66 kV, 90 kN Suspension Type Composite Polymer Long Rod Insulators with sectional length - 625 mm	Set		2,407

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
21.4	Porcelain Long Rod ANTIFOG Insulators			
21.4.1	400 kV, 160 kN Tension Type Porcelain Long Rod Insulators with sectional length - 4080 mm	Set		22,216
21.4.2	400 kV, 120 kN Suspension Type Porcelain Long Rod Insulators with sectional length - 3335 mm	Set		21,599
21.4.3	220 kV, 120 kN Tension Type Porcelain Long Rod Insulators with sectional length - 2175/2320 mm	Set		12,497
21.4.4	220 kV, 90 kN Suspension Type Porcelain Long Rod Insulators with sectional length - 2030 mm	Set		11,787
21.4.5	110 kV, 120 kN Tension Type Porcelain Long Rod Insulators with sectional length - 1160 mm	Set		6,665
21.4.6	110 kV, 90 kN Suspension Type Porcelain Long Rod Insulators with sectional length - 1015 mm	Set		4,968
21.4.7	66 kV, 120 kN Tension Type Porcelain Long Rod Insulators with sectional length - 725 mm	Set		4,999
21.4.8	66 kV, 90 kN Suspension Type Porcelain Long Rod Insulators with sectional length - 580 mm	Set		4,258
22	Bird Deflector / Diverter for Conductor & Earth Wire	No.		3,086
23	TELECOMMUNICATION EQUIPMENT :		8517	
23.1	Wave Trap			
23.1.1	1.0 mH, 3150 A, 50/63 kA	No.		9,25,650
23.1.2	1.0 mH, 1250 A, 50 kA	No.		8,38,530
23.1.3	0.5 mH, 2000 A, 40 kA	No.		5,88,060
23.1.4	0.5 mH, 1250 A, 40 kA	No.		2,96,450
23.2	PLCC Terminals (Carrier cabinet) Single Channel	No.		7,27,210
23.3	Coupling Device (LMU + LMDU)	Set		2,04,490
23.4	HF Co-axial Cable : 75 ohm	m		292
23.5	EPAX for PLCC			
23.5.1	Trunk/E&M/Line 8/8/16	No.		5,98,950
23.5.2	Trunk/E&M/Line 8/8/8	No.		5,61,440

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
23.6	Protection Coupler : 4 Commands	No.		3,53,320
23.7	Digital Tele Protection Coupler (DTPC)			
23.7.1	8 independent command channels with 220 V DC	No.		2,89,190
23.7.2	4 independent command channels with 220 V DC	No.		2,39,580
23.8	Over Head Cables (Unshielded)			
23.8.1	20 Pair PVC/OH Telephone Cable 0.51 mm dia conductor	m		90
23.8.2	10 Pair PVC/OH Telephone Cable 0.51 mm dia conductor	m		48
23.8.3	5 Pair PVC/OH Telephone Cable 0.51 mm dia conductor	m		24
23.9	5 Pair PVC Telephone Cable 0.51 mm dia conductor with shield	m		48
23.10	Twin Core Copper drop wire: 0.91 Sq mm	m		18
23.11	Telephone Instrument			
23.11.1	Push Button Telephone	No.		599
23.11.2	Plan 103 P.B. Telephone (1 Main & 1 Extn) with caller ID	No.		4,430
23.11.3	Plan 103 P.B. Telephone (1 Main & 1 Extn) without caller ID	No.		3,353
23.12	Krone Box			
23.12.1	100 pairs	No.		719
23.12.2	50 pairs	No.		538
23.12.3	20 pairs	No.		359
23.12.4	10 pairs	No.		299
23.12.5	Krone modules for 100 pairs (10 nos. each row)	No.		479
23.12.6	Krone modules for 10 pairs isolation type	No.		209
24	EQUIPMENT FOR ESTABLISHING SCADA COMMUNICATION :		8517	
24.1	Remote Terminal Unit (RTU)			
24.1.1	64 (I/O) Port	No.		9,86,150
24.1.2	34 (I/O) Port	No.		8,88,140

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
24.2	Data Concentrator Unit (DCU)	No.		37,510
24.3	2 kVA Online UPS (230 V AC, 1 phase, 50 Hz) UPS with Battery confirming to KPTCL specification	No.		1,68,190
24.4	Copper Control/Communication Cable for SCADA		8544	
24.4.1	Signal cable : Armoured Copper 10C x 0.5 Sq mm multistrand	m		143
24.4.2	10C x 1.5 Sq mm multistrand, conforming to KPTCL specification	m		155
24.4.3	3C x 4 Sq mm multistrand for AC input to UPS and UPS to RTU, conforming to KPTCL specification	m		159
24.4.4	1C x 32 Sq mm multistrand for battery conforming to KPTCL specification	m		380
24.5	New Bay integration to SCADA			
24.5.1	8 Channel 220/110 V Opto Coupler	No.		1,312
24.5.2	Multi Function Transducer (MFT)	No.		4,875
25	OPGW CABLE :		8544	
25.1	48 Fibre Dual Window Single Mode (DWSM) OPGW	m		193
25.2	24 Fibre Dual Window Single Mode (DWSM) OPGW	m		120
26	48F OPGW CABLE ACCESSORIES :		8544	
26.1	Suspension Clamp	No.		2,118
26.2	Tension Assembly for :			
26.2.1	Dead End	No.		2,345
26.2.2	Double Tension Pass through / Passing Tension	No.		4,320
26.2.3	Tension Tower joint box location including all accessories	No.		4,690
26.2.4	Suspension Tower joint box location including all accessories	No.		5,677
26.2.5	Vibration Damper	No.		490
26.2.6	Down Lead Clamp Assembly	No.		225
26.2.7	Joint Box	No.		7,923

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
27	24F OPGW CABLE ACCESSORIES :		8544	
27.1	Suspension Clamp	No.		2,118
27.2	Tension Assembly for :			
27.2.1	Dead End	No.		2,345
27.2.2	Double Tension Pass through / Passing Tension	No.		4,320
27.2.3	Tension Tower joint box location including all accessories	No.		4,690
27.2.4	Suspension Tower joint box location including all accessories	No.		5,677
27.2.5	Vibration Damper	No.		490
27.2.6	Down Lead Clamp Assembly	No.		225
27.2.7	Joint Box	No.		7,923
28	FODP : FIBRE OPTIC DISTRIBUTION PANEL		8537	
28.1	FODP 96F : Indoor type consisting of 4 nos. of rack mounted LIU (to be housed in FODP) with 24 ports each with FCPC coupling & pigtails	No.		87,074
28.2	FODP 48F : Indoor type consisting of 2 nos. of rack mounted LIU (to be housed in FODP) with 24 ports each with FCPC coupling & pigtails	No.		66,186
28.3	FODP 24F : Indoor type consisting of 1 no. of rack mounted LIU (to be housed in FODP) with 24 ports each with FCPC coupling & pigtails	No.		49,639
29	FIBRE OPTIC ARMOURED APPROACH CABLE :		8544	
29.1	48 Fibre (DWSM) including Installation Hardware set for 48 Approach Cable	m		204
29.2	24 Fibre (DWSM) including Installation Hardware set for 24 Approach Cable	m		175
30	UNDERGROUND FIBRE OPTIC UNARMoured CABLE (UG - OFC) & ACCESSORIES :		8544	
30.1	48 Fibre Dual Window Mono Mode (DWMM) Optical Fibre Cable as per technical specification	m		109
30.2	24 Fibre Dual Window Mono Mode (DWMM) Optical Fibre Cable as per technical specification	m		99
30.3	12 Fibre Dual Window Mono Mode (DWMM) Optical Fibre Cable as per technical specification	m		90
30.4	Straight Joint Kit for Optical Fibre Cable : 48F	Kit		8,470

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
30.5	Straight Joint Kit for Optical Fibre Cable : 24F	Kit		7,260
30.6	Straight Joint Kit for Optical Fibre Cable : 12F	Kit		7,260
30.7	Line Interface Unit for Optical Fibre Cable : 48F	No.		20,570
30.8	Line Interface Unit for Optical Fibre Cable : 24F	No.		18,150
30.9	Line Interface Unit for Optical Fibre Cable : 12F	No.		15,730
30.10	Polyvinyl Lubricated Bond (PLB/HDPE) pipe OD 40 mm	m		98
30.11	Collars for PLB pipe	No.		157
30.12	GI pipe 100 mm (Nominal bore), medium class (including accessories)	m		1,350
31	Fiber to Ethernet Media Converter : 10/100/1000 Mbps	No.		4,840
32	Test Equipment for Fibre Optic Cabling :		8544	
32.1	OTDR (Optical Time Domain Reflectometer) for 1310/1550 nm with laser source	No.		4,06,560
32.2	Optical Attenuators (Variable 1310/1550 nm)	No.		2,97,660
32.3	Optical Power meter (1310/1550 nm)	No.		59,290
32.4	Optical Talk set	No.		2,92,820
32.5	Optical Fibre Fusion Splicer including Fibre cleaver	No.		3,75,100
32.6	Calibrated Fibre	No.		13,310
32.7	Connectorization kit	No.		1,06,480
32.8	Splice kit	No.		84,700
32.9	Optical test accessory kit including all necessary connectors, adaptors, cables, terminators and other items required for testing	No.		2,02,070
32.10	Light source 1310/1550 nm	No.		94,380
33	SDH EQUIPMENT :		8537	
33.1	SDH Equipment : (STM-16 MADM, upto 5 MSP 1+1 protected directions) with 60 G Higher Order as well as Lower Order - Base Equipment (common cards, cross-connect/control cards, optical base card, power supply cards, power cabling, other hardware & accessories) including sub-racks, required no. of fibre optic patch cords, DDF etc., fully equipped, excluding equipment cabinets : 5 Multiple Section Protection (MSP)	Set		5,98,318

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
33.2	SDH Equipment : (STM-16 MADM, upto 3 MSP 1+1 protected directions) with 60 G Higher Order as well as Lower Order - Base Equipment (common cards, cross-connect/control cards, optical base card, power supply cards, power cabling, other hardware & accessories) including sub-racks, required no. of fibre optic patch cords, DDF etc., fully equipped, excluding equipment cabinets : 3 Multiple Section Protection (MSP)	Set		4,94,709
33.3	S16.1 SFP : (30 km)	No.		1,572
33.4	L16.1 SFP : (30-50 km)	No.		1,874
33.5	L16.2 SFP : (50-75 km)	No.		2,034
33.6	V16.2 SFP : (75-90 km)	No.		40,868
33.7	Optical Line Interface Card (90-150 km) : 3 MSP	No.		1,41,530
33.8	Optical Line Interface Card (90-150 km) : 5 MSP	No.		1,48,979
33.9	Optical Line Interface Card (150-175 km) : 5 MSP	No.		1,48,979
33.10	E1 Interface Card (Min. 16 interfaces per card) : 5 MSP	No.		46,717
33.11	E1 Interface Card (Min. 16 interfaces per card) : 3 MSP	No.		46,717
33.12	1 x 1000 base LX SFP (Gigabit Ethernet Interfaces 10/100 Mbps with layer-2 Switching)	No.		987
33.13	Ethernet interface 10/100 Mbps with Layer-2 switching (Min. 2x1 Gbps + 4x100/10 Mbps ports) without SFP : 3 MSP or 5 MSP	No.		53,579
33.14	Cabinet equipment to house SDH Equipment + Optical cards + Tributary Cards, Drop/Insert MUX Equipment and DACS Equipment	No.		34,940
33.15	Supply of 220 V DC to 48 V DC Converter for SDH Equipment DC supply	No.		77,599
33.16	Supply of Routers for change over between OFC & VSAT communication for SCADA data	Set		1,11,892
33.17	GPS Clock including all hardware and accessories	No.		8,13,551
33.18	Time Display Unit (TDU)	No.		19,460
33.19	Remote Console equivalent to Workstation console	No.		2,40,052
33.20	Ethernet Switch (61850 Compatible) with 16FO + 8Cu	No.		3,08,550
33.21	Ethernet Switch (Managed level)	No.		2,46,840

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
33.22	Industrial Grade PC with latest specification	No.		98,736
33.23	HMI Monitor : 29"	No.		24,684
34	Smart Surveillance System (CCTV): using PTZ & Fixed cameras, OFC monitoring system, HMI etc., as per specification <u>PTZ Camera Specification:</u> <ul style="list-style-type: none"> • Lens type: Auto focus with Optical Zoom of 30x, Digital Zoom +10x • Pan Angle: 360 degree endless • Tilt Angle: 210 degree with e-flip or higher • Zoom : 30x Optical and 12x Digital • Mode :Day and Night • Image size: Full HD • Streaming: High speed • Weather Proof: IP 66 compliant • Network Protocol: TCP/IP should be compliant of any other protocol required. • Connectivity : Cat 6 / Optical fibre • Ethernet: 10Base-T/100Base-TX(RJ45) • Power source : both self powered and externally powered 	No.	8525	67,352
34.1				
34.2	<u>Fixed Camera Specifications:</u> <ul style="list-style-type: none"> • Lens type: Bi-focal auto iris with 10x digital zoom • Mode :Day/Night • Image size: 720x486 (NTSC) • Streaming: High speed • Weather Proof: IP 66 compliant • Network Protocol: TCP/IP should be compliant of any other protocol required. • Connectivity : Cat 6 / Optical fibre • Ethernet:10Base-t/100Base-TX(RJ45) • Power source : both self powered and externally powered 	No.		11,987
34.3	<u>Fibre:</u> 6F Armoured Multimode with LIU along with required number of SC/ST connectors and required accessories	Set		57,756
34.4	<u>HMI (Industrial Grade PC)</u> <ul style="list-style-type: none"> • Operating System : Windows 10 Professional • CPU : Intel i7 quad core processor or latest • RAM : 32 GB or higher • Network : TCP/IP • Graphics adaptor : NVIDIA Quadra digital video pipeline or higher • Hard disk : 1.5 TB (500x3) RAID 1 configuration • External drives : Blu-Ray RW and DVD RW • Monitor : 24 inch dual screen • Keyboard / Mouse : Wireless • Network adaptor • LAN switch • Fibre LIU 	No.		28,35,994

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
35	TOOLS AND PLANT :			
35.1	Portable (mobile) Oil Pump (1/2 HP Air Pump 500 to 1000 gallons)	No.	8413	20,247
35.2	Telescopic Ladder Aluminium : 6 m height	No.	7306	22,622
35.3	Ring spanners : 12 nos. per set	Set	8207	880
35.4	Tube Spanners : 12 nos. per set	Set	8207	1,435
35.5	Pipe wrench : 24 inches size	No.	8207	1,250
35.6	Pipe wrench : 18 inches size	No.	8207	692
35.7	Double end spanner : 12 nos. per set	Set	8207	829
35.8	Hack saw frames +B185	No.	8207	363
35.9	Hydraulic crimping tool upto 1000 Sq mm	No.	8203	62,013
35.10	Rubber hand gloves : 15 kV tested	Pair	4015	293
35.11	Rechargeable 5 W LED Hand Torch	No.	8513	1,279
35.12	Insulated cutting pliers : 12 inches size	No.	8203	393
35.13	Insulated cutting pliers : 8 inches size	No.	8203	236
35.14	Line live tester	No.	9024	311
35.15	Screw driver : 18 inches size	No.	8207	223
35.16	Screw driver : 12 inches size	No.	8207	75
35.17	Hammer 8 Lbs.	No.	8205	497
35.18	Hammer 2 Lbs.	No.	8205	249
35.19	Chain pulley block 5 Ton Capacity	No.	8483	41,836
35.20	Double Pulley (Fibre/metallic, single) 1", Capacity 3 Ton	No.	8483	13,498
35.21	Open Pulley (Fibre/metallic, single) 1", Capacity 2 Ton	No.	8483	4,959
35.22	Hydraulic Jack 5 Ton Capacity	No.	8425	7,048
35.23	Pipe derrick	No.	8426	27,831
35.24	Allen keys	Set	8204	478
35.25	Box spanners : 12 nos. per set	Set	8204	4,467
35.26	Transil Oil Dielectric Breakdown testkit	No.	9024	1,01,535

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
35.27	Insulation Tester Digital type (Megger) : 2.5 kV - 5 kV	No.	8207	55,308
35.28	Insulation Tester (Megger) : 500 V rating	No.	8207	17,606
35.29	AC Leakage Clamp meter (mA) (DCM 10 A)	No.	8204	23,579
35.30	1000 A AC Clamp Meter (DCM 39 A)	No.	8204	12,168
35.31	SF6 Gas leak detector	No.	8543	65,242
35.32	SF6 Gas filled in 50 kg Cylinders (including non- returnable carbon steel cylinders)	No.	8543	67,812
35.33	SF6 Gas filled in 25 kg Cylinders (including non- returnable carbon steel cylinders)	No.	8543	36,295
35.34	Multimeter electromechanical type	No.	9030	3,674
35.35	Multimeter electronic type	No.	9030	7,991
35.36	Hydrometer	No.	9025	658
35.37	D.C. Volt meter range : 3 V to + 5 V	No.	9030	2,700
35.38	Hydrometer syringe suitable for vent holes	No.	9033	900
35.39	Specific gravity correction chart	No.	4911	900
35.40	Wall mounting type holder for Hydrometer	No.	9033	2,700
35.41	Earth resistance tester	No.	9030	28,123
35.42	Arc welding machine : 9/10 kVA	No.	8515	27,891
35.43	Thermometer with wall mounting holder	No.	9025	2,700
35.44	Rubber apron	No.	4015	1,912
35.45	Pipette	No.	7017	788
35.46	Protective Goggle	No.	9004	900
35.47	Acid Resisting jars : 4 print capacity	No.	7010	900
35.48	Rubber shoes knee height	Pair	6403	2,138
35.49	Glass Funnel	No.	7017	676
35.50	Hickery rods	No.	7227	5,399
35.51	Grounding sticks extendable upto 18 ft : 3 nos. of each 6 ft Sticks of 3 phase R, Y, B (3 nos. of 1 set)	Set	7215	1,755
35.52	Manilla rope : 1" (One bundle of 100 m)	Bundle	5608	6,670
35.53	Manilla rope : 3/4" (One bundle of 100 m)	Bundle	5608	3,933

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
35.54	Files of various sizes (One set of 6 nos.)	Set	8203	8,661
35.55	Portable drilling machine with stand (heavy duty)	No.	8459	42,744
35.56	Hand drilling machine	No.	8459	21,373
35.57	Safety belts	No.	4015	1,012
35.58	Safety belt, minimum 2 m rope length along with scaffold hook : Class-A material suitable for EHV Transmission Line maintenance staff (PN56 & 351)	No.	6506	10,429
35.59	Safety helmet with ratchet	No.	6506	276
35.60	Steel Measuring tape : 30 m	No.	9017	759
35.61	Steel Measuring tape : 15 m	No.	9017	557
35.62	Manual crimping tool upto 400 Sq mm	No.	8203	4,478
35.63	Rain coat with duck back	No.	6201	1,124
35.64	Gum Boots	Pair	6402	2,608
35.65	Hydraulic Bolt Cutter / Wire Cutter upto Drake ACSR conductor with bits for cuttings	No.	8203	48,274
35.66	Cast Iron Pipe Electrode	No.	7213	8,765
35.67	Supply & Commissioning of Portable Transformer Oil Dry Out System (TODOS) along with accessories	No.	9030	5,31,682
35.68	Supply & Commissioning of Dissolved Gas Analyser	No.	9030	37,68,905
36	RIGID BUS WITH TAPS & CLAMPS :			
36.1	RIGID BUS		7608	
36.1.1	Aluminium Tube conforming to 6340 WP of IS-5082/1969 (BS1600 - Sch. 40) of following sizes			
36.1.1.1	75 mm	m		1,586
36.1.1.2	63 mm	m		1,452
36.1.1.3	50 mm	m		1,228
36.1.1.4	38 mm	m		650

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
36.1.2	Aluminium Tube conforming to 6340 WP of IS-5082/1969 (BS1600 - Sch. 80) of following sizes			
36.1.2.1	125 mm	m		5,099
36.1.2.2	100 mm	m		3,505
36.1.2.3	75 mm	m		1,202
36.1.2.4	63 mm	m		1,202
36.1.2.5	50 mm	m		1,116
36.2	TAPS		7608	
36.2.1	Inverted 'V' taps made of 75 mm Aluminium Tube (BS-1600) of 1250 mm vertical height for vertical portion and auxiliary bus on 66 kV side with rounded off end.	No.		4,016
36.2.2	Inverted 'V' taps made of 63 mm Aluminium Tube (BS-1600) of 2500 mm vertical height for vertical portion and cross bus on 220 kV side with rounded off end.	No.		4,551
36.2.3	Straight taps made of 63 mm Aluminium Tube (BS-1600) of 1750 mm vertical height for vertical portion and cross bus on 110 kV side with rounded off end.	No.		3,736
36.2.4	Straight taps made of 50 mm Aluminium Tube (BS-1600) of 1250 mm vertical height for vertical portion and cross bus on 66 kV side with rounded off end.	No.		2,340
36.2.5	Straight taps made of 38 mm Aluminium Tube (BS-1600) of 1000 mm vertical height for vertical portion and cross bus on 33 kV side with rounded off end.	No.		2,061
36.3	CLAMPS		7318	
36.3.1	Post Insulator Clamp suitable for 100 mm Aluminium pipe and Post Insulators Solid Core type			
36.3.1.1	Rigid Type	No.		2,324
36.3.1.2	Expansion Type	No.		4,648
36.3.1.3	Sliding Type	No.		1,860
36.3.2	Post Insulator Clamp suitable for 75 mm Aluminium pipe and Post Insulators Solid Core type			
36.3.2.1	Rigid Type	No.		1,868
36.3.2.2	Expansion Type	No.		5,322
36.3.2.3	Sliding Type	No.		2,109

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
	36.3.3 Post Insulator Clamp suitable for 63 mm Aluminium pipe and Post Insulators Solid Core type			
36.3.3.1	Rigid Type	No.		1,753
36.3.3.2	Expansion Type	No.		4,948
36.3.3.3	Sliding Type	No.		1,481
	36.3.4 Post Insulator Clamp suitable for 50 mm Aluminium pipe and Post Insulators Solid Core type			
36.3.4.1	Rigid Type	No.		1,629
36.3.4.2	Expansion Type	No.		4,447
36.3.4.3	Sliding Type	No.		1,705
	36.3.5 Post Insulator Clamp suitable for 38 mm Aluminium pipe and Post Insulators Solid Core type			
36.3.5.1	Rigid Type	No.		877
36.3.5.2	Expansion Type	No.		2,473
36.3.5.3	Sliding Type	No.		741
	36.3.6 Corona Bell Suitable for Aluminium pipe of Size			
36.3.6.1	125 mm	No.		1,319
36.3.6.2	100 mm	No.		1,172
36.3.6.3	75 mm	No.		679
36.3.6.4	63 mm	No.		617
36.3.6.5	50 mm	No.		587
37	BUS AND INSULATOR & HARDWARE FITTINGS :			
37.1	Hardware set for 400 kV Double Tension string assembly with double anchoring points with all hardware accessories including turn buckle, corona ring and tension clamp set suitable for		7318	
37.1.1	Twin Moose ACSR bundle with 450 mm sub-conductor spacing	Set		25,725
37.1.2	Twin Bersimis ACSR bundle with 450 mm sub-conductor spacing	Set		28,297
37.1.3	Quad Moose ACSR bundle with 450 mm sub-conductor spacing	Set		47,035
37.1.4	Quad Bersimis ACSR bundle with 450 mm sub-conductor spacing	Set		51,738

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
37.2	Hardware set for 400 kV Single Suspension string assembly with all hardware accessories including corona ring, suspension clamp set etc., suitable for		7318	
37.2.1	Twin Moose ACSR bundle with 450 mm sub-conductor spacing	Set		15,390
37.2.2	Twin Bersimis ACSR bundle with 450 mm sub-conductor spacing	Set		16,929
37.2.3	Quad Moose ACSR bundle with 450 mm sub-conductor spacing	Set		30,781
37.2.4	Quad Bersimis ACSR bundle with 450 mm sub-conductor spacing	Set		33,858
37.3	Hardware set for 220 kV Double Tension string assembly with double anchoring points with all hardware accessories with turn buckle arcing horn, tension clamps set etc., suitable for		7318	
37.3.1	Twin Moose ACSR bundle with 250 mm sub-conductor spacing	Set		11,597
37.3.2	Twin Bersimis ACSR bundle with 250 mm sub-conductor spacing	Set		12,756
37.3.3	Quad Moose ACSR bundle with 250 mm sub-conductor spacing	Set		23,192
37.3.4	Quad Bersimis ACSR bundle with 250 mm sub-conductor spacing	Set		25,512
37.4	Hardware set for 220 kV Double Suspension string insulator assembly with all hardware accessories including arcing horn, suspension clamp set etc., suitable for		7318	
37.4.1	Quad Moose ACSR bundle with 250 mm sub-conductor spacing	Set		13,177
37.4.2	Quad Bersimis ACSR bundle with 250 mm sub-conductor spacing	Set		14,495
37.5	Hardware set for 220 kV Single Suspension string insulator assembly with all hardware accessories including arcing horn, suspension clamp set etc., suitable for		7318	
37.5.1	Twin Moose ACSR bundle with 250 mm sub-conductor spacing	Set		5,487
37.5.2	Twin Bersimis ACSR bundle with 250 mm sub-conductor spacing	Set		6,035
38	400 kV CLAMPS & CONNECTORS			
38.1	Terminal connector for CB to receive 4" IPS Al. tube flexible/rigid type	No.	8535	6,315

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
38.2	Terminal connector for CT to receive 4" IPS Al. tube flexible/rigid type	No.	8535	6,519
38.3	Terminal Connector for CVT to receive		8535	
38.3.1	4" IPS Al. tube rigid/flexible type	No.		7,255
38.3.2	Twin Moose ACSR	No.		2,086
38.3.3	ACSR Twin Bersimis conductor with 450 mm sub-conductor spacing	No.		2,992
38.4	Terminal connector for Centre Break Isolator to receive		8535	
38.4.1	4" IPS Al. tube rigid/flexible type	No.		7,255
38.4.2	Twin Moose/Bersimis ACSR conductor with 450 mm sub-conductor spacing	No.		2,992
38.4.3	Quad Moose/Bersimis ACSR conductor with 450 mm sub-conductor spacing	No.		5,986
38.5	Terminal connector for Double Break Isolator to receive		8535	
38.5.1	4" IPS Al. tube rigid/flexible type	No.		7,255
38.5.2	ACSR Twin Moose/Bersimis conductor with 450mm sub-conductor spacing	No.		2,992
38.5.3	Quad Moose/Bersimis ACSR conductor with 450mm sub-conductor spacing	No.		5,986
38.6	Terminal Connector for BPI to receive		8535	
38.6.1	5" IPS Al. tube Expansion type	No.		6,845
38.6.2	5" IPS Al. tube Rigid type	No.		6,235
38.6.3	5" IPS Al. tube Sliding type	No.		3,591
38.6.4	4" IPS Al. tube Expansion type	No.		6,223
38.6.5	4" IPS Al. tube Rigid type	No.		5,669
38.6.6	4" IPS Al. tube Sliding type	No.		3,265
38.6.7	Twin ACSR Moose conductor	No.		1,481
38.6.8	Twin Bersimis ACSR bundle with 450 mm sub-conductor spacing	No.		1,632
38.6.9	Quad Bersimis/Moose ACSR bundle with 450 mm sub-conductor spacing	No.		2,962
38.7	Terminal Connector for Wave Trap to receive		8535	
38.7.1	4" IPS Al. tube rigid/flexible type	No.		6,315
38.7.2	ACSR Twin Bersimis/Moose	No.		2,086

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
38.7.3	ACSR Quad Bersimis/Moose	No.		4,172
38.8	C' type Wedge Connector suitable for		8535	
38.8.1	Moose ACSR to Moose ACSR	No.		4,443
38.8.2	Bersimis ACSR to Bersimis ACSR	No.		4,887
38.8.3	Bersimis ACSR to Moose ACSR	No.		4,887
38.8.4	T' Clamp suitable for 5" IPS Al. tube to Twin Moose ACSR conductor	No.		4,995
38.8.5	T' Clamp suitable for 5" IPS Al. tube to Twin Bersimis ACSR conductor	No.		6,150
38.8.6	T' Clamp suitable for 4" IPS Al. tube to Twin Moose ACSR conductor	No.		4,541
38.8.7	T' Clamp suitable for 4" IPS Al. tube to Twin Bersimis ACSR conductor	No.		5,591
38.9	Spacers for Quad/Twin Moose ACSR conductor with 450 mm spacing		8535	
38.9.1	Flexible	No.		3,503
38.9.2	Rigid	No.		2,289
38.10	Spacers for Quad/Twin Bersimis ACSR conductor with 450 mm spacing		8535	
38.10.1	Flexible	No.		2,693
38.10.2	Rigid	No.		1,338
38.11	Terminal Connector for LA to receive		8535	
38.11.1	ACSR Twin Moose conductor with 450 mm sub-conductor spacing	No.		3,271
38.11.2	Twin Bersimis ACSR conductor with 450 mm sub-conductor spacing	No.		3,597
38.12	Welding Sleeve suitable for		7609	
38.12.1	5" IPS Al. tube	No.		2,559
38.12.2	4" IPS Al. tube	No.		2,326
38.12.3	3" IPS Al. tube	No.		1,861
38.12.4	2.5" IPS Al. tube	No.		1,654
38.13	Rigid type terminal connector for SF6 / Air Bushing suitable for 4" IPS Al. tube	No.	8535	2,343
38.14	Terminal connector for SF6 / Air Bushing suitable to receive Twin Bersimis ACSR conductor	No.	8535	3,597

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
39	220 kV CLAMPS & CONNECTORS			
39.1	Terminal connector for CB to receive		8535	
39.1.1	4" IPS Al. tube flexible/rigid type	No.		5,677
39.1.2	3" IPS Al. tube flexible/rigid type	No.		4,542
39.2	Terminal Connector for CT to receive		8535	
39.2.1	4" IPS Al. tube flexible/rigid type	No.		6,021
39.2.2	3" IPS Al. tube flexible/rigid type	No.		4,817
39.2.3	Twin Moose ACSR conductor	No.		3,447
39.2.4	Twin Bersimis ACSR conductor	No.		3,792
39.3	Terminal Connector for Isolator to receive		8535	
39.3.1	4" IPS Al. tube flexible/rigid type	No.		4,898
39.3.2	3" IPS Al. tube flexible/rigid type	No.		3,918
39.3.3	3"/ 4" IPS Al. tube rigid through type	No.		2,448
39.3.4	Twin Moose ACSR conductor with 250 mm sub-conductor spacing	No.		2,698
39.3.5	Twin Bersimis ACSR conductor with 250 mm sub-conductor spacing	No.		2,873
39.3.6	Quad Moose ACSR conductor with 250 mm sub-conductor spacing	No.		5,395
39.3.7	Quad Bersimis ACSR conductor with 250 mm sub-conductor spacing	No.		5,744
39.4	Terminal Connector for PT to receive		8535	
39.4.1	4" IPS Al. tube rigid/flexible type	No.		2,191
39.4.2	3" IPS Al. tube rigid/flexible type	No.		1,753
39.4.3	Twin Moose ACSR with 250 mm sub-conductor spacing	No.		3,447
39.4.4	Twin Bersimis ACSR with 250 mm sub-conductor spacing	No.		3,792
39.5	Terminal Connector for CVT to receive		8535	
39.5.1	4" IPS Al. tube rigid/flexible type	No.		2,191
39.5.2	3" IPS Al. tube rigid/flexible type	No.		1,753
39.5.3	Twin Moose ACSR	No.		3,447

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
39.5.4	Twin Bersimis ACSR	No.		3,792
39.6	Clamps for BPI to receive Twin Moose/Bersimis ACSR	No.	8535	1,942
39.7	Clamps for Aluminium tube suitable for BPI for both main bus & interconnecting bus		8535	
39.7.1	4" IPS Al. tube Rigid type	No.		1,856
39.7.2	4" IPS Al. tube Expansion type	No.		6,424
39.7.3	4" IPS Al. tube Sliding type	No.		2,693
39.8	T' Clamp suitable for		8535	
39.8.1	4" IPS Aluminium tube to Twin Moose conductor	No.		2,798
39.8.2	4" IPS Aluminium tube to Twin Bersimis ACSR conductor	No.		3,949
39.8.3	Quadruple Moose ACSR to 4" IPS Al. tube	No.		4,129
39.8.4	Quadruple Bersimis ACSR to 4" IPS Al. tube	No.		6,383
39.9	C type wedge connector suitable for		8535	
39.9.1	Moose ACSR to Moose ACSR	No.		2,627
39.9.2	Moose ACSR to Drake ACSR	No.		2,627
39.9.3	Drake ACSR to Bersimis ACSR	No.		2,889
39.9.4	Bersimis ACSR to Bersimis ACSR	No.		2,889
39.10	Spacers for twin ACSR Moose Conductor with 250 mm sub-conductor spacing		8535	
39.10.1	Flexible	No.		1,752
39.10.2	Rigid	No.		698
39.11	Spacers for Twin ACSR Bersimis Conductor with 250 mm sub-conductor spacing		8535	
39.11.1	Flexible	No.		1,928
39.11.2	Rigid	No.		767
39.12	Spacers for Quad ACSR Bersimis/Moose Conductor with 450 mm spacing		8535	
39.12.1	Flexible	No.		3,467
39.12.2	Rigid	No.		1,396
39.13	Terminal Connector for LA to receive		8535	
39.13.1	ACSR Twin Moose conductor with 250 mm sub-conductor spacing	No.		1,993

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
39.13.2	ACSR Twin Bersimis conductor with 250 mm sub-conductor spacing	No.		2,191
39.14	Welding Sleeve suitable for		7609	
39.14.1	4" IPS Al. tube	No.		2,585
39.14.2	3" IPS Al. tube	No.		2,068
39.15	Corona Bell/End Cap suitable for		7318	
39.15.1	4" IPS Al. tube	No.		853
39.15.2	3" IPS Al. tube	No.		682
39.16	Terminal Connector for SF6 / Air Bushing suitable to receive Twin Bersimis/Moose ACSR Conductor	No.	8535	2,191
39.17	Terminal Connector suitable for 220 kV UG Cable termination to Bersimis/Moose ACSR	No.	8535	1,632
40	72.5 kV CLAMPS & CONNECTORS			
40.1	Terminal Connector for PT to receive 2.5" IPS Al. Tube rigid/flexible type	No.	8535	2,148
40.2	Terminal Connector for CT to receive 2.5" IPS Al. Tube flexible/rigid type	No.	8535	4,233
40.3	Terminal Connector for CB to receive 2.5" IPS Al. Tube rigid/flexible type	No.	8535	2,986
40.4	Terminal Connector for Isolator to receive 2.5" IPS Al. Tube flexible/rigid type	No.	8535	2,986
40.5	Clamps for Moose/Bersimis ACSR suitable for BPI	No.	8535	847
40.6	Clamps for Aluminium tube suitable for BPI for both main bus & interconnecting bus		8535	
40.6.1	2.5" IPS Al. tube Rigid type	No.		1,982
40.6.2	2.5" IPS Al. tube Expansion type	No.		6,443
40.6.3	2.5" IPS Al. tube Sliding type	No.		2,202
40.7	Welding Sleeve suitable for 2.5" IPS Al. tube	No.	7609	820
40.8	Corona Bell/End Cap suitable for 2.5" IPS Al. tube	No.	7318	491
40.9	Straight Tap suitable for connecting 2.5" IPS Al. tube to connect 33 kV main bus to 33 kV equipment bus	No.	8535	2,450
40.10	T' Clamp suitable for connecting 2.5" IPS Al. tube to 2.5" IPS Al. tube	No.	8535	4,623

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.	
41	41.1	400 kV TRANSMISSION LINE ACCESSORIES :			
		Insulator Hardware set (excluding insulator) for Twin Moose ACSR conductor		8546	
	41.1.1	Single Suspension string assembly	Set	15,452	
	41.1.2	Single "I" Suspension for pilot string	Set	18,192	
	41.1.3	Double Suspension string assembly	Set	30,905	
	41.1.4	Double Tension string assembly	Set	25,725	
	41.2	Insulator Hardware set (excluding insulator) for Quad Moose ACSR conductor		8546	
	41.2.1	Single "I" Suspension for pilot string	Set	21,831	
	41.2.2	Double Suspension string assembly	Set	21,254	
	41.2.3	Quadruple Tension string assembly	Set	47,035	
	41.3	Hardware set for Transposition Tower		7308	
	41.3.1	Single Tension string assembly for Twin Moose ACSR conductor	Set	20,580	
	41.3.2	Single Tension string assembly for Quad Moose ACSR conductor	Set	37,629	
	41.3.3	T-connectors	No.	1,751	
	41.4	Accessories for Conductors (ACSR Moose)			
	41.4.1	Repair Sleeves	No.	7609	969
	41.4.2	Mid Span Compression Joint	No.	8538	2,549
	41.4.3	Spacers for Twin Conductor	No.	7308	1,323
	41.4.4	Spacer Dampers for Quad Conductor	No.	7308	3,343
	41.4.5	Rigid Spacers for Jumpers of Twin Conductor	No.	7308	814
	41.4.6	Rigid Spacers for Jumpers of Quad Conductor	No.	7308	1,552
	41.4.7	Vibration Damper	No.	7308	1,696
	41.4.8	T-Connectors	No.	7318	1,751
	41.4.9	Balancing Weights	No.	8423	12,342
	41.5	Hardware and Accessories for Ground Wire of size 7/3.66 mm			
	41.5.1	Repair Sleeves	No.	7609	225
	41.5.2	Mid Span Compression Joint	No.	8538	474
	41.5.3	Vibration Damper	No.	7308	813
	41.5.4	Suspension Clamp	No.	7318	1,062
	41.5.5	Compression Type Tension Clamp	No.	7318	1,382

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
42	Hardware for High Performance Conductor (HPC) for stringing on existing Towers/Supports - 1600 A			
	42.1 Twin Conductor			
	42.1.1 Single Suspension Fittings	No.	7318	14,810
	42.1.2 Double Suspension Fittings	No.	7318	20,981
	42.1.3 Double Tension Fittings	No.	7318	1,78,959
	42.1.4 Single Suspension/Single Suspension Pilot	No.	7318	24,684
	42.1.5 Counter weight for Pilot String of 200 kg	No.	8423	12,342
	42.2 Quad Conductor			
	42.2.1 Double Suspension Fittings	No.	7318	34,558
	42.2.2 Quad Tension Fittings	No.	7318	3,82,602
	42.2.3 Single Tension Fittings	No.	7318	3,08,550
	42.2.4 Single Suspension/Single Suspension Pilot	No.	7318	24,684
	42.2.5 Counter weight for Pilot String of 200 kg	No.	8423	12,342
	42.2.6 MSC-Existing	No.	8538	1,04,907
	43	Hardware for High Performance Conductor (HPC) for new Transmission Lines with new Towers/Supports - 1600 A		
43.1 Twin Conductor				
43.1.1 Single Suspension Fittings		No.	7318	14,810
43.1.2 Double Suspension Fittings		No.	7318	20,981
43.1.3 Double Tension Fittings		No.	7318	27,152
43.1.4 Single Suspension/Single Suspension Pilot		No.	7318	24,684
43.1.5 Counter weight for Pilot String of 200 kg		No.	8423	12,342
43.2 Quad Conductor				
43.2.1 Double Suspension Fittings		No.	7318	34,558
43.2.2 Quad Tension Fittings		No.	7318	86,394
43.2.3 Single Tension		No.	7318	46,900
43.2.4 Single Suspension/Single Suspension Pilot		No.	7318	24,684
43.2.5 Counter weight for Pilot String of 200 kg		No.	8423	12,342
43.2.6 Twin Spacer Dampers		No.	7308	2,345
43.2.7 Quad Spacer Dampers		No.	7308	3,826
43.2.8 Twin Rigid Spacer		No.	7308	864
43.2.9 Quad Rigid Spacer		No.	7308	1,851
43.2.10 MSC-New		No.	8538	2,839
43.2.11 Repair Sleeve	No.	7609	987	
43.2.12 T-connector	No.	7318	1,975	

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.		
				1400 A	900 A	700 A
44	Hardware for High Performance Conductor (HPC) for stringing on existing Towers/Supports					
	44.1 Single Tension fitting with Terminal Pad	No.	7318	1,30,328	59,982	41,987
	44.2 Double Tension fitting	No.	7318	1,45,155	70,003	49,001
	44.3 Single Suspension fitting/Pilot Fitting	No.	7318	26,567	10,438	7,306
	44.4 Double Suspension Fitting	No.	7318	35,837	18,063	12,644
	44.5 Dead End Clamp	No.	7318	1,30,328	58,007	39,741
	44.6 M.S.C. Joints	No.	8538	1,52,887	75,143	52,600
	44.7 Repair Sleeves	No.	7609	8,311	2,061	1,443
	44.8 Vibration Damper	No.	7308	3,047	1,841	1,289
	44.9 T-Clamp	No.	7318	8,294	3,383	2,343
45	Hardware for High Performance Conductor (HPC) for stringing on New Lines					
	45.1 Single Tension fitting with Terminal Pad	No.	7318	14,810	12,342	8,022
	45.2 Double Tension fitting	No.	7318	19,747	16,045	9,874
	45.3 Single Suspension fitting/Pilot Fitting	No.	7318	10,491	8,639	5,801
	45.4 Double Suspension Fitting	No.	7318	11,725	9,627	6,788
	45.5 Dead End Clamp	No.	7318	14,810	12,342	8,022
	45.6 M.S.C. Joints	No.	8538	1,851	1,234	864
	45.7 Repair Sleeves	No.	7609	741	617	494
	45.8 Vibration Damper	No.	7308	1,542	1,014	916
	45.9 T-Clamp	No.	7318	1,481	1,111	987

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.						
				AAAC Moose	Drake ACSR	Lynx ACSR	Coyote ACSR	Rabbit ACSR	Ground Conductor 7/3.15 mm	
46	Hardware for Transmission Line Work									
46.1	Single Tension Clamps with arcing horns	No.	7318	4,135	3,758	1,641	1,502	1,179		1,234
46.2	Double Tension Clamps with arcing horns	No.	7318	7,364	6,694	4,671	4,338	3,861		
46.3	Single Suspension Clamps with arcing horns	No.	7318	2,583	2,347	1,993	1,843	1,228		1,301
46.4	Double Suspension Clamps with arcing horns	No.	7318	4,902	4,456	3,802	3,758	3,371		
46.5	P.G. Clamps	No.	7318	1,422	808	776	317	137		403
46.6	M.S.C. Joints	No.	8538	1,264	1,150	668	621	413		457
46.7	Pre-formed Armour Rods	No.	7221	3,678	3,344	1,263	1,083	875		
46.8	Repair Sleeves	No.	7609	973	885	592	300	220		309
46.9	Vibration Damper	No.	7308	1,696	1,543	1,014	916	853		
46.10	Automatic Come - along Clamp	No.	7318	8,706	7,915	7,604	7,604	7,604		4,167
46.11	Pad Clamps	No.	7318	1,237	1,116	808	807	317		

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
47	Hardware Clamps for Sub-station materials			
	47.1 Bolted Type Tension Clamp		7318	
	47.1.1 Twin Falcon ACSR Conductor 120 kN, 20 mm	No.		5,095
	47.1.2 Twin Moose ACSR Conductor 120 kN, 20 mm	No.		4,377
	47.1.3 Twin Drake ACSR Conductor 120 kN, 20 mm	No.		4,338
	47.1.4 Twin Falcon ACSR Conductor 90 kN, 16 mm	No.		4,130
	47.1.5 Twin Drake ACSR Conductor 90 kN, 16 mm	No.		3,572
	47.1.6 Single Falcon ACSR Conductor 120 kN, 20 mm	No.		2,684
	47.1.7 Single Drake ACSR Conductor 120 kN, 20 mm	No.		2,506
	47.1.8 Single Falcon ACSR Conductor 90 kN, 16 mm	No.		2,124
	47.1.9 Single Drake ACSR Conductor 70/90 kN, 16 mm	No.		2,426
	47.1.10 Single Lynx ACSR Conductor 70/90 kN, 16 mm	No.		1,413
	47.1.11 Single Coyote ACSR Conductor 70/90 kN, 16 mm	No.		1,326
	47.1.12 Single Rabbit ACSR Conductor 70/90 kN, 16 mm	No.		998
	47.2 Wedged Clamps		7318	
47.2.1 Single Tension Clamp Compression type Moose ACSR	No.		3,820	
47.2.2 Single Tension Clamp Compression type Drake ACSR	No.		3,820	
47.3 Bolted Type Suspension Clamp		7318		
47.3.1 Twin Falcon ACSR Conductor 90 kN, 16 mm	No.		4,706	
47.3.2 Twin Moose ACSR Conductor 90 kN, 16 mm	No.		3,440	
47.3.3 Twin Drake ACSR Conductor 90 kN, 16 mm	No.		2,784	
47.3.4 Single Falcon ACSR Conductor 90 kN, 16 mm	No.		1,921	
47.3.5 Single Drake ACSR Conductor 70/90 kN, 16 mm	No.		1,523	
47.3.6 Single Lynx ACSR Conductor 70/90 kN, 16 mm	No.		1,261	
47.3.7 Single Coyote ACSR Conductor 70/90 kN, 16 mm	No.		1,143	
47.3.8 Single Rabbit ACSR Conductor 70/90 kN, 16 mm	No.		916	

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
47.4	Hardware Clamps for Sub-station materials		7318	
47.4.1	Ground Wire Clamp 7/3.15 mm, 2 bolt	No.		1,292
47.5	Post Insulator Clamps		7318	
47.5.1	Twin Falcon ACSR Conductor 127 mm, 220 kV	No.		1,909
47.5.2	Twin Moose ACSR Conductor 127 mm, 220 kV	No.		1,632
47.5.3	Twin Drake ACSR Conductor 127 mm, 220/110/66 kV	No.		1,531
47.5.4	Single Falcon ACSR Conductor 127/76 mm, 220/110/66 kV	No.		1,102
47.5.5	Single Drake ACSR Conductor 127/76 mm, 220/110/66/33 kV	No.		1,010
47.5.6	Single Lynx ACSR Conductor 127/76 mm, 110/66/33 kV	No.		943
47.5.7	Single Coyote ACSR Conductor 127/76 mm, 66/33 kV	No.		872
47.5.8	Single Rabbit ACSR Conductor 76 mm, 33 kV	No.		800
47.6	Spacer Clamp for ACSR Conductor		7318	
47.6.1	Twin Falcon 220 kV	No.		705
47.6.2	Twin Moose 220 kV	No.		664
47.6.3	Twin Drake 220/110/66 kV	No.		561
47.7	Requirement of Power Connectors 'T' Clamps for ACSR Conductor		7318	
47.7.1	Twin Falcon to Single Drake	No.		2,038
47.7.2	Twin Moose to Single Drake	No.		1,534
47.7.3	Twin Drake to Single Drake	No.		1,314
47.7.4	Single Falcon to Single Drake	No.		828
47.7.5	Single Drake to Single Drake	No.		727
47.7.6	Single Drake to Single Lynx	No.		680
47.7.7	Single Drake to Single Coyote	No.		639
47.7.8	Single Lynx to Single Lynx	No.		536
47.7.9	Single Coyote to Single Drake	No.		639
47.7.10	Single Lynx to Single Drake	No.		680
47.7.11	Single Coyote to Single Coyote	No.		509

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
47.8	Power Connectors, Terminal Connector Clamps for ACSR Conductor		7318	
47.8.1	Twin Drake	No.		1,846
47.8.2	Single Drake	No.		1,114
47.8.3	Single Lynx	No.		853
47.8.4	Single Coyote	No.		739
47.9	Power Connectors, Expansion Type Terminal Connectors suitable for Aluminium pipes		7318	
47.9.1	63 mm nominal diameter x 73.03 mm	No.		1,982
47.9.2	50 mm nominal diameter x 60.03 mm	No.		1,689
47.10	C - Type Wedge Connector		7318	
47.10.1	Rabbit to Coyote ACSR Conductor	No.		656
47.10.2	Rabbit to Lynx ACSR Conductor	No.		1,840
47.10.3	Rabbit to Drake ACSR Conductor	No.		3,161
47.10.4	Coyote to Coyote ACSR Conductor	No.		656
47.10.5	Coyote to Lynx ACSR Conductor	No.		2,023
47.10.6	Coyote to Drake ACSR Conductor	No.		2,186
47.10.7	Lynx to Lynx ACSR Conductor	No.		1,371
47.10.8	Lynx to Drake ACSR Conductor	No.		1,921
47.10.9	Drake to Drake ACSR Conductor	No.		2,305
47.10.10	Double Drake to Single Drake	No.		6,169
47.10.11	Rabbit to 2 hole paddle ACSR Conductor : 610 A	No.		1,908
47.10.12	Rabbit to 2 hole paddle ACSR Conductor : 895 A	No.		2,091
47.10.13	Coyote 2 hole paddle ACSR Conductor : 610 A	No.		1,908
47.10.14	Coyote 2 hole paddle ACSR Conductor : 895 A	No.		2,385
47.10.15	Coyote 2 hole paddle ACSR Conductor : 1400 A	No.		6,120
47.10.16	Coyote 4 hole Paddle ACSR Conductor : 610 A	No.		2,027
47.10.17	Coyote 4 hole paddle ACSR Conductor : 895 A	No.		2,777
47.10.18	Coyote 4 hole paddle ACSR Conductor : 1400 A	No.		5,937

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
47.10.19	Lynx 2 hole paddle ACSR Condcutor : 610 A	No.		2,305
47.10.20	Lynx 2 hole paddle ACSR Conductor : 895 A	No.		2,305
47.10.21	Lynx 2 hole paddle ACSR Conductor : 1400 A	No.		6,271
47.10.22	Lynx 4 hole paddle ACSR Conductor : 610 A	No.		2,385
47.10.23	Lynx 4 hole paddle ACSR Conductor : 895 A	No.		2,385
47.10.24	Lynx 4 hole paddle ACSR Conductor : 1400 A	No.		4,173
47.10.25	Drake 2 hole paddle ACSR Conductor : 610 A	No.		3,065
47.10.26	Drake 2 hole paddle ACSR Conductor : 895 A	No.		3,065
47.10.27	Drake 2 hole paddle ACSR Conductor : 1400 A	No.		3,190
47.10.28	Drake 4 hole paddle ACSR Conductor : 610 A	No.		3,190
47.10.29	Drake 4 hole paddle ACSR Conductor : 895 A	No.		3,190
47.10.30	Drake 4 hole paddle ACSR Conductor : 1400 A	No.		6,672
47.10.31	Rabbit to Rabbit ACSR Conductor	No.		669
47.10.32	Drake to Moose ACSR Conductor	No.		3,378
47.10.33	Drake to Falcon ACSR Conductor	No.		9,598
47.10.34	Moose to Moose ACSR Conductor	No.		3,378
47.10.35	Moose to Falcon ACSR Conductor	No.		9,598
47.10.36	Falcon to Falcon ACSR Conductor	No.		9,538
47.10.37	Moose 2 hole paddle ACSR Conductor & 2 hole paddle : 895 A	No.		8,781
47.10.38	Moose 2 hole paddle ACSR Conductor & 2 hole paddle : 1400 A	No.		8,781
47.10.39	Moose 4 hole paddle ACSR Conductor & 4 hole paddle : 895 A	No.		8,781
47.10.40	Moose 4 hole paddle ACSR Conductor & 4 hole paddle : 1400 A	No.		8,781
47.10.41	Falcon 2 hole paddle ACSR Conductor & 2 hole paddle : 1400 A	No.		22,747
47.10.42	Falcon 4 hole paddle ACSR Conductor & 4 hole paddle : 1400 A	No.		22,747
47.11	CT Clamps for Single Drake	No.		1,049
47.12	PG Clamps for Coyote to Rabbit	No.		259
47.13	NCT Pad Clamp	No.		864

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
48	RELAY :		8536	
48.1	Numerical Distance Relay for 400 kV, 220 kV, 110 kV and 66 kV System			
48.1.1	Numerical Distance Relay for 400 kV and 220 kV System compatible to IEC 61850 communication protocol	No.		2,37,521
48.1.2	Numerical Distance Relay for 110 kV / 66 kV compatible to IEC 61850 communication protocol	No.		2,37,521
48.2	Numerical Differential Relay for 400 kV, 220 kV, 110 kV and 66 kV voltage class Power Transformers with IEC 61850 communication protocol			
48.2.1	Numerical Differential Relay for 400 kV and 220 kV class ICTs/Power Transformers with IEC 61850 communication protocol	No.		2,49,250
48.2.2	Numerical Differential Relay for 110 kV and 66 kV class Power Transformers with IEC 61850 communication protocol	No.		2,49,250
48.3	Numerical Line Differential Relay for 400 kV and 220 kV, 110 kV and 66 kV System compatible to IEC 61850 protocol with impedance protection in case of communication failure			
48.3.1	Numerical Line Differential Relay for 400 kV and 220 kV System compatible to IEC 61850 protocol with impedance protection in case of communication failure	No.		4,32,523
48.3.2	Numerical Line Differential Relay for 110 kV and 66 kV System compatible to IEC 61850 protocol with impedance protection in case of communication failure	No.		4,32,523
48.4	Electromechanical Single Pole Directional Over Current / Earthfault Relay	No.		14,965
48.5	Electromechanical Single Pole Non-Directional Over Current / Earthfault Relay	No.		11,431
48.6	Restricted Earth Fault Relay (Electromechanical type)	No.		18,771
48.7	Three Phase Trip Relay / Master Trip Relay			
48.7.1	Three Phase Trip Relay suitable for C&R panels at 400 kV and 220 kV Stations	No.		16,905
48.7.2	Master Trip Relay suitable for C&R panels at 110 kV and 66 kV Stations	No.		16,905
48.8	Trip Circuit Supervision Relay			
48.8.1	Trip Circuit Supervision Relay suitable for C&R panels at 400 kV and 220 kV Stations	No.		8,063
48.8.2	Trip Circuit Supervision Relay suitable for C&R panels at 110 kV and 66 kV Stations	No.		8,063

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
48.9	Auxillary Relay : 3 element			
48.9.1	Auxillary Relay - 3 element suitable for C&R panels at 400 kV and 220 kV Stations	No.		8,063
48.9.2	Auxillary Relay - 3 element suitable for C&R panels at 110 kV and 66 kV Stations	No.		8,063
48.10	Auxillary Relay : 2 element			
48.10.1	Auxillary Relay - 2 element suitable for C&R panels at 400 kV and 220 kV Stations	No.		5,939
48.10.2	Auxillary Relay - 2 element suitable for C&R panels at 110 kV and 66 kV Stations	No.		5,939
48.11	Numerical Frequency Relay with df/dt feature	No.		1,37,930
48.12	Electromechanical Single Pole Non-Directional Over Current / Earthfault Relay with HS	No.		13,083
48.13	Single Phase Trip Relay for C&R panels at 400 kV and 220 kV Station	No.		10,263
48.14	Numerical Restricted Earth Fault Relay for 400 kV, 220 kV class ICTs/Power Transformers and 110 kV, 66 kV class Power Transformers with IEC 61850 communication protocol	No.		86,394
48.15	High Speed Trip Relay for 11 kV Feeders	No.		9,338
48.16	Numerical Back up protection relay suitable for 400 kV and 220 kV, 110 kV and 66 kV System compatible to IEC 61850 protocol	No.		98,736
48.17	LBB Protection Relay	No.		49,983
49	1C x 1000 Sq mm, 11 kV HV UG Cable	m	8544	1,185
50	11 kV JOINTS & POT HEADS :			
50.1	1 x 1000 Sq mm, Heat Shrinkable type transition jointing kit for XLPE Cable	No.	8538	12,154
50.2	1 x 1000 Sq mm, 11 kV Heat Shrinkable Straight through jointing kit for XLPE Cable with Copper Lugs & Aluminium Ferrules	No.	8538	8,886
50.3	1 x 1000 Sq mm, 11 kV Heat Shrinkable Cable termination kit for XLPE Cable		8538	
50.3.1	Indoor	No.		3,808
50.3.2	Out door	No.		4,060

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
51	FIRE FIGHTING EQUIPMENT (with necessary mounting stand)		8424	
	51.1 Foam Extinguishing Type			
	51.1.1 50 Litre	No.		10,112
	51.1.2 9 Litre	No.		4,118
	51.2 Water Mist & CAF Low Pressure Backpack Type fire extinguisher with special foam			
	51.2.1 50 Litre	No.		19,747
	51.2.2 9 Litre	No.		6,171
	51.3 ABC Powder Type Fire Extinguisher			
	51.3.1 9 Litre	No.		7,405
	51.3.2 6 Litre	No.		4,937
	51.4 Water Type (Gas Pressure Type) : 9 Litre	No.		2,503
	51.5 Carbondioxide Type			
	51.5.1 22.5 kg	No.		24,630
	51.5.2 4.5 kg	No.		8,691
	51.6 DCP Type			
51.6.1 22.5 kg	No.		25,229	
51.6.2 4.5 kg	No.		5,111	
51.7 Sand Type				
51.7.1 G.I. Buckets : 9 Litre	No.		603	
51.7.2 Steel stands	No.		2,362	
52	Supply, Erection & Commissioning of Nitrogen Injection Fire Extinguishing System for 100 MVA and above Power Transformer	Set		15,11,895
53	Supply, Erection & Commissioning of Nitrogen Injection Fire Extinguishing System for Power Transformer below 100 MVA	Set		11,41,635
54	Addressable Type Fire Alarm / Detection system using smoke detectors, heat detectors etc., as per specification for GIS hall control room, relay panel room, LTAC room, office room, monitoring room etc	Set		11,25,339

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
55	55.1 DG Set : 3 Ph, 50 Hz, 415 V, 0.8 pf, 250 kVA capacity Diesel Generator set mounted on box frame complete with inbuilt fuel tank and battery 2 nos. 24 V and inbuilt standard manual control panel with acoustic enclosure : NAL approved D.G. set 250 kVA capacity with AMF panel as per technical specification	No.	8501	20,79,627
	55.2 DG Set : 50 kW/62.5 kVA Diesel Generator set rated at 50 kW/62.5 kVA, 415 V, 0.8 pf mounted on a base frame, complete with inbuilt fuel tank and battery 1 no. 12 V & inbuilt standard manual Control Panel with acoustic enclosure : NAL Approved D.G. Set 62.5 kVA capacity with AMF panel as per technical specification	No.	8501	10,90,595
56	56.1 630 kVA, 11 kV/433 V, 3 phase Delta Star, Dyn11 : Supply of Auxiliary Transformer with copper windings & oil, cable termination type on both HT & LT outdoor type with off load tap changer in steps of 2.5 % Erection	No. No.	8504	11,64,816 42,212
	56.2 250 kVA, 11 kV/433 V, 3 phase Delta Star, Dyn11 : Supply of Auxiliary Transformer with copper windings & oil, cable termination type on both HT & LT outdoor type with off load tap changer in steps of 2.5 % Erection	No. No.	8504	4,23,454 20,881
	56.3 100 kVA, 11 kV/433 V, 3 phase Dyn11 : Supply of Auxiliary Transformer with copper windings & oil, cable termination type on both HT & LT outdoor type Erection	No. No.	8504	3,49,196 18,592
	57 Supply & Fixing LT Distribution Box		8535	
57.1	630 kVA - Supply	No.		71,596
	630 kVA - Erection	No.		1,848
57.2	250 kVA - Supply	No.		35,798
	250 kVA - Erection	No.		1,848
57.3	100 kVA - Supply	No.		20,434
	100 kVA - Erection	No.		1,848

Sl. No.		Supply of Materials	Unit	HSN Code	Amount in Rs.
58	58.1	11 kV Insulation Tapes (HV BT Tapes)		8547	
	58.1.1	25 mm width	m		753
	58.1.2	50 mm width	m		1,505
	58.1.3	75 mm width	m		2,255
	58.1.4	100 mm width	m		3,008
	58.2	Epoxy shroubs suitable for 11 kV outdoor bus	m		3,977
59	59.1	Miscellaneous Item			
	59.1.1	11 kV GOS : D/B 1200 A	Set	8535	51,675
	59.1.2	11 kV GOS : D/B 800 A	Set	8535	35,797
	59.1.3	11 kV GOS : S/B 400 A	Set	8535	20,858
	59.2	11 kV GOS Contact Blade		8535	
	59.2.1	11 kV, 800 A Male Contact Blade suitable for Double Break GOS	No.		2,721
	59.2.2	11 kV, 800 A Female Contact Blade suitable for Double Break GOS	No.		2,176
	59.2.3	11 kV, 400 A Male Contact Blade suitable for Double Break GOS	No.		1,624
	59.2.4	11 kV, 400 A Female Contact Blade suitable for Double Break GOS	No.		1,059
	59.2.5	11 kV, 200 A Male Contact Blade suitable for Single Break GOS	No.		842
	59.2.6	11 kV, 200 A Female Contact Blade suitable for Single Break GOS	No.		582

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
60	EHV UG CABLE :		8544	
60.1	127/220 kV (Earthed) 1C X 1200 Sq mm stranded, annealed, copper conductor, segmental compacted, circular (Milliken), conductor screen, cross linked polyethylene (XLPE) insulation, core screen, semi-conducting water swellable layer, lead alloy 'E' sheathed , semi-conducting bedding tapes, helically applied plain round copper wire screen, plain copper tape in open helix, water swellable tape with overall extruded high density polyethylene sheath coated with graphite/ extruded semi conducting layer and anti-termite treated as per technical specification.	m		29,228
60.2	127/220 kV (Earthed), 1C X 1000 Sq mm stranded, annealed, copper conductor, segmental compacted, circular (Milliken), conductor screen, cross linked polyetheylene (XLPE) insulation, core screen, semi-conducting water swellable layer, lead alloy 'E' sheathed , semi-conducting bedding tapes, helically applied plain round copper wire screen, plain copper tape in open helix, water swellable tape with overall extruded high density polyethylene sheath coated with graphite /extruded semi conducting layer and anti-termite treated as per technical specification.	m		24,357
60.3	64/110 kV (Earthed), 1C X 630 Sq mm stranded, annealed, copper conductor, compacted circular, conductor screen, cross linked polyethylene (XLPE) insulation, core screen, semi-conducting water swellable layer, lead alloy 'E' sheathed , semi-conducting bedding tapes, helically applied plain round copper wire screen, plain copper tape in open helix, water swellable tape with overall extruded high density polyethylene sheath coated with graphite/extruded semi conducting layer and anti-termite treated as per technical specification.	m		13,283
60.4	64/110 kV (Earthed), 1C X 400 Sq mm stranded, annealed, copper conductor, compacted circular, conductor screen, cross linked polyethylene (XLPE) insulation, core screen, semi-conducting water swellable layer, lead alloy 'E' sheathed, semi-conducting bedding tapes, helically applied plain round copper wire screen, plain copper tape in open helix, water swellable tape with overall extruded high density polyethylene sheath coated with graphite/extruded semi conducting layer and anti-termite treated as per technical specification.	m		11,126

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
60.5	64/110 kV (Earthed), 1C X 240 Sq mm stranded, annealed, copper conductor, compacted circular, conductor screen, cross linked polyethylene (XLPE) insulation, core screen, semi-conducting water swellable layer, lead alloy 'E' sheathed , semi-conducting bedding tapes, helically applied plain round copper wire screen, plain copper tape in open helix, water swellable tape with overall extruded high density polyethylene sheath coated with graphite/extruded semi conducting layer and anti-termite treated as per technical specification.	m		9,439
60.6	38/66 kV (Earthed), 1C X 1000 Sq mm stranded, annealed, copper conductor, segmental, compact, circular, (Milliken), conductor screen, cross linked polyethylene (XLPE) insulation, core screen, semi-conducting water swellable layer, lead alloy 'E' sheathed , semi-conducting bedding tapes, helically applied plain round copper wire screen, plain copper tape in open helix, water swellable tape with overall extruded high density polyethylene sheath coated with graphite and anti-termite treated as per technical specification.	m		15,294
60.7	38/66 kV (Earthed), 1C X 630 Sq mm stranded, annealed, copper conductor, circular, conductor screen, cross linked polyethylene (XLPE) insulation, core screen, semi-conducting water swellable layer, lead alloy 'E' sheathed , semi-conducting bedding tapes, helically applied plain round copper wire screen, plain copper tape in open helix, water swellable tape with overall extruded high density polyethylene sheath coated with graphite/extruded semi conducting layer and anti-termite treated as per technical specification.	m		8,462
60.8	38/66 kV (Earthed), 1C X 240 Sq mm stranded, annealed, copper conductor, circular, conductor screen, cross linked polyethylene (XLPE) insulation, core screen, semi-conducting water swellable layer, lead alloy 'E' sheathed , semi-conducting bedding tapes, helically applied plain round copper wire screen, plain copper tape in open helix, water swellable tape with overall extruded high density polyethylene sheath coated with graphite/extruded semi conducting layer and anti-termite treated as per technical specification.	m		5,283

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
60.9	38/66 kV (Earthed), 3C X 300 Sq mm 3 phase cores of stranded compacted circular water-tight copper conductor, conductors screened with extruded semi conducting compound, cross linked polyethylene (XLPE) insulated, insulation screened with extruded semi-conducting compound followed by semi-conducting water swellable tape in combination with hellically applied closed helix copper tape screen, semi-conducting water blocking tape, cores laid up with PP fillers, Optical Fiber cable in place of one of the filler, sleeve extruded PE type ST-7 inner sheathed, non-conducting water blocking tape followed by metallic moisture barrier consisting of seamless/seam weld corrugated aluminium sheath followed by Bitumen compound and Bitumen tape and overall extruded with yellow PE type ST-7 compound generally confirming to IS:7098-111/IEC:60840.	m		13,056
60.10	6.6 kV, 1C X 400 Sq mm earth continuity cable (sheath bonding cable) as per technical specification.	m		2,960
60.11	3.3 kV, 1C X 240 Sq mm earth continuity cable (sheath bonding cable) as per technical specification.	m		1,480
61	EHV UG CABLE ACCESSORIES :		8538	
61.1	220 kV			
61.1.1	Out door type cable end termination suitable for 127/220 kV (E) class 1C X 1200 Sq mm copper conductor lead sheathed XLPE insulated cable as per technical specification.	No.		11,02,310
61.1.2	Out door type cable end termination suitable for 127/220 kV (E) class 1C X 1000 Sq mm copper conductor lead sheathed XLPE insulated cable as per technical specification.	No.		11,02,310
61.1.3	Indoor type cable termination (plug in dry type) suitable for GIS modules confirming to IEC 62271-209 for 220 kV, 1200 Sq mm, copper conductor XLPE insulated cable as per technical specification.	No.		7,30,840
61.1.4	Indoor type cable termination (plug in dry type) suitable for GIS modules confirming to IEC 62271-209 for 220 kV, 1000 Sq mm, copper conductor XLPE insulated cable as per technical specification.	No.		7,30,840
61.1.5	Normal Straight through Joint suitable for 220 kV, 1C X 1200 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		7,56,250

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
61.1.6	Normal Straight through Joint suitable for 220 kV, 1C X 1000 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		7,56,250
61.1.7	Insulated shield break type joint suitable for 220 kV, 1C X 1200 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		7,56,250
61.1.8	Insulated shield break type joint suitable for 220 kV, 1C X 1000 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		7,56,250
61.1.9	Insulated shield earthing joint suitable for 220 kV, 1C X 1200 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		7,56,250
61.1.10	Insulated shield earthing joint suitable for 220 kV, 1C X 1000 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		7,56,250
61.2	110 kV			
61.2.1	Outdoor type cable end termination suitable for 110 kV, 1C X 630 Sq mm copper conductor lead sheathed XLPE insulated cable as per technical specification.	No.		4,75,530
61.2.2	Outdoor type cable end termination suitable for 110 kV, 1C X 400/240 Sq mm copper conductor lead sheathed XLPE cable as per technical specification.	No.		3,56,950
61.2.3	Indoor type cable termination (plug in dry type) suitable for GIS modules confirming to IEC 62271-209 for 110 kV, 630 Sq mm, copper conductor, XLPE insulated cable as per technical specification.	No.		3,18,230
61.2.4	Indoor type cable termination (plug in dry type) suitable for GIS modules confirming to IEC 62271-209 for 110 kV, 400/240 Sq mm, copper conductor, XLPE insulated cable as per technical specification.	No.		2,39,580
61.2.5	Normal Straight through Joint suitable for 110 kV, 1C X 630 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		3,26,700

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
61.2.6	Normal Straight through Joint suitable for 110 kV, 1C X 400/240 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		2,34,740
61.2.7	Insulated shield break type Joint suitable for 110 kV, 1C X 630 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		3,26,700
61.2.8	Insulated shield break type Joint suitable for 110 kV, 1C X 400/240 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		2,34,740
61.2.9	Insulated shield earthing Joint suitable for 110 kV, 1C X 630 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		3,26,700
61.2.10	Insulated shield earthing Joint suitable for 110 kV, 1C X 400/240 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		2,34,740
61.3	66 kV			
61.3.1	Outdoor type cable end termination suitable for 66 kV, 1C X 1000 Sq mm segmental compact type miliken copper conductor, XLPE, lead sheathed cable as per technical specification.	No.		2,74,670
61.3.2	Outdoor type cable end termination suitable for 66 kV, 1C X 630/240 Sq mm, copper conductor, XLPE insulated, lead sheathed cable as per technical specification.	No.		1,36,730
61.3.3	Outdoor type cable end termination suitable for 66 kV(E), 3C X 300 Sq mm, copper conductor, XLPE corrugated aluminium sheath cable as per technical specification.	No.		1,92,390
61.3.4	Indoor type cable termination (plug in dry type) suitable for GIS modules confirming to IEC 62271-209 for 66 kV, 1000 Sq mm, copper conductor, XLPE insulated lead sheathed cable as per technical specification.	No.		3,81,150
61.3.5	Indoor type cable termination (plug in dry type) suitable for GIS modules confirming to IEC 62271-209 for 66 kV, 630/240 Sq mm, copper conductor, XLPE insulated cable as per technical specification.	No.		3,81,150

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
61.3.6	Normal Straight through Joint suitable for 66 kV, 1C X 1000 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		1,69,400
61.3.7	Normal Straight through Joint suitable for 66 kV, 1C X 630/240 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		1,36,730
61.3.8	Normal Straight through Joint suitable for 66 kV (E), 3C X 300 Sq mm, copper conductor, XLPE corrugated aluminium sheath cable as per technical specification. Note: The scope also includes supply of jointing accessories for OFC cable.	No.		1,86,340
61.3.9	Insulated shield break type Joint suitable for 66 kV, 1C X 1000 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		1,69,400
61.3.10	Insulated shield break type Joint suitable for 66 kV, 1C X 630/240 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		1,36,730
61.3.11	Insulated shield earthing Joint suitable for 66 kV, 1C X 1000 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		1,69,400
61.3.12	Insulated shield earthing Joint suitable for 66 kV, 1C X 630/240 Sq mm, copper conductor, XLPE insulated, lead sheathed cable complete with all accessories as per technical specification.	No.		1,36,730
61.4	Link Box			
61.4.1	Single phase Link box outdoor structure mounting type, with SVL suitable for 220 kV, 1200/1000 Sq mm UG cable including 400 Sq mm sheath bonding cable as per the technical specification.	No.		78,650
61.4.2	Single phase Link box outdoor structure mounting type, without SVL suitable for 220 kV, 1200/1000 Sq mm UG cable including 400 Sq mm sheath bonding cable as per the technical specification.	No.		48,400

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
61.4.3	<p>Three phase cross bonding Link box with SVL including 400 Sq mm sheath bonding cable and 400/400 Sq mm co-axial cable as per technical specification suitable for 220 kV, 1200/1000 Sq mm UG Cable.</p> <p>The Link box shall be burried type, water proof (capable of immerSSION in water), weather proof, rust & dust proof (IP: 68)</p>	No.		1,05,270
61.4.4	<p>Three phase Link box without SVL including 400 Sq mm sheath bonding cable and 400/400 Sq mm co-axial cable as per technical specification suitable for 220 kV, 1200/1000 Sq mm UG Cable.</p> <p>The Link box shall be burried type, water proof (capable of immerSSION in water), weather proof, rust & dust proof (IP: 68)</p>	No.		65,340
61.4.5	<p>Single phase Link box outdoor structure mounting type, with SVL suitable for 110 kV & 66 kV, 1000/630/400/240 Sq mm UG cable including 240 Sq mm sheath bonding cable as per the technical specification.</p>	No.		43,560
61.4.6	<p>Single phase Link box outdoor structure mounting type, without SVL suitable for 110 kV & 66 kV, 1000/630/400/240 Sq mm UG cable including 240 Sq mm sheath bonding cable as per the technical specification.</p>	No.		35,090
61.4.7	<p>Three phase cross bonding Link box with SVL including 240 Sq mm sheath bonding cable and 240/240 Sq mm co-axial cable as per technical specification suitable for 110 kV & 66 kV, 1000/630/400/240 Sq mm UG Cable.</p> <p>The Link box shall be burried type, water proof (capable of immerSSION in water), weather proof, rust & dust proof (IP: 68)</p>	No.		1,05,270
61.4.8	<p>Three phase Link box without SVL including 240 Sq mm sheath bonding cable and 240/240 Sq mm co-axial cable as per technical specification suitable for 110 kV & 66 kV, 1000/630/400/240 Sq mm UG Cable.</p> <p>The Link box shall be burried type, water proof (capable of immerSSION in water), weather proof, rust & dust proof (IP: 68)</p>	No.		65,340

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
62	<p>GAS INSULATED SWITCHGEAR (GIS) MODULES :</p> <p>400 kV</p> <p>400 kV Line Module Metal encapsulated SF6 Gas Insulated Switchgear 63 kA rating suitable for indoor installation of modular design comprising the following :</p> <p>i SF6 Circuit Breaker : 400 kV class, 3150 A, 63 kA complete with operating mechanism, 3 phase : 1 no.</p> <p>ii Disconnecter 3 Phase, single pole, group operated isolator switch of 400 kV class, 3150 A, 63 kA complete with manual & motor driven operating mechanism 3150 A : 3 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual & motor driven operating mechanism : 3 nos. 3 Phase, single pole, high speed, fault make earthing switch complete with group operated manual and motor driver operating mechanism : 1 no.</p> <p>iii Current Transformer : 400 kV, 63 kA class, 5 core, multi ratio, single phase Current Transformer 3000-2000-1000/1-1-1-1 A (1 set) 3 nos. for 400 kV Line. <i>Note: The cores of these CTs may be distributed on either side of Circuit Breaker if necessary.</i></p> <p>iv Bus Bar : Double Bus arrangement with three individual bus bar enclosures (ONE AND HALF BREAKER ARRANGEMENT) Main Bus : 4000 A Auxiliary Bus / Cross Bus : 3150 A</p> <p>v Gas monitoring device, remote gas pressure transmitters (4-20 mA signals), barriers pressure switches, UHF sensors, etc., as required for entire dia.</p> <p>vi Cross Bus Duct : 1 set</p> <p>vii Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required for entire dia.</p>	No.	8537	3,43,56,740
62.2	<p>400 kV ICT Module Metal encapsulated SF6 Gas Insulated Switchgear 63 kA rating suitable for indoor installation of modular design comprising the following :</p> <p>i SF6 Circuit Breaker : 400 kV class, 3150 A, 63 kA complete with operating mechanism, 3 phase : 1 no. with Control Switching Device (CSD)</p>	No.	8537	3,11,61,130

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
ii	<p>Disconnecter</p> <p>3 Phase, single pole, group operated isolator switch of 400 kV class, 3150 A, 63 kA complete with manual & motor driven operating mechanism 3150 A : 3 nos.</p> <p>3 Phase, single pole, group operated maintenance earthing switch complete with manual & motor driven operating mechanism : 3 nos.</p> <p>3 Phase, single pole, high speed, fault make earthing switch complete with group operated manual & motor driven operating mechanism : 1 no.</p>			
iii	<p>Current Transformer : 400 kV, 63 kA class, 3 core, multi ratio, single phase Current Transformer 2000-1000-500/1-1-1 A plus additional 2 cores of 2000-1000/1-1 A (1 set) 3 nos.</p> <p><i>Note: The cores of these CTs may be distributed on either side of Circuit Breaker if necessary.</i></p>			
iv	<p>Bus Bar : Double Bus arrangement with three individual bus bar enclosures (ONE AND HALF BREAKER ARRANGEMENT)</p> <p>Main Bus : 4000 A</p> <p>Auxiliary Bus / Cross Bus : 3150 A</p>			
v	Gas monitoring device, remote gas pressure transmitters (4-20 mA signals), barriers pressure switches, UHF sensors, etc., as required for entire dia.			
vi	Cross Bus Duct : 1 set			
vii	Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required for entire dia.			
62.3	<p>400 kV Reactor Module</p> <p>Metal encapsulated SF6 Gas Insulated Switchgear 63 kA rating suitable for indoor installation of modular design comprising the following :</p>	No.	8537	3,11,61,130
i	<p>SF6 Circuit Breaker : 400 kV class, 3150 A, 63 kA complete with operating mechanism, 3 phase : 1 no. with Control Switching Device (CSD)</p>			
ii	<p>Disconnecter</p> <p>3 Phase, single pole, group operated isolator switch of 400 kV class, 3150 A, 63 kA complete with manual & motor driven operating mechanism 3150 A : 3 nos.</p> <p>3 Phase, single pole, group operated maintenance earthing switch complete with manual & motor driven operating mechanism : 3 nos.</p> <p>3 Phase, single pole, high speed, fault make earthing switch complete with group operated manual & motor driven operating mechanism : 1 no.</p>			

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
iii	<p>Current Transformer : 400 kV, 63 kA class, 3 core, multi ratio, single phase Current Transformer 2000-1000-500/1-1-1 A plus additional 2 cores of 2000-1000/1-1 A (1 set) 3 nos.</p> <p><i>Note: The cores of these CTs may be distributed on either side of Circuit Breaker if necessary.</i></p>			
iv	<p>Bus Bar : Double Bus arrangement with three individual bus bar enclosures (ONE AND HALF BREAKER ARRANGEMENT) Main Bus : 4000 A Auxiliary Bus / Cross Bus : 3150 A</p>			
v	Gas monitoring device, remote gas pressure transmitters (4-20 mA signals), barriers pressure switches, UHF sensors, etc., as required for entire dia.			
vi	Cross Bus Duct : 1 set			
vii	Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specifications as required for entire dia.			
62.4	<p>400 kV Tie Bay Module Metal encapsulated SF6 Gas Insulated Switchgear 63 kA rating suitable for indoor installation of modular design comprising the following :</p>	No.	8537	3,34,91,590
i	SF6 Circuit Breaker : 400 kV class, 3150 A, 63 kA complete with operating mechanism, 3phase : 1 no.			
ii	<p>Disconnecter 3 Phase, single pole, group operated isolator switch of 400 kV class, 3150 A, 63 kA complete with manual & motor driven operating mechanism 3150 A : 2 nos.</p> <p>3 Phase, single pole, group operated maintenance earthing switch complete with manual & motor driven operating mechanism : 2 nos.</p>			
iii	<p>Current Transformer 400 kV, 63 kA class, 5 core, multi ratio, single phase Current Transformer 3000-2000-1000/1-1-1-1 A (1 set) 3 nos. for 400 kV Line</p> <p>400 kV, 63 kA class, 3 core, multi ratio, single phase Current Transformer 2000-1000-500/1-1-1 A plus additional 2 cores of 2000-1000/1-1 A (1 set) 3 nos. for ICT / Bus Reactor</p> <p><i>Note: The cores of these CTs may be distributed on either side of Circuit Breaker if necessary</i></p>			
iv	Gas monitoring device, remote gas pressure transmitters (4-20 mA signals), barriers pressure switches, UHF sensors, etc., as required for entire dia.			

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
v	Cross Bus Duct : 1 set			
vi	Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specifications as required for entire dia.			
62.5	<p>400 kV PT Module Metal encapsulated SF6 Gas Insulated Switchgear 63 kA rating suitable for indoor installation of modular design comprising the following :</p> <p>i Disconnecter 3 Phase, single pole, group operated isolator switch of 400 kV class, 2000 A, 63 kA complete with manual & motor driven operating mechanism : 1 no. 3 Phase, single pole, group operated maintenance earthing switch complete with manual and motor driven operating mechanism : 1 no.</p> <p>ii Potential Transformer : 3 core, multi ratio, single phase Potential Transformer 400 kV/$\sqrt{3}$ / 110V/$\sqrt{3}$ - 110V/$\sqrt{3}$ - 110V/$\sqrt{3}$ 3P/3P/0.2, 50/50/50 VA : 1 set (3 nos.)</p> <p>iii Bus Bar : Double Bus arrangement Main Bus : 4000 A</p> <p>iv Gas monitoring device, remote gas pressure transmitters (4-20 mA signals), barriers pressure switches, UHF sensors, etc., as required</p> <p>v Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required</p>	No.	8537	51,54,600
62.6	<p>Bus Maintenance earth switch : 3 Phase, single pole, 63 kA, group operated maintenance earthing switch complete with manual operating mechanism 400 kV (1 for each bus)</p>	No.	8537	25,84,560
63	<p>220 kV 220 kV Line (UG Cable) Module Metal encapsulated SF6 Gas Insulated Switchgear 50 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system</p> <p>i SF6 Circuit Breaker : Complete with operating mechanism, 2000 A, 1 phase / 3 phase : 1 no.</p> <p>ii Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1600 A : 3 nos.</p>	No.	8537	2,16,86,830

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
	<p>3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.</p> <p>3 Phase, single pole, fast acting, fault make earthing switch complete with group operated manual & motor driven operating mechanism : 1 no.</p> <p>Current Transformer : 5 core, multi ratio, single phase Current Transformer 1200-800/1-1-1 A plus additional 2 cores of 1200/1-1 A : (1 set) 3 nos.</p> <p>Surge Arrestor (198 kV) : (1 set) 3 nos.</p> <p>Cable end unit (Plug in type) : 3 phase, single pole, plug in type cable termination : 1 run for 1000/1200 Sq mm for each phase : 1 (Set)</p> <p>Bus Bar : Double Bus arrangement Main Bus : 3000 A Auxiliary Bus : 1600 A</p> <p>Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors, etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i></p> <p>Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.</p>			
63.2	<p>220 kV Line (OH Line) Module Metal encapsulated SF6 Gas Insulated Switchgear 50 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system</p> <p>SF6 Circuit Breaker : Complete with operating mechanism, 2000 A, 1 phase / 3 phase : 1 no.</p> <p>Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1600 A : 3 nos.</p> <p>3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.</p> <p>3 Phase, single pole, fast acting, fault make earthing switch complete with group operated manual & motor driven operating mechanism : 1 no.</p> <p>Current Transformer : 5 core, multi ratio, single phase Current Transformer 1200-800/1-1-1 A plus additional 2 cores of 1200/1-1 A : (1 set) 3 nos.</p>	No.	8537	2,16,86,830

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
iv	Single phase SF6 to air bushing for outdoor connection of conductor of overhead line as required			
v	Bus Bar : Double Bus arrangement Main Bus : 3000 A Auxiliary Bus : 1600 A			
vi	Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors, etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i>			
vii	Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required			
63.3	220 kV Transformer Module (For 400/220 kV Transformer) Metal encapsulated SF6 Gas Insulated Switchgear 50 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system.	No.	8537	1,99,96,460
i	SF6 Circuit Breaker : Complete with operating mechanism, 2000 A, 1 phase / 3 phase - 1 no.			
ii	Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1600 A - 3 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism - 3 nos.			
iii	Current Transformer : 3 core, multi ratio, single phase Current Transformer 1600-800/1-1-1-1 A : (1 set) 3 nos.			
iv	Surge Arrestor (198 kV) : (1 set) 3 nos.			
v	Bus Bar : Double Bus arrangement Main Bus : 4000 A Auxiliary Bus : 1600 A			
vi	Gas monitoring device, remote gas pressure transmitters (4-20 mA signals), barriers pressure switches, UHF sensors, etc., as required			
vii	Outdoor 1 phase / 3 phase SF6 to air bushing for outdoor connection along with support structures, foundation for SF6 to air bushing as required <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i>			
viii	Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required			

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
63.4	<p>220 kV Transformer Module (For 220/110 kV or 220/66 kV Transformer) Metal encapsulated SF6 Gas Insulated Switchgear 50 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system</p> <p>i SF6 Circuit Breaker : Complete with operating mechanism, 2000 A, 1 phase / 3 phase : 1 no.</p> <p>ii Disconnecter : 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1600 A : 3 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 3 nos.</p> <p>iii Current Transformer : 3 core, multi ratio, single phase Current Transformer 600-300/1-1-1 A plus additional 2 cores of 1200/1-1 A : (1 set) 3 nos.</p> <p>iv Surge Arrestor : (To be provided at the end of SF6 ducts to be connected to SF6 Air bushing for Transformer bushing connection) : (1 set) 3 nos.</p> <p>v Bus Bar : Double Bus arrangement Main Bus : 3000 A Auxiliary Bus : 1600 A</p> <p>vi Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i></p> <p>vii Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.</p> <p>viii Single phase / three phase SF6 to Air bushing for outdoor connections along with support structure & foundation as required <i>Note: The bus may be with single phase or 3 phase enclosure</i></p>	No.	8537	1,99,96,460
63.5	<p>220 kV Bus Coupler Module Metal encapsulated SF6 Gas Insulated Switchgear 63 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system</p> <p>i SF6 Circuit Breaker : Complete with operating mechanism, 2000 A, 1 phase / 3 phase : 1 no.</p> <p>ii Disconnecter : 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1600 A : 2 nos.</p>	No.	8537	1,78,36,610

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
	<p>3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.</p> <p>Current Transformer : 3 core, multi ratio, single phase Current Transformer 1200-800/1-1-1 A plus additional 2 cores of 1200/1-1 A : (1 set) 3 nos.</p> <p>Bus Bar : Double Bus arrangement Main Bus : 3000 A</p> <p>Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors, etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i></p> <p>Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required</p>			
63.6	<p>220 kV PT Module (1 for each bus) Metal encapsulated SF6 Gas Insulated Switchgear 50 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system</p> <p>i Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism, 1600 A : 1 no.</p> <p>3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 1 no.</p> <p>ii Potential Transformer : 3 core, multi ratio, single phase Potential Transformer 220 kV/$\sqrt{3}$ / 110 V/$\sqrt{3}$ - 110 V/$\sqrt{3}$ - 110 V/$\sqrt{3}$: 1 set (3 nos.)</p> <p>iii Bus Bar : Double Bus arrangement Main Bus : 3000 A Auxiliary Bus : 1600 A</p> <p>Gas monitoring device, remote gas pressure transmitters (4-20 mA signals), barriers pressure switches, UHF sensors etc., as required</p>	No.	8537	48,33,950
63.7	<p>Bus Maintenance earth switch 3 phase, single pole, 50 kA, group operated maintenance earthing switch complete with manual operating mechanism 220 kV (1 for each bus)</p>	No.	8537	20,70,310
64	<p>110 kV</p> <p>110 kV Line (UG Cable) Module Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system.</p>	No.	8537	1,50,07,630

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
i	SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 1 Phase / 3 Phase : 1 no.			
ii	Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 3 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos. 3 Phase, single pole, fast acting, fault make earthing switch complete with group operated manual & motor driven operating mechanism : 1 no.			
iii	Current Transformer : 3 core, multi ratio, single phase Current Transformer 800-400/1-1-1 A : 1 set (3 nos.)			
iv	Surge Arrestor (96 kV) : 1 set (3 nos.)			
v	Cable end unit : (Plug in type) 3 phase, single pole, cable termination, 1 run for 630 Sq mm for each phase : 1 set			
vi	Bus Bar : Double Bus arrangement Main Bus : 2500 A Auxiliary Bus : 1250 A			
vii	Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barrier pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i>			
viii	Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.			
64.2	Transformer Module (For 220/110 kV Transformer) Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus bar system	No.	8537	1,36,70,580
i	SF6 Circuit Breaker : Complete with operating mechanism, 2000 A, 1 phase / 3 phase : 1 no.			
ii	Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1600 A : 3 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 3 nos.			

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
iii	Current Transformer : 3 core, multi ratio, single phase Current Transformer 1600-1000/1-1-1 A : (1 set) 3 nos.			
iv	Surge Arrestor : To be provided at the end of SF6 ducts to be connected to SF6 to Air bushing for Transformer bushing connection) : 3 nos. (1 set)			
v	Bus Bar : Double Bus arrangement Main Bus : 3000 A Auxiliary Bus : 1600 A			
vi	Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i>			
vii	Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.			
viii	Single phase / three phase SF6 to Air bushing for outdoor connections along with support structure & foundation as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure</i>			
64.3	110 kV Transformer Module (For 110/11 kV Transformer) Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system.	No.	8537	1,36,70,580
i	SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 1 phase / 3 phase : 1 no.			
ii	Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 3 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 3 nos.			
iii	Current Transformer : 3 core, multi ratio, single phase Current Transformer 200-100/1-1-1 A (1 set) : 3 nos.			
iv	Surge Arrestor (96 kV) : 1 set (3 nos.)			
v	Bus Bar : Double Bus arrangement Main Bus : 2500 A Auxiliary Bus : 1250 A			
vi	Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i>			

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
vii	Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.			
viii	Cable end unit : (Plug in type) 3 phase, single pole, cable termination, 1 run for 630 Sq mm for each phase : 1 set			
64.4	<p>110 kV Transformer Module (For 110/11 kV Transformer) Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system.</p> <p>i SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 1 phase / 3 phase : 1 no.</p> <p>ii Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 3 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 3 nos.</p> <p>iii Current Transformer : 3 core, multi ratio, single phase Current Transformer 200-100/1-1-1 A (1 set) : 3 nos.</p> <p>iv Surge Arrestor (96 kV) : 1 set (3 nos.)</p> <p>v Bus Bar : Double Bus arrangement Main Bus : 2500 A Auxiliary Bus : 1250 A</p> <p>vi Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i></p> <p>vii Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.</p> <p>viii Single phase / three phase SF6 to Air bushing for outdoor connections along with support structure & foundation as required</p>	No.	8537	1,36,70,580
64.5	<p>110 kV Bus Coupler Module : UG Cable Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system.</p> <p>i SF6 Circuit Breaker : Complete with operating mechanism, 2000 A, 1 phase / 3 Phase : 1 no.</p>	No.	8537	64,35,990

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
ii	<p>Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 2 nos.</p> <p>3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.</p>			
iii	<p>Current Transformer : 3 core, multi ratio, single phase Current Transformer, 800-400/1-1-1 A : 1 set (3 nos.)</p>			
iv	<p>Bus Bar : Double Bus arrangement Main Bus : 2500 A Auxiliary Bus : 1250 A</p>			
v	<p>Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i></p>			
vi	<p>Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.</p>			
64.6	<p>110 kV Bus Sectionalising Module Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following :</p>	No.	8537	64,35,990
i	<p>Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 2000 A : 1 no.</p>			
ii	<p>Bus Bar : Double Bus arrangement Main Bus : 2000 A</p>			
iii	<p>Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i></p>			
iv	<p>Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.</p>			
64.7	<p>110 kV PT Module Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system.</p>	No.	8537	32,63,370
i	<p>Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 1 no.</p>			

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
	<p>3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 1 no.</p> <p>Potential Transformer : 3 core, multi ratio, single phase Potential Transformer 110 kV/$\sqrt{3}$ / 110 V/$\sqrt{3}$ - 110 V/$\sqrt{3}$: 1 set / 3 nos.</p> <p>Bus Bar : Double Bus arrangement Main Bus : 2500 A Auxiliary Bus : 1250 A</p> <p>Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i></p> <p>Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.</p>			
64.8	<p>110 kV Line (UG Cable) Module Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Single Bus-bar system.</p> <p>SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 1 phase / 3 phase : 1 no.</p> <p>Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 3 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos. 3 Phase, single pole, fast acting, fault make earthing switch complete with group operated manual & motor driven operating mechanism : 1 no.</p> <p>Current Transformer : 3 core, multi ratio, single phase Current Transformer 800-400/1-1-1 A : 1 set (3 nos.)</p> <p>Surge Arrestor (96 kV) : 1 set (3 nos.)</p> <p>Cable end unit : (Plug in type) 3 phase, single pole, cable termination, 1 run for 630 Sq mm for each phase : 1 set</p> <p>Bus Bar : Single Bus arrangement Main Bus : 2500 A Auxiliary Bus : 1200 A</p> <p>Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i></p>	No.	8537	1,20,06,830

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
viii	Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.			
64.9	<p>110 kV Transformer Module (For 110/11 kV Transformer) Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Single Bus-bar system.</p> <p>i SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 1 phase / 3 phase : 1 no.</p> <p>ii Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 2 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.</p> <p>iii Current Transformer : 3 core, multi ratio, single phase Current Transformer 200-100/1-1-1 A : (1 set) 3 nos.</p> <p>iv Surge Arrestor (60 kV) : 1 set (3 nos.)</p> <p>v Bus Bar : Single Bus arrangement Main Bus : 2500 A Auxiliary Bus : 1250 A</p> <p>vi Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i></p> <p>vii Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.</p> <p>viii Cable end unit : (Plug in type) 3 phase, single pole, cable termination, 1 run for 630 Sq mm for each phase : 1 set</p>	No.	8537	1,09,37,190
64.10	<p>110 kV Transformer Module (For 110/11 kV Transformer) Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Single Bus-bar system</p> <p>i SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 1 phase / 3 phase : 1 no.</p> <p>ii Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 2 nos.</p>	No.	8537	1,09,37,190

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
	<p>3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.</p> <p>Current Transformer : 3 core, multi ratio, single phase Current Transformer 200-100/1-1-1 A : (1 set) 3 nos.</p> <p>Surge Arrestor (60 kV) : 1 set (3 nos.)</p> <p>Bus Bar : Single Bus arrangement Main Bus : 2500 A Auxiliary Bus : 1250 A</p> <p>Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i></p> <p>Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.</p> <p>Single phase / three phase SF6 to Air bushing for outdoor connections along with support structure & foundation as required</p>			
64.11	<p>Bus Maintenance earth switch, 3 phase, single pole, 40 kA, group operated maintenance earthing switch complete with manual operating mechanism 110 kV (1 for each bus)</p>	No.	8537	13,10,430
65	<p>66 kV</p> <p>66 kV Line (UG Cable) Module Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system</p> <p>SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 1 phase / 3 phase : 1 no.</p> <p>Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 2 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos. 3 Phase, single pole, fast acting, fault make earthing switch complete with group operated manual & motor driven operating mechanism : 1 no.</p> <p>Current Transformer : 3 core, multi ratio, single phase Current Transformer 1200-800/1-1-1 A : 1 set (3 nos.)</p>	No.	8537	1,50,07,630

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
iv	Surge Arrestor (60 kV) : 1 set (3 nos.)			
v	Cable end unit : (Plug in type) 3 phase, single pole, cable termination, 1 run for 630/1000 Sq mm for each phase : 1 set			
vi	Bus Bar : Double Bus arrangement Main Bus : 2500 A Auxiliary Bus : 1600 A			
vii	Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i>			
viii	Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.			
65.2	Transformer Module (For 100/150 MVA : 66 kV side) Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system	No.	8537	1,36,70,580
i	SF6 Circuit Breaker : Complete with operating mechanism, 2000 A, 1 phase / 3 phase : 1 no.			
ii	Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1600 A : 3 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 3 nos.			
iii	Current Transformer : 3 core, multi ratio, single phase Current Transformer 1600-1000/1-1-1 A : (1 set) 3 nos.			
iv	Surge Arrestor : To be provided at the end of SF6 ducts to be connected to SF6 to Air bushing for Transformer bushing connection) : 3 nos. (1 set)			
v	Bus Bar : Double Bus arrangement Main Bus : 3000 A Auxiliary Bus : 1600 A			
vi	Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i>			
vii	Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.			

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
viii	Single phase / three phase SF6 to Air bushing for outdoor connections along with support structure & foundation as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure</i>			
65.3	<p>66 kV Transformer Module (For 66/11 kV Transformer) Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system</p> <p>i SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 1 phase / 3 phase : 1 no.</p> <p>ii Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 3 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.</p> <p>iii Current Transformer : 3 core, multi ratio, single phase Current Transformer 400-200/1-1-1 A : (1 set) 3 nos.</p> <p>iv Surge Arrestor (60 kV) : 1 set (3 nos.)</p> <p>v Bus Bar : Double Bus arrangement Main Bus : 2500 A Auxiliary Bus : 1250 A</p> <p>vi Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i></p> <p>vii Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.</p> <p>viii Cable end unit : (Plug in type) 3 phase, single pole, cable termination, 1 run for 630 Sq mm for each phase : 1 set</p>	No.	8537	1,36,70,580
65.4	<p>66 kV Transformer Module (For 66/11 kV Transformer) Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system</p> <p>i SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 1 phase / 3 phase : 1 no.</p>	No.	8537	1,36,70,580

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
ii	<p>Disconnecter</p> <p>3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 3 nos.</p> <p>3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.</p>			
iii	<p>Current Transformer : 3 core, multi ratio, single phase Current Transformer 400-200/1-1-1 A : (1 set) 3 nos.</p>			
iv	<p>Surge Arrestor (60 kV) : 1 set (3 nos.)</p>			
v	<p>Bus Bar : Double Bus arrangement Main Bus : 2500 A Auxiliary Bus : 1250 A</p>			
vi	<p>Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i></p>			
vii	<p>Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.</p>			
viii	<p>Single phase / three phase SF6 to Air bushing for outdoor connections along with support structure & foundation as required</p>			
65.5	<p>66 kV Bus Coupler Module : UG Cable Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system</p>	No.	8537	64,35,990
i	<p>SF6 Circuit Breaker : Complete with operating mechanism, 2000 A, 1 phase / 3 phase : 1 no.</p>			
ii	<p>Disconnecter</p> <p>3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1600 A : 2 nos.</p> <p>3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.</p>			
iii	<p>Current Transformer : 3 core, multi ratio, single phase Current Transformer 1600-1000/1-1-1 A : 1 set / 3 nos.</p>			
iv	<p>Bus Bar : Double Bus arrangement Main Bus : 2500 A Auxiliary Bus : 1600 A</p>			

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
v	Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i>			
vi	Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.			
65.6	66 kV Bus Sectionalising Module Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following :	No.	8537	64,35,990
i	Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 2000 A : 1 no.			
ii	Bus Bar : Double Bus arrangement Main Bus : 2000 A			
iii	Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i>			
iv	Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.			
65.7	66 kV PT Module Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Double Bus-bar system	No.	8537	32,63,370
i	Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A for 66 kV : 1 no. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 1 no.			
ii	Potential Transformer : 3 core, multi ratio, single phase Potential Transformer 66 kV voltage class : 1 set / 3 nos.			
iii	Bus Bar : Double Bus arrangement Main Bus : 2500 A Auxiliary Bus : 1250 A			

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
iv	Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i>			
v	Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.			
65.8	<p>66 kV Line (UG Cable) Module Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Single Bus-bar system</p> <p>i SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 1 phase / 3 phase : 1 no.</p> <p>ii Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 2 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos. 3 Phase, single pole, fast acting, fault make earthing switch complete with group operated manual & motor driven operating mechanism : 1 no.</p> <p>iii Current Transformer : 3 core, multi ratio, single phase Current Transformer 1200-800/1-1-1 A - 1 Set (3 nos.)</p> <p>iv Surge Arrestor (60 kV) : 1 set (3 nos.)</p> <p>v Cable end unit : (Plug in type) 3 phase, single pole, cable termination, 1 run for 630/1000 Sq mm for each phase : 1 set</p> <p>vi Bus Bar : Single Bus arrangement Main Bus : 2500 A Auxiliary Bus : 1600 A</p> <p>vii Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i></p> <p>viii Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.</p>	No.	8537	1,20,06,830

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
65.9	<p>66 kV Transformer Module (For 66/11 kV Transformer) Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Single Bus-bar system</p> <p>i SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 1 phase / 3 phase : 1 no.</p> <p>ii Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 3 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.</p> <p>iii Current Transformer : 3 core, multi ratio, single phase Current Transformer 400-200/1-1-1 A : (1 set) 3 nos.</p> <p>iv Surge Arrestor (60 kV) : 1 set (3 nos.)</p> <p>v Bus Bar : Single Bus arrangement Main Bus : 2500 A Auxiliary Bus : 1250 A</p> <p>vi Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure.</i></p> <p>vii Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.</p> <p>viii Cable end unit : (Plug in type) 3 phase, single pole, cable termination, 1 run for 630 Sq mm for each phase : 1 set</p>	No.	8537	1,09,37,190
65.10	<p>66 kV Transformer Module (For 66/11 kV Transformer) Metal encapsulated SF6 Gas Insulated Switchgear 40 kA rating suitable for indoor installation of modular design comprising the following : Suitable for Single Bus-bar system.</p> <p>i SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 1 phase / 3 phase : 1 no.</p> <p>ii Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 3 nos.</p>	No.	8537	1,09,37,190

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
	<p>3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.</p> <p>Current Transformer : 3 core, multi ratio, single phase Current Transformer 400-200/1-1-1 A : (1 set) 3 nos.</p> <p>Surge Arrestor (60 kV) : 1 set (3 nos.)</p> <p>Bus Bar : Single Bus arrangement</p> <p>Main Bus : 2500 A Auxiliary Bus : 1250 A</p> <p>Gas monitoring device, remote gas pressure transmitters (4-20 mA signals) barriers pressure switches, UHF sensors etc., as required. <i>Note: The bus and the equipment may be with single phase or 3 phase enclosure</i></p> <p>Control cables / power cables / twisted pair screened cables etc., (FRLS type) from GIS module to LCC panel as per technical specification as required.</p> <p>Single phase / three phase SF6 to Air bushing for outdoor connections along with support structure & foundation as required</p>			
65.11	<p>Bus Maintenance earth switch, 3 phase, single pole, 40 kA, group operated maintenance earthing switch complete with manual operating mechanism</p> <p>66 kV (1 for each bus)</p>	No.	8537	13,10,430
66	<p>GAS INSULATED BUS-DUCTS :</p> <p>400 kV, single phase, 3150 A SF6 duct outside the GIS building including SF6 gas monitoring system including support structure and civil foundation (excluding SF6 - Air bushing)</p> <p>220 kV, single phase, 2500 A, 50 kA SF6 duct outside the GIS building including SF6 gas monitoring system for connecting GIS module to SF6 - Air bushing including support structure and civil foundation</p> <p>220 kV, three phase, 2500 A, 50 kA SF6 duct outside the GIS building including SF6 gas monitoring system for connecting GIS module to SF6 - Air bushing including support structure and civil foundation</p> <p>110 kV, 2500 A, 40 kA SF6 duct outside the GIS building including SF6 gas monitoring system for connecting GIS module to SF6 - Air bushing including support structure and civil foundation</p>		8537	
66.1	400 kV, single phase, 3150 A SF6 duct outside the GIS building including SF6 gas monitoring system including support structure and civil foundation (excluding SF6 - Air bushing)	m		1,11,320
66.2	220 kV, single phase, 2500 A, 50 kA SF6 duct outside the GIS building including SF6 gas monitoring system for connecting GIS module to SF6 - Air bushing including support structure and civil foundation	m		1,01,640
66.3	220 kV, three phase, 2500 A, 50 kA SF6 duct outside the GIS building including SF6 gas monitoring system for connecting GIS module to SF6 - Air bushing including support structure and civil foundation	m		2,03,280
66.4	110 kV, 2500 A, 40 kA SF6 duct outside the GIS building including SF6 gas monitoring system for connecting GIS module to SF6 - Air bushing including support structure and civil foundation	m		1,63,350

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
66.5	66 kV, 2500 A, 40 kA SF6 duct outside the GIS building including SF6 gas monitoring system for connecting GIS module to SF6 - Air bushing including support structure and civil foundation	m		1,63,350
66.6	400 kV, 3150 A, 63 kA SF6 - Air bushing for connecting GIS to AIS including support structure and civil foundation	No.		7,67,140
67	Local Control Cubicle (LCC) as per technical specification for each GIS Module of all voltage classes	No.	8537	4,02,930
68	SF6 gas filling, evacuating, filtering, drying, pumping and storage plant with spares for 5 yrs	Set	8421	40,92,220

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
69	<p>HYBRID SWITCHGEAR :</p> <p>Hybrid SF6 Gas Insulated Switchgear 50 kA rating suitable for outdoor installation of modular design with mounting structures comprising the following : Suitable for Double Bus-bar system</p>			
	<p>69.1 220 kV Line Module</p> <p>69.1.1 SF6 Circuit Breaker : Complete with operating mechanism, 2500 A, 1 phase / 3 phase : 1 no.</p> <p>69.1.2 Disconnector & Earthing switch</p> <p>3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 2500 A : 3 nos.</p> <p>3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 1 no.</p> <p>3 Phase, single pole, fast acting, fault make earthing switch complete with group operated manual & motor driven operating mechanism : 1 no.</p> <p>69.1.3 Current Transformer : 3 core, multi ratio, single phase Current Transformer 3000-2000/1-1-1 A plus additional 2 cores of 3000/1-1 A : (1 set) 3 nos.</p> <p>69.1.4 Auxiliary Bus : 2500 A</p> <p>SF6 to Air bushing, 2500 A on both line side & bus-bar side : 2 sets (3 nos. each) along with terminal connector suitable for Double Moose ACSR</p>	No.	8537	1,76,09,130
69.2	<p>Transformer Module (For 220/66 kV Transformer)</p> <p>69.2.1 SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 1 phase / 3 phase - 1 no.</p> <p>69.2.2 Disconnector</p> <p>3 phase, single pole, group operated isolator switch complete with manual and motor driven operating mechanism 1250 A : 3 nos.</p> <p>3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.</p> <p>69.2.3 Current Transformer : 3 core, multi ratio, single phase Current Transformer 800-600-400-300/1-1-1 A plus additional 2 cores of 800/1-1 A : (1 set) 3 nos.</p> <p>69.2.4 Auxillary Bus : 1250 A</p> <p>SF-6 to Air bushing of 1250 A on both line side and bus bar side : 3 sets (3 nos. each) along with terminal connector suitable for Drake ACSR conductor</p>	No.	8537	1,63,96,710

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
69.3	220 kV Bus Coupler Module	No.	8537	1,35,04,810
i	SF6 Circuit Breaker : Complete with operating mechanism , 2500 A, 1 phase / 3 phase : 1 no.			
ii	Disconnecter 3 phase, single pole, group operated isolator switch complete with manual and motor driven operating mechanism 2500 A : 2 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 1 no.			
iii	Current Transformer : 3 core, multi ratio , single phase Current Transformer 3000-2000/1-1-1 A plus additional 2 cores of 3000/1-1A : (1 set) 3 nos.			
iv	Auxiliary Bus : 2500 A			
v	SF-6 to Air bushing, 2500 A on both bus bars side : 2 sets (3 nos. each) along with terminal connector suitable for Drake ACSR Conductor			
70	Hybrid SF6 Gas Insulated Switchgear 50 kA rating suitable for outdoor installation of modular design with mounting structures comprising the following : Suitable for Single Bus-bar system			
70.1	220 kV Line Module	No.	8537	1,40,86,820
i	SF6 Circuit Breaker : Complete with operating mechanism, 2500 A, 1 phase / 3 phase : 1 no.			
ii	Disconnecter & Earthing switch 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 2500 A : 2 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 1 no. 3 Phase, single pole, fast acting, fault make earthing switch complete with group operated manual & motor driven operating mechanism : 1 no.			
iii	Current Transformer : 3 core, multi ratio, single phase Current Transformer 3000-2000/1-1-1 A plus additional 2 cores of 3000/1-1 A : (1 set) 3 nos.			
iv	Auxiliary Bus : 2500A			
v	SF6 to Air bushing, 2500 A on both line side & bus-bar side : 2 sets (3 nos. each) along with terminal connector suitable for Double Moose ACSR			

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
70.2	220 kV Transformer Module	No.	8537	1,31,17,610
i	SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 1 phase / 3 phase : 1 no.			
ii	Disconnecter 3 phase, single pole, group operated isolator switch complete with manual and motor driven operating mechanism 1250 A : 2 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.			
iii	Current Transformer : 3 core, multi ratio, single phase Current Transformer 800-600-400-300/1-1-1 A plus additional 2 cores of 800/1-1 A : (1 set) 3 nos.			
iv	Auxillary Bus : 1250 A			
v	SF-6 to Air bushing of 1250 A on both line side and bus bar side : 2 sets (3 nos. each) along with terminal connector suitable for Drake ACSR Conductor			
71	Hybrid SF6 Gas Insulated Switchgear 40 kA rating suitable for outdoor installation of modular design with mounting structure comprising the following : Suitable for Single Bus-bar system			
71.1	110 kV Line Module	No.	8537	87,42,250
i	SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 3 phase : 1 no.			
ii	Disconnecter & Earthing switch 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 2 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 1 no. 3 Phase, single pole, fast acting, fault make earthing switch complete with group operated manual & motor driven operating mechanism : 1 no.			
iii	Current Transformer : 3 core, multi ratio, single phase Current Transformer 1000-600/1-1-1 A : 1 set (3 nos.)			
iv	Auxiliary Bus : 1250 A			
v	SF6 to Air bushing, 1250 A on both line side 1 set & bus bar side 2 sets (3 nos. each) along with terminal connector suitable for Drake ACSR			

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
71.2	110 kV Transformer Module (For 110/11 kV Transformer)	No.	8537	76,50,830
i	SF6 Circuit Breaker : Complete with operating mechanism, 1600 A, 1 phase / 3 phase : 1 no.			
ii	Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A - 2 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.			
iii	Current Transformer : 3 core, multi ratio, single phase Current Transformer 400-200/1-1-1 A : (1 set) 3 nos.			
iv	Auxiliary Bus : 1250 A			
v	SF6 to Air bushing of 1250 A on both transformer side & bus-bar side : 2 sets (3 nos. each) along with terminal connector suitable for Drake ACSR conductor			
72	Hybrid SF6 Gas Insulated Switchgear 40 kA rating suitable for outdoor installation of modular design with mounting structure comprising the following : Suitable for Double Bus-bar system			
72.1	66 kV Line Module	No.	8537	1,09,27,510
i	SF6 Circuit Breaker : Complete with operating mechanism, 1250 A, 3 phase : 1 no.			
ii	Disconnecter & Earthing switch 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 3 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 1 no. 3 Phase, single pole, fast acting, fault make earthing switch complete with group operated manual & motor driven operating mechanism : 1 no.			
iii	Current Transformer : 3 core, multi ratio, single phase Current Transformer 1200-800/1-1-1 A : 1 set (3 nos.)			
iv	Auxiliary Bus : 1250 A			
v	SF6 to Air bushing, 1250 A on both bus-bars side : 3 sets (3 nos. each) along with terminal connector suitable for Drake ACSR			

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
72.2	66 kV Transformer Module (For 220/110 kV and 220/66 kV Transformer)	No.	8537	95,63,840
i	SF6 Circuit Breaker : Complete with operating mechanism, 2000 A, 1 phase / 3 phase : 1 no.			
ii	Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1600 A : 3 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.			
iii	Current Transformer : 3 core, multi ratio, single phase Current Transformer 1600-1000/1-1-1 A : (1 set) 3 nos.			
iv	Auxiliary Bus : 1600 A			
v	SF6 to Air bushing of 1600 A on both transformer side & bus-bars side : 3 sets (3 nos. each) along with terminal connector suitable for Drake ACSR conductor			
72.3	66 kV Transformer Module (For 66/11 kV Transformer)	No.	8537	95,63,840
i	SF6 Circuit Breaker : Complete with operating mechanism, 1250 A, 1 phase / 3 phase : 1 no.			
ii	Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 3 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.			
iii	Current Transformer : 3 core, multi ratio, single phase Current Transformer 400-200/1-1-1 A : (1 set) 3 nos.			
iv	Auxiliary Bus : 1250 A			
v	SF6 to Air bushing of 1250 A on both transformer side & bus-bars side : 3 sets (3 nos. each) along with terminal connector suitable for Drake ACSR conductor			
72.4	66kV Bus Coupler Module	No.	8537	87,42,250
i	SF6 Circuit Breaker : Complete with operating mechanism, 2000 A, 1 phase / 3 phase : 1 no.			
ii	Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1600 A : 2 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 1 no.			
iii	Current Transformer : 3 core, multi ratio, single phase Current Transformer 1600-1000/1-1-1 A : (1 set) 3 nos.			

Sl. No.	Supply of Materials	Unit	HSN Code	Amount in Rs.
	iv Auxiliary Bus : 1600 A SF6 to Air bushing, 1600 A on both bus-bars side : 2 sets (3 nos. each) along with terminal connector suitable for Double Drake ACSR			
73	Hybrid SF6 Gas Insulated Switchgear 40 kA rating suitable for outdoor installation of modular design with mounting structure comprising the following : Suitable for Single Bus-bar system			
	73.1 66 kV Line Module	No.	8537	87,42,250
	i SF6 Circuit Breaker : Complete with operating mechanism, 1250 A, 3 phase : 1 no.			
	ii Disconnecter & Earthing switch 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 2 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 1 no. 3 Phase, single pole, fast acting, fault make earthing switch complete with group operated manual & motor driven operating mechanism : 1 no.			
	iii Current Transformer : 3 core, multi ratio, single phase Current Transformer 1200-800/1-1-1 A : 1 set (3 nos.)			
	iv Auxiliary Bus : 1250 A SF6 to Air bushing, 1250 A on both line side & bus-bars side : 2 sets (3 nos. each) along with terminal connector suitable for Drake ACSR			
	73.2 66 kV Transformer Module (For 66/11 kV Transformer)	No.	8537	76,50,830
	i SF6 Circuit Breaker : Complete with operating mechanism, 1250 A, 1 phase / 3 phase : 1 no.			
	ii Disconnecter 3 Phase, single pole, group operated isolator switch complete with manual & motor driven operating mechanism 1250 A : 2 nos. 3 Phase, single pole, group operated maintenance earthing switch complete with manual operating mechanism : 2 nos.			
	iii Current Transformer : 3 core, multi ratio, single phase Current Transformer 400-200/1-1-1 A : (1 set) 3 nos.			
	iv Auxiliary Bus : 1250 A SF6 to Air bushing of 1250 A on both transformer side & bus-bars side : 2 sets (3 nos. each) along with terminal connector suitable for Drake ACSR conductor			
	v			

Part - II

Rates for Labour of Major Works

(Rates are exclusive of GST)

PART-II: Rates for Labour of Major Works

(Exclusive of GST)

(Rates for dismantling of materials/equipment shall be considered same as that of erection)

Sl. No.	Description	Unit	Amount in Rs.					
			400 kV	220 kV	110 kV	66 kV	33 kV	
1	1.1	Towers						
	a	Sorting of tower parts made of fabricated angle iron	t	433				
	b	Setting up of stub templates and aligning, dismantling and transportation of templates from one location to another location	per Loc	1,266	1,266	887	705	
	c	Assembling and erection of towers including tightening of bolts and nuts including loading, unloading at store and site (Including the weight of stubs)	t	5,723				
	d	Rivetting of tower bolt ends by heating using dry-acetylene gas and hammering to destroy threads so as to make the tower members theft - proof (Bolts at nodal points only to be selected and rivetted up to height of bottom cross arm as per the directions of the Field Engineer)	per Bolt	22				
	e	Welding of bolts and nuts	per Bolt	22				
	1.2	Erection of Monopole Tower	t	15,125				
2	Supplying and fixing AC devices							
	a	Supplying and fixing G.I. Angle iron 45 x 45 x 5 mm (1 m length) with cleats, bolt & nuts as per specification and fixing above 0.5 m length each at inner and outer surface of the tower to facilitate running of barbed wire	per set	4,121				
b	Supplying and fixing barbed wire as per specification	m	76					
3	Fixing of Boards							
	a	Fixing Danger Board	No.	80				
	b	Fixing Number Plate	No.	80				
	c	Fixing Phase Plate	Set (3 Nos.)	238				
d	Fixing Circuit plate	No.	80					

Sl. No.	Description	Unit	Amount in Rs.					
			400 kV	220 kV	110 kV	66 kV	33 kV	
4	Stringing of ACSR Conductor / HPC without allowing the conductor to touch the ground and without damaging the conductor							
	a	Paving out conductor from anchor to anchor normally spaced at 5 spans with 4 tangent towers in between, including providing stays at each anchor points and jointing of conductors, hoisting and fixing of insulator string, armour rods, vibration dampers, including the cost of T&P materials like comealong, wire ropes, pulley, rollers, suspension clamps, compression jointing machines with bits, drum stands, manila ropes, truckker and jeep etc.,		QUAD conductor	TWIN conductor	per conductor		
		m	110	47	13	8	8 (Coyote ACSR)	
		Stringing of ground conductor as above			for 2 peaks			
b	m	23	11	11	11			
5	I	These rates are applicable only when total length of the entire Line is less than 3 spans						
	A	Stringing of conductors in special conditions where normal 5 spans between anchor to anchor are not encountered, whereas anchors are provided at single/two/three spans with average span intervals of 267/320 metres (rate for spans of single conductor)						
	i	Anchoring single span upto 320 metres	1 Span		17,478	7,917	8,742 with Coyote ACSR	
	ii	Anchoring 2 span interval upto 640 metres with 1 tangent tower only	2 Spans		21,834	10,158	11,193 with Coyote ACSR	
	iii	Anchoring 3 span interval upto 960 metres with two tangent towers only	3 Spans		26,190	12,237	12,537 with Coyote ACSR	
	B	Stringing of ground conductor as above						
	i	Anchoring single span upto 320 metres	1 Span		5,693	4,554		
	ii	Anchoring 2 span interval upto 640 metres with 1 tangent tower only	2 Spans		7,122	5,640		
	iii	Anchoring 3 span interval upto 960 metres with two tangent towers only	3 Spans		8,568	6,832		
	II	Rates for short span stringing in normal length of the Line of more than 3 spans comprising of short spans						
A	Stringing of conductors in special conditions where normal 5 spans between anchor to anchor are not encountered, where as anchors are provided at single/two/three spans with average span intervals of 275/320 metres (rate for spans of single conductor)							
i	Anchoring single span upto 320 metres	1 Span		2,621	1,193	1,304 with Coyote ACSR		

Sl. No.	Description	Unit	Amount in Rs.				
			400 kV	220 kV	110 kV	66 kV	33 kV
ii	Anchoring 2 span interval upto 640 metres with 1 tangent tower only	2 Spans		4,374	2,024	2,126 with Coyote ACSR	
	Anchoring 3 span interval upto 960 metres with two tangent towers only	3 Spans		6,542	3,054	3,146 with Coyote ACSR	
B	Stringing of ground conductor as above						
i	Anchoring single span upto 320 metres	1 Span		849	687	560	
ii	Anchoring 2 span interval upto 640 metres with 1 tangent tower only	2 Spans		1,428	1,428	904	
iii	Anchoring 3 span interval upto 960 metres with two tangent towers only	3 Spans		2,422	1,717	1,319	
C	Replacement of Insulators						
i	Replacement of Insulators for Anchor Towers	per Insulator	249	172	172	172	
ii	Replacement of Insulators for Suspension Towers	per Insulator	133	93	93	93	
6	Grounding of Towers/Equipment		Material + Labour				
a	Grounding of towers including cost of 40 mm dia 2.5 mm thick, class 'C' G.I. Pipe of 3 metres length as per specification with 50 X 6 mm GI Flats 3 metre long, salt, charcoal, including excavation charges	Set	5,224 + 2,111				
b	Grounding of towers/equipment excluding the cost of G.I. Pipe/C.I. Pipe as per specification with 50 X 6 mm G.I. Flat 3 metre long (to be supplied departmentally). But salt & charcoal to be supplied by the contractor. The rates include excavation charges	Set	1,370 + 1,445				
c	Grounding of equipment by providing cast iron pipe of 100 mm ID 13 mm thickness, 2.75 metre long with 2 part clamp out of G.I. Flat 50 X 6 mm continuously welded around the pipe using cast iron welding electrodes as per drawing including the cost of excavation (All materials to be supplied by the contractor)	Set	12,792 + 3,491				
Note : All the leads from earthmat & equipment should be connected to earth electrode through the GI Flat 50 x 6 mm of suitable length and welded as per specification							

Sl. No.	Description	Unit	Amount in Rs.				
			400 kV	220 kV	110 kV	66 kV	33 kV
7	Supplying and fixing of counter poise earthing with G.I. Stranded wire where hard rock is encountered as per specification (including excavation charges)	per Loc	4,464 + 3,991				
8	Station Structure						
a	Erection, assembly and alignment of Station structure as per the directions of site Engineer	t	5,723				
b	Erection, alignment & assembly of fabricated steel lattice structure, pedestal structures & mounting structures for GOS, CTs, PTs, LAs etc.,	t	5,723				
9	Erection of Transformer						
a	Moving the Transformer to the plinth. Maximum allowable distance is 50 metre (More than 50 metre, approval of D(T) has to be obtained)	per t/m	80				
b	Assembly of Transformer parts like bushings, radiators, filling oil into Tr. etc., for the total weight of the Tr.	t	1,134				
c	Filling oil to the Power Tr. Conservator and radiator (for maintenance purpose only)						
	For 5 MVA to 31.5 MVA Tr.	L	4				
	For 50 MVA & above with vaccum	L	5				
d	Filtration of oil using filter set of the contractor to bring the insulation value to I.E. specification	L	7				
e	Filtering Oil as above but with the filter set supplied by the Board	L	4				
f	Wiring of Transformer marshalling box, bucholtz relay, fixing thermometer, OLTC upto control panel and assisting in testing and commissioning by RT/MT/Firm Engineers						
i	5 MVA to 6.3/8 MVA Tr.	per transformer	6,708				
ii	10 MVA to 20 MVA Tr.	per transformer	13,471				
iii	Above 20 MVA Tr.	per transformer	22,409				
10	Fabrication of Transformer railing and embedding in Transformer plinth (Rails to be supplied by the Agency)	Set	1,626				
11	Fixing of HT fuse units & wiring	per Set	1,897				

Sl. No.	Description	Unit	Amount in Rs.				
			400 kV	220 kV	110 kV	66 kV	33 kV
12	Testing & Commissioning of Power Transformers		100/150/167/315/ 500 MVA		20MVA/ 31.5MVA/ 12.5MVA		5/6.3/ 8/10 MVA
	a Inspection of wires and ferrules. Inspection of wiring of protective devices, cooling fans, oil flow pumps, OLTC, RTCC, bushing etc.,	per transformer	17,108		14,180		14,180
	b Testing : 1. Ratio Test 2. SC Test 3. Excitation Current Test/ Highpot Test 4. Magnetic Balance Test 5. Vector Group Test 6. Induced High Voltage Test 7. OLTC Operation - Local and Remote 8. Protective Devices Operation Checks 9. Stability Checks : For Differential & REFR Protection 10. Winding Resistance Test 11. Insulation Resistance Test 12. Tan-Delta and Capacitance Test 13. Transformer mounted protective Devices 14. Sweep Frequency Response Analysis	per transformer	67,524		56,979		34,007
13	Erection of Breaker						
	a Breaker erection, assembly, alignment & interpole wiring of breakers with its connected equipment including movement from the point of unloading to the point of erection	per Set	31,170	16,396	10,815	8,652	5,934
	b Assisting in Testing and Commissioning	Set	7,812	4,632	3,877	2,897	1,938
	c Wiring: Identification, ferruling, crimping and termination of wires in Breaker limbs, marshalling box & wiring up to control panel/relay panels, extension of earth mat etc.,	Set	11,225	11,225	8,487	8,487	8,487
	Testing & Commissioning: Test for insulation level/IR value, gas leakage, testing for travel time (C, O & CO & OC), trip and close timings. Local trip close test, remote trip and close test, tripping through relays, operation of interlocks, contact resistance test etc., DCRM for 220 kV and above class	Set	44,222	44,222	33,813	33,813	33,813

Sl. No.	Description	Unit	Amount in Rs.						
			400 kV	220 kV	110 kV	66 kV	33 kV		
14	Erection of CTs and PTs								
	a	Erection of CTs and PTs and wiring including movement from the point of unloading to the point of erection	Set (3 Nos.)	38,906	9,696	6,394	4,515	2,199	
	b	Assisting in Testing and Commissioning of Current Transformer	Set (3 Nos.)	3,417	1,423	1,423	953	768	
	c	Testing & Commissioning of Current Transformer							
			Wiring: Inspection of wiring, ferruling, crimping of lugs, connections in CT, marshalling box & control panel, extension of earth mat etc.,	Set (3 Nos.)	5,870	5,870	2,837	2,837	2,837
			Testing and Commissioning of CT: Insulation resistance, polarity, ratio, excitation, Core identification, tan-delta & capacitance test.	Set (3 Nos.)	22,911	22,911	11,264	11,264	11,264
	d	Testing & Commissioning of Potential Transformers (Induction Type Voltage Transformer/ Capacitance Type Voltage Transformer)							
			Wiring: Inspection of wiring, ferruling, crimping of lugs, connections in PT, marshalling box & control panel, extension of earth mat etc.,	Set (3 Nos.)	2,827	2,827	2,827	2,827	2,827
			Testing and Commissioning of PT: Insulation resistance, polarity, ratio, excitation, Core identification, tan-delta & capacitance test	Set (3 Nos.)	11,370	11,370	11,370	11,370	11,370
	15	Erection of NCTs							
a		Erection of NCTs including movement from the point of unloading to the point of erection with grounding connections	Set		3,232	2,131	1,505	733	
b		Testing and Commissioning of NCTs: Insulation Resistance, Polarity, Ratio, Excitation, Core Identification, Tan-Delta and Capacitance Test)	Set	6,178	6,178	6,178	6,178	4,545	
c		Assisting in Testing and Commissioning	Set	191	191	191	191	99	

Sl. No.	Description	Unit	Amount in Rs.					
			400 kV	220 kV	110 kV	66 kV	33 kV	
16	Erection of CVT 400 kV class for all type of ratios							
	Erection of CVT including movement from the point of unloading to the point of erection with grounding connections	Set	47,076					
17	Erection of Isolator							
	A	Assembly, erection, alignment and wiring including movement from the point of unloading to the point of erection						
	i	Upright	Set		7,191	8,701	4,293	1,319
	ii	Under hung	Set		10,815	7,532	4,534	
	B	Isolator: Double Break Type - 400 kV						
		Assembly, erection, alignment and wiring including movement from the point of unloading to the point of erection.	Set	18,824				
	C	Isolator: Pantograph/Centre Break/Horizontal Centre Break Type/Double Break /3-pole with one/two earth etc., for all types with and without earth switch upto 3150 A - 400 kV						
		Assembly, erection, alignment and wiring including movement from the point of unloading to the point of erection	Set	21,102				
	D	Isolator: Double Break Type/3-pole with one/two earth 1-pole tandem operated etc., (all type) with and without earth switch used in 400 kV Sub-station - 220 kV						
		Assembly, erection, alignment and wiring including movement from the point of unloading to the point of erection	Set		12,456			
E	Assisting in Testing and Commissioning							
i	Upright	Set	1,413	1,413	1,301	826	191	
ii	Under hung	Set	1,445	1,445	1,252	768		
18	Erection of Lightning Arrestor							
	Erection of Lightning Arrestor and wiring including movement from the point of unloading to the point of erection. Insulation resistance test, leakage current test, surge counter operation test	Set	3,026	1,700	1,332	733	333	
19	Fixing of Solid Core Insulator	per Stack		566	444	244	111	
20	Testing & Commissioning : Capacitor Bank with Reactors	Each			22,228	22,228	22,228	

Sl. No.	Description	Unit	Amount in Rs.					
			400 kV	220 kV	110 kV	66 kV	33 kV	
21	Installation of Bird Deflector / Diverter for Conductor & Earth Wire	No.	787					
22	Control Cables and UG Cables							
	a	Supplying & Laying cable trays including welding, fixing of supports						
	i	Cable tray of 600 mm width (suitable for cable ducts of A, B & C type)	m	628 + 436				
	ii	Cable tray of 300 mm width (suitable for cable duct of D type)	m	461 + 293				
	b	Laying of control cables from equipment to control panels	m	15				
	c	Laying of 11 kV cables in existing trench/G.I. pipe/stoneware pipe/RCC hume pipe using wooden/aluminium rollers as directed by KPTCL staff						
	i	Cables of sizes 3C x 95 to 3C x 150 Sq mm	m	72				
	ii	Cables of sizes 3C x 185 to 3C x 240 Sq mm	m	72				
	iii	Cables of sizes 3C x 300 to 3C x 400 Sq mm	m	72				
	iv	Cables of sizes 1C x 630 to 1C x 1000 Sq mm	m	72				
	d	Laying of earth continuity cable (sheath bonding cable)	m	27				
	e	Fixing of pot heads for HT cable only						
	i	Epoxy type	No.	2,938				
	ii	Heat shrinkable/Cold shrinkable/Pushon	No.	3,752				
	23	Control Panel						
a		Erection of control panel, auxiliary panel, carrier cabinet, marshalling bay kiosk etc., alignment and fixing properly to foundation base including movement from the point of unloading to the point of erection	per Panel	5,959	5,959	5,959	4,191	4,191
b		Assisting in testing and commissioning of panel (without SAS)	per Panel	7,612	7,612	7,612	7,612	7,612

Sl. No.	Description	Unit	Amount in Rs.					
			400 kV	220 kV	110 kV	66 kV	33 kV	
	c	Testing & Commissioning : C&R Panels Wiring & Testing						
		Wiring of C&R panels: Identification, ferruling, crimping, termination of wires in C&R panels (without SAS)	per Panel	11,418	11,418	8,510	8,510	8,510
		Testing of C&R panels: Testing for insulation level, testing of relays, control operations for closing tripping etc., interlock. Alarm annunciation & indication checks (without SAS)	per Panel	45,538	45,538	34,463	34,463	34,463
	d	Assisting in testing and commissioning of panel (with SAS)	per Panel	10,149	10,149	10,149	10,149	10,149
	e	Testing & Commissioning: C&R Panels Wiring & Testing						
		Wiring of C&R panels: Identification, ferruling, crimping, termination of wires in C&R panels (with SAS)	per Panel	20,299	20,299	15,224	15,224	15,224
		Testing of C&R panels: Testing for insulation level, testing of relays, control operations for closing tripping etc., interlock. Alarm annunciation & indication checks (with SAS)	per Panel	53,221	53,221	36,425	36,425	36,425
	f	Synchronising Trolley/Panel: Wiring, Testing, Calibration of meters & Testing for operation	Each	16,552				
	g	Bus Bar Protection Panel wiring & testing						
		Wiring: Identification, ferruling, crimping, termination of wires in Bus Bar protection panel	Each	Rs. 3,352 upto 3 bays, 1,433 for each additional bay .				
	Testing: 1. Testing of relays 2. Stability test	Each	Rs. 13,554 upto 3 bays, 5,793 for each additional bay					
	h	LTAC Panel	Set		5,660	3,207	3,207	
		ACDB	Set		2,466	2,466	2,466	
		DCDB	Set		2,466	2,466	2,466	
24	11 kV Switchgear							
	a	Erection, alignment and fixing to the foundation, indoor/outdoor 11 kV switchgear panel/unit including movement from the point of unloading to the point of erection						
	i	11 kV Indoor / Outdoor Switchgear	per Panel		2,081			
	ii	11 kV Kiosk	per Panel		2,081			

Sl. No.	Description	Unit	Amount in Rs.				
			400 kV	220 kV	110 kV	66 kV	33 kV
b	Wiring & Assisting in Testing and Commissioning						
	i	11 kV Indoor / Outdoor Switchgear	per Panel		941		
	ii	11 kV Kiosk	per Panel		941		
	c	Testing & Commissioning: Wiring: Identification of wires, ferruling, crimping & termination of wires for annunciation, etc., Testing of relays, CTs, PTs & Breaker for operation					
	i	For indoor/outdoor panel comprising of 2I+8F+1BC+1AP3	per Set		96,472		
	ii	For single 11 kV panel indoor type	Each		18,974		
	iii	For additional 11 kV panel (indoor type)	Each		9,486		
	iv	For single 11 kV panel outdoor type/kiosk	Each		18,974		
	v	For each additional 11 kV panel outdoor type/kiosk	Each		14,231		
		Note: Assisting in Testing & Commissioning for item 18, 19 & 20 means contractors should provide labourers for wiring & commissioning by RT/MT/Firm Engineers					
	25	Busbar Formation Main bus/cross bus (all the three phases in a segment) using Bersimis (Twin/Quad)/Moose ACSR (Twin/Quad)/Falcon/Drake/Lynx/Coyote-single/double conductors with fixing of insulator spacers, levelling of string conductors to the required height above the equipment, including providing jumps to interconnect different segments of the main bus (Spacers to be used only for Double Conductor)					
Twin Bersimis Conductor		per Bay	2,16,465				
Quad Bersimis Conductor			2,70,581				
Twin Moose Conductor			19,587				
Single Moose Conductor			12,087				
Falcon Single Conductor			12,087				
Falcon Double Conductor			19,587				
Single Drake Conductor			12,087				
Double Drake Conductor			19,587				
Single Lynx Conductor			7,364				
Single Coyote Conductor			7,364				

Sl. No.	Description	Unit	Amount in Rs.					
			400 kV	220 kV	110 kV	66 kV	33 kV	
26	Groundmat							
	a	Laying of MS Flats, welding, applying ACB paint to welded portion and covering with sodium bentonite clay	m	39				
	b	Supplying and laying of MS Flats of various sizes, welding and applying ACB paint to welded portion and covering with sodium bentonite clay as per the drawing/standard specification and consolidation	m	50x6 : 404				
				50x8 : 432				
				75x6 : 749				
				75x8 : 793				
				75x12 : 839				
	c	Same as above but without sodium bentonite clay	m	50x6 : 200				
				50x8 : 225				
				75x6 : 545				
				75x8 : 586				
				75x12 : 635				
	d	Supplying and laying of MS Round Rods of various sizes, welding and applying ACB paint to welded portion and covering with sodium bentonite clay as per the drawing/standard specification and consolidation	m	40 mm dia. MS Round Rod : 1,527				
				32 mm dia. MS Round Rod : 972				
	e	Same as above but without sodium bentonite clay	m	40 mm dia. MS Round Rod : 1,019				
				32 mm dia. MS Round Rod : 649				
	f	Grounding of equipment with 50 x 6 mm G.I. Flat and connecting equipment to the earthmat/ground pit. Each point of earthing with all formation works like bending, twisting, drilling of holes and connecting by welding (inclusive of all T&P and consumables) to the earthmat/ground pit/point of earth connection, all the materials supplied by the contractor	m	50x6 : 335				
				50x8 : 375				
				75x6 : 802				
75x8 : 847								
75x12 : 916								

Sl. No.	Description	Unit	Amount in Rs.						
			400 kV	220 kV	110 kV	66 kV	33 kV		
	g	Providing 25 mm dia M.S. Rod 1.05 metre long earthmat spikes including heating, bending top 50 mm overlap flattening and making spike edge at one end driving into the earth below the ground level and welding the rod with ground mat flat	Each			453			
	h	Providing MS Round rod 1.075 metre long earthmat spikes including heating, bending top 50/75 mm overlap flattening and making spike edge at one end driving into the earth below the ground level and welding the rod with ground mat flat. Note: In order to propose spikes of size equivalent to earth mat conductor/flat size (i.e., 32 mm for 75 x 6 Sq mm and 40 mm for 75 x 12 Sq mm)	Each			40 mm dia. : 1.075 m : 1,186 32 mm dia. : 1.075 m : 859			
	i	Supplying & providing 450 mm dia 450 mm height 1.5" to 2" thick hume pipe collar (non pressure type) for earth pits including all lead and lifts etc.,	Each			1,499			
27	Providing Deep Bore Earthing								
	Sinking bore of 150 mm clear dia using fast rig including fixing of 40 mm dia MS Rod, including jointing the pipes as per KPTCL standard and providing sodium bentonite treatment in the annular space, including transportation of rig and other supporting vehicles etc., complete as per the directions of Engineer in charge including cost of MS Rod & sodium bentonite								
	a	Drilling 150 mm dia bore	m			848			
	b	40 mm dia MS Rod	m			940			
	c	Bentonite Clay	kg			25			
	d	Cost of GI Flat for joining two rods by welding to obtain continuous length	per joint			995			
28	Battery Set and Charger								
	a	Installing, assembling, filling of acid, wiring, assisting, test-charging and discharging Battery set							
	i	220 V	Set			30,487			
	ii	110 V	Set			11,621			
	iii	48/24 V	Set			5,516			

Sl. No.	Description	Unit	Amount in Rs.					
			400 kV	220 kV	110 kV	66 kV	33 kV	
	b	Erection of Battery Charger and wiring						
	i	220 V	Set				2,078	
	ii	110 V	Set				1,147	
	iii	48/24 V	Set				1,147	
	c	Testing & Commissioning of Battery Charger						
		Wiring: Identification, ferruling, crimping & connecting i) AC supply cable upto 2 sources ii) Load cables, connection at charger end upto 10 load points	No.	9,405	9,405	6,057	6,057	6,057
		Testing: i) AC supply voltage phase sequence ii) Testing of output DC voltages in Boost/Float/Trickle/Variations as per the order/requirement iii) Testing for repel factor						
		Commissioning: i) Fixing of Boost Voltage level ii) Fixing of Float Voltage level iii) Fixing of Trickle Voltage level iv) Testing of alarm, indication and load ckts, auto/manual change overs etc., v) Full load test in Boost & Trickle modes						
		a) 220 V DC	Per Set					37,287
		b) 110 V/48 V/24 V DC	Per Set					24,452
29	A	PLCC Equipment						
	a	Erection of Coupling Capacitors	Set	7,532	7,532			
	b	Erection of Wave Traps						
	i	Pedastal Mounting Type	Set	8,063	6,534			
	ii	Suspension Type	Set		3,894			
	c	Erection of Coupling (LMU+LMDU)	Set	1,392	1,392			
	d	Erection & commissioning of PLCC panel in 400 kV/220 kV Sub-station	Each	9,462	9,462			
	e	Laying of Co-axial cable 75 Ohm	m	19	19			
	f	Erection and commissioning of EPAX 8/8/16	Each	20,759	20,759			
	g	Erection and commissioning of Analog/Digital protection coupler equipment in 400 kV/220 kV Sub-station						
	i	Analog	Each	6,268	6,268			
	ii	Digital	Each	7,513	7,513			

Sl. No.	Description	Unit	Amount in Rs.					
			400 kV	220 kV	110 kV	66 kV	33 kV	
	B	Digital Tele Protection Equipment (DTPC)						
		Installation, testing, integration and commissioning of 4C/8C independent command channels DTPC	Set	7,513				
	C	OPGW Cable						
	a	Installation, testing & commissioning of 24F/48F OPGW cable along with associated hardware fittings as per technical specification for LIVE LINE condition	m	88				
	b	Installation, testing & commissioning of 24F/48F OPGW cable along with associated hardware fittings as per technical specification for OFFLINE condition	m	88				
	c	Joint Box (24 Fiber) including Coiling bracket as per requirement for looping/coiling of 30 meters of cable as per technical requirement	No.	8,383				
	d	Joint Box (48 Fiber) including Coiling bracket as per requirement for looping/coiling of 30 meters of cable as per technical requirement	No.	11,919				
	D	FODP						
		Installation, testing & commissioning of FODP for 24F/48F/96F : Indoor type, rack mounted with FCPC coupling and pigtailed	No.	26,620				
	E	Fibre Optic Approach Cable						
	Laying, installation, testing & commissioning of 12/24/48 F Optical fibre approach cable in switch yards of 400 kV & 220 kV (Including hardware) along with HDPE Pipe	m	61					
F	Underground Fibre Optic Cable							
a	Unarmoured Underground FO Cable (12F/24F/48F DWDM)	m	38					

Sl. No.	Description	Unit	Amount in Rs.				
			400 kV	220 kV	110 kV	66 kV	33 kV
b	Straight Joint Kit -12F/24F/48F	No.	6,660				
c	GI pipe 100 mm (Nominal bore), medium class (including accessories)	m	69				
d	Laying of HDPE Pipe in trenches in 400 kV & 220 kV	m	14				
e	Survey & Documentation	m	6				
f	Warning Tape	m	7				
g	RCC Manholes (Supply & Installation)						
i	for joint location	No.	27,588				
ii	for providing service loops at crossing	No.	27,588				
h	Brick Walled Manholes (Supply & Installation) for joint location	No.	20,691				
i	OFC end terminal (LIU suitable for 12F/24F/48F)	No.	14,508				
j	Installation of PLB HDPE on wall in building premises including routing of OFC through it	m	1,379				
G	SDH Equipment						
a	Installation, testing, integration & commissioning of SDH Equipment (5 MSP & 3 MSP)	No.	42,955				
b	Installation of Cabinet Equipment to house SDH Equipment + Optical cards + Tributary Cards, Drop/Insert MUX Equipment and DACS Equipment	No.	1,210				
c	Installation, testing, integration & commissioning of GPS Clock including all hardware and accessories	No.	7,328				
d	Installation, testing & commissioning of 220 V DC to 48 V DC Converter for SDH Equipment DC supply	No.	605				
e	Erection and commissioning of DCDB independent change over between DC source 1 and 2 with 20 feeders	No.	6,503				
f	Installation, testing & commissioning of Routers	No.	6,050				

Sl. No.	Description	Unit	Amount in Rs.				
			400 kV	220 kV	110 kV	66 kV	33 kV
H	New Bay Integration to SCADA						
a	Laying & termination of DI/DO/Communication Cables	m		25			
b	Fixing & wiring of Opto Coupler	No.		1,555			
c	Fixing & wiring of MFT	No.		1,555			
d	Configuration of RTU and Engineering along with validation of data at SLDC	No.		2,381			
I	SCADA Communication Equipment						
a	Site survey, wiring, installation, testing and commissioning of RTU.	No.		25,589			
b	Site survey, wiring, installation, testing and commissioning of DCU (DCU installation to be done in RTU panel)	No.		12,100			
c	Wiring, Installation, Testing & Commissioning of UPS with batteries & cables	No.		6,484			
d	Integration of RTU, DCU, UPS with field equipment	No.		27,011			
e	Erection, Installation and commissioning of CCTV Surveillance system						
i	PTZ Camera	No.		1,210			
ii	Fixed Camera	No.		1,210			
iii	Fibre	Set		60,500			
iv	HMI	No.		81,237			
J	Installation, integration, testing & commissioning of C&R panels with SAS supplied by a company for new bay extension with their existing Automation System						
a	All types of 220 kV feeder C&R panels with BCUs including integration with existing bus bar scheme	No.			2,42,000		
b	220/110 kV or 220/66 kV Power Transformer C&R panels with BCUs including integration with existing bus bar scheme	No.			2,42,000		
c	All types of 110 kV or 66 kV feeder C&R panels with BCUs	No.			2,11,750		
d	110/11 kV or 66/11 kV Power Transformer C&R panels with BCUs	No.			2,11,750		
e	11 kV twin feeder C&R panels with BCUs	No.			2,42,000 (1,21,000/feeder)		

Sl. No.	Description	Unit	Amount in Rs.				
			400 kV	220 kV	110 kV	66 kV	33 kV
K	Installation, integration, testing & commissioning of C&R panels with SAS supplied by other SAS supplier for new bay extension with different Automation System						
	a	All types of 220 kV feeder C&R panels with BCUs including integration with existing bus bar scheme	No.				4,23,500
	b	220/110 kV or 220/66 kV Power Transformer C&R panels with BCUs including integration with existing bus bar scheme	No.				4,23,500
	c	All types of 110 kV or 66 kV feeder C&R panels with BCUs	No.				3,63,000
	d	110/11 kV or 66/11 kV Power Transformer C&R panels with BCUs	No.				3,63,000
	e	11 kV twin feeder C&R panels with BCUs	No.				3,02,500 (1,51,000/feeder)

Sl. No.	Description	Unit	Amount in Rs.			
			220 kV	110 kV	66 kV	
30	EHT XLPE UG cable					
	a	Laying including Testing & Commissioning : EHT single core XLPE copper cable in trefoil, tapping, fixing pipes for drain and gate crossing as per drawings & specification in trench pipes, ducts by pulling, drawing etc., handling of cable drums, paving out cables using standard cable installation equipment. NOTE: The rate per m shall include laying one circuit per m each circuit consisting of 3 nos. of single core cables including transport of cable drums material equipment to site and retaining unused items to stores	ckt m	1,178	406	406
	b	Laying including Testing & Commissioning : EHT 3C X 300 Sq mm XLPE copper cable in tapping, fixing pipes for drain and gate crossing as per drawings & specification in trench pipes, ducts by pulling, drawing etc., including transport, handling of cable drums, paving out cables using standard cable installation equipment and as per direction of the Engineer in charge	ckt m			406
	c	Handling and making normal straight joints/Insulated shield break type Joint for EHV power cables with all consumables at site etc., complete	No.	2,44,420	1,22,210	59,035
	d	Handling and making of cable end termination for EHV single core XLPE copper cable	No.	2,44,420	1,22,210	59,035
	e	Erection of Single phase earth link boxes (3 Nos.) on to the cable mounting structure connecting earth leads with all lugs, fixtures, clamps bolts and nuts complete	Set	53,337	44,275	44,275
	f	Erection of Three phase earth link box at Joint bay with connecting earth leads, all lugs, fixtures, clamps bolts and nuts complete (for Straight/Cross Bonds)	No.	53,337	44,275	44,275
	g	Laying of 12 Fibre Dual Window Mono Mode (DWMM) Optical Fibre Cable as per drawings & specification	m	11	11	11
	h	Handling and making straight through joints closures for 12 Fibre Dual Window Mono Mode (DWMM) Optical Fibre Cable	No.	26,710	26,710	26,710
	i	Handling and making terminal joints for 12 Fibre Dual Window Mono Mode (DWMM) Optical Fibre Cable	No.	32,001	32,001	32,001

Sl. No.	Description of Materials	Unit	Amount in Rs.
31	GAS INSULATED SWITCHGEAR (GIS) MODULES : Erection/Testing and Commissioning charges		
	A 400 kV		
	i 400 kV, 3150 A, 63 kA SF6 GIS ICT Feeder Bay/Line Feeder Bay/Line Reactor Bay/TIE Bay/Bus PT Module	Set	3,05,268
	ii 400 kV, SF6 - Air Bushing for connecting GIS to AIS, 3150 A, 63 kA (3 phases)	Set	2,93,890
	iii 400 kV GIS BUS DUCT		
	400 kV, 3000 A, 63 kA, Single phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall alongwith associated support structure	m	3,279
	iv 400 kV Bus Maintenance Earth Switch	No.	61,054
	B 220 kV		
	i 220 kV, 2000 A, 50 kA, SF6 GIS Line Feeder Bay/UG Cable/Transformer Bay/Bus PT/Bus Coupler Bay Module	Set	2,40,065
	ii 220kV GIS BUS DUCT		
	220kV, 2000A, 50kA, Single phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall alongwith associated support structure	m	3,279
	iii 220 kV Bus Maintenance Earth Switch	No.	48,013
	C 110 kV		
i 110 kV, 1600 A, 40 kA, SF6 GIS Line Feeder Bay/UG Cable/Transformer/Bus PT/Bus Coupler Module/Bus Sectionalizer	Set	2,13,392	
ii 110kV GIS BUS DUCT			
110kV, 1600A, 40kA, Single phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall alongwith associated support structure	m	3,279	
iii 110 kV Bus Maintenance Earth Switch	No.	42,678	

Sl. No.		Description of Materials	Unit	Amount in Rs.
	D	66 kV		
	i	66 kV, 1250 A, 40 kA, SF6 GIS Line Feeder Bay/UG Cable/Transformer/Bus PT Module/Bus Coupler Module/Bus Sectionalizer	Set	2,13,392
	ii	66kV GIS BUS DUCT 66kV, 1250A, 40kA, Single phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall alongwith associated support structure	m	3,279
	iii	66 kV Bus Maintenance Earth Switch	No.	42,678
32		HYBRID SWITCHGEAR : Erection/Testing and Commissioning Charges		
	i	220 kV, SF6 Hybrid GIS Transformer/Line Feeder Bay/Bus Coupler (For Single & Double Bus system)	No.	1,92,052
	ii	110 kV / 66 kV SF6 Hybrid GIS Transformer/Line Feeder Bay/Bus Coupler (For single & Double Bus system)	No.	1,70,713

Part - III

Rates for Repair of Power Transformers

(Material only, Labour only &
both Material & Labour)

(Rates are exclusive of GST)

PART-III:
Rates for Repair of Power Transformer
(Only Material Portion - Exclusive of GST)

Sl. No.	Description of Materials	Unit	HSN Code	Amount in Rs.
1	Main Tank for Power Transformers			
	A Dehydrating Silicagel Breather Assembly	No.	8504	2,963
	B Rubberised corksheets/Neoprene rubber Gaskets as necessary for complete Transformer			
	i 220 kV and above class	Set	8484	51,867
	ii 110 kV and below class	Set	8484	29,638
	C Bi-directional Rollers for Power Transformers			
	i 220 kV and above class	Set		59,275
	ii 110 kV and below class	Set		44,457
	D Drain plugs with Teflon washers for Power Transformers			
	i 220 kV and above class	No.	6813	1,815
	ii 110 kV and below class	No.	6813	1,815
2	Bushings for Power Transformers			
	A Condensor type OIP Bushings for Power Transformers			
	i 420 kV / 1250 A	No.	8504	11,11,415
	ii 245 kV / 800 A	No.	8504	3,63,000
	iii 245 kV / 1250 A	No.	8504	5,20,300
	iv 245 kV / 2000 A	No.	8504	7,85,400
	v 145 kV / 800 A	No.	8504	1,18,551
	vi 145 kV / 1250 A	No.	8504	1,45,684
	vii 145 kV / 2000 A	No.	8504	3,55,653
	viii 72.5 kV / 800 A	No.	8504	1,06,695
	ix 72.5 kV / 1250 A	No.	8504	1,40,481
	x 72.5 kV / 2000 A	No.	8504	2,28,932
xi 36 kV / 2000 A	No.	8504	88,913	

Sl. No.	Description of Materials	Unit	HSN Code	Amount in Rs.
B	Condensor type RIP/RIS Bushings for Power Transformers			
i	245 kV / 800 A	No.	8504	10,89,000
ii	245 kV / 1250 A	No.	8504	11,43,450
iii	145 kV / 800 A	No.	8504	4,68,270
iv	145 kV / 1250 A	No.	8504	5,00,940
v	72.5 kV / 800 A	No.	8504	2,45,025
vi	72.5 kV / 1250 A	No.	8504	2,72,250
vii	72.5 kV / 2000 A	No.	8504	4,62,825
C	Conventional Bushing with metal parts for Power Transformers			
i	36 kV / 800 A - 1250 A - 2000 A	No.	8504	21,780
ii	12.1 kV / 800 A - 1250 A - 2000 A	No.	8504	21,780
D	Bushing Terminals for Power Transformers			
i	Suitable for 420 kV class / 1250 A bushing	No.	8536	65,340
ii	Suitable for 220 kV class / 800 A bushing	No.	8536	50,820
iii	Suitable for 245 kV class / 1250 A bushing	No.	8536	55,176
iv	Suitable for 245 kV class / 2000 A bushing	No.	8536	65,340
v	Suitable for 72.5 kV or 145 kV class / 800 A bushing	No.	8536	29,040
vi	Suitable for 72.5 kV or 145 kV class / 1250 A bushing	No.	8536	50,820
vii	Suitable for 72.5 kV or 145 kV class / 2000 A bushing	No.	8536	65,340
viii	Suitable for 36 kV class / 800 A bushing	No.	8536	20,791
ix	Suitable for 36 kV class / 1250 A bushing	No.	8536	21,534
x	Suitable for 36 kV class / 2000 A bushing	No.	8536	22,277
E	Terminal Connector Clamps for Bushings of Power Transformers			
i	Suitable for 420 kV class bushing to suit Twin Moose / Drake	No.	8536	2,686

Sl. No.	Description of Materials	Unit	HSN Code	Amount in Rs.
ii	Suitable for 420 kV class bushing to suit Rigid Busbar (100 mm / 63 mm)	No.	8536	2,228
iii	Suitable for 245 kV class bushing to suit Single Drake conductor	No.	8536	1,113
iv	Suitable for 245 kV class bushing to suit Twin Moose / Drake	No.	8536	2,009
v	Suitable for 245 kV class bushing to suit Rigid Busbar (100 mm / 63 mm)	No.	8536	1,791
vi	Suitable for 121 kV class bushing to suit Twin Moose / Single Drake conductor	No.	8536	2,009
vii	Suitable for 72.5 kV class bushing to suit Twin Moose / Single Drake conductor	No.	8536	2,075
viii	Suitable for 36 kV class bushing to suit Coyote / Lynx conductor	No.	8536	512
ix	Suitable for 12.1 kV class bushing to suit Drake conductor	No.	8536	1,113
F	Bushing CT (Turret CT)	No.	8504	14,819
3	Cooler Bank for Power Transformers			
A	Radiators for Power Transformers			
i	Radiator without valve for 220 kV and above voltage class Transformer	Each	7322	1,16,160
ii	Radiator without valve for 110 kV and below voltage class Transformer	Each	7322	43,560
iii	Radiator valves with gaskets (50 to 200 mm)	No.	8481	2,223
iv	Air out plug with gaskets	No.	6903	1,482
B	Fans/Pumps for Power Transformers			
i	Cooling Fan	No.	7322	15,559
ii	Oil Pump	No.	8413	44,457
C	Cooler Control Cubicle for Power Transformers			
i	MCB/MCCB			
a	100 A, 3/4 Pole	No.	8536	5,928
b	63 A, 3/4 Pole	No.	8536	4,298
c	32 A, 3/4 Pole	No.	8536	2,963
d	16 A, 3/4 Pole	No.	8536	2,816

Sl. No.	Description of Materials	Unit	HSN Code	Amount in Rs.
ii	Timer	No.	9106	2,372
iii	CCU (Should match with the secondary of the WTI CT) with dual output	No.		7,410
iv	WTI with 4 contacts, 15 meters capillary length with built in CCU RTD and external remote indicator, range 0-150 deg C with SCADA compatability)	No.	9025	59,275
v	OTI with 2 contacts, 15 meters capillary length with built in CCU, RTD and external remote indicator range 0-150 deg C with SCADA compatability	No.	9025	18,524
vi	Gauge glass along with beeding for cooler control cabinet (FCC)	No.	9026	7,426
vii	Power Contactor	No.	8536	2,963
viii	Auxiliary relay/contactor for control circuit	No.	8536	2,223
ix	Thermal Over Load Relay	No.	8536	2,223
x	Single phase preventer (SPM)	No.	8535	1,936
xi	F.O Temperature sensor cable	No.		2,963
xii	CAT Cable	m		223
xiii	PT 100 Sensor	No.		72,242
xiv	PT 100 Sensor Probe	m		2,742
4	OLTC for Power Transformers			
A	Complete OLTC (Diverter switch, selector switch Assembly, DOVA, drive mechanism and linkages) for Transformers			
i	220 kV and above class	Set	8504 / 9010	14,81,887
ii	110 kV and below class	Set	8504 / 9010	10,37,321
B	Diverter Switch Assembly for Power Transformers			
i	220 kV and above class	Set	8504 / 9010	5,92,755
ii	110 kV and below class	Set	8504 / 9010	5,48,298

Sl. No.	Description of Materials	Unit	HSN Code	Amount in Rs.
C	Selector Switch Assembly (For 3 Phases) for Power Transformers			
i	220 kV and above class	Set	8504 / 9010	4,44,566
ii	110 kV and below class	Set	8504 / 9010	4,00,109
D	Drive assembly with gears and connecting rod etc.,	Set	8504 / 9010	9,63,227
E	RTCC Panel (ROTI, RWTI, switches, Tap Position Indicator, Timer, annunciator etc.,) for Power Transformers			
i	220 kV and above class	Set	8504 / 9010	2,96,377
ii	110 kV and below class	Set	8504 / 9010	1,48,189
F	OLTC Conservator			
i	220 kV and above class	Set	8504 / 9010	47,716
ii	110 kV and below class	Set	8504 / 9010	31,120
G	Oil Surge relay for OLTC	No.	8504 / 9010	14,819
H	Diverter Switch Oil Vessel Assembly (DOVA) for Power Transformers			
i	220 kV and above class	Set	8504 / 9010	5,18,660
ii	110 kV and below class	Set	8504 / 9010	4,44,566
I	Fixed and moving contacts for diverter switch	Set	8504 / 9010	3,37,871
J	Fixed and moving contacts for Selector switch			
i	220 kV and above class	Set	8536	5,18,660
ii	110 kV and below class	Set	8536	4,44,566
K	Protection micro switch	No.	8504 / 9010	2,223
L	OLTC Pressure Relief Device with trip contacts and reset device	No.	8504 / 9010	22,229

Sl. No.	Description of Materials	Unit	HSN Code	Amount in Rs.
	M Transition Resistance complete assembly	Set	8504 / 9010	2,22,283
	N Transition Resistance	No.	7408	7,410
	O Snap action switch	No.	8504 / 9010	51,867
	P ROTI, RWTI in RTCC Panel	No.	8504 / 9010	2,662
	Q Auxiliary relay Contactor for Tap changer control circuit	No.	8504 / 9010	2,223
	R Remote Tap change indicator	No.	8504 / 9010	7,410
	S Switches (Control selector switch, sequence selector switch etc.,)	No.	8504 / 9010	2,963
	T Limit switches	No.	8504 / 9010	6,668
	U Tap Position Indicator	No.	8504 / 9010	2,963
5	Main Tank Conservator for Power Transformers			
	A Conservator Tank			
	i 220 kV and above class	No.		1,18,551
	ii 110 kV and below class	No.		82,985
	B MOG	No.	9026	7,410
	C Prismatic Gauge	No.	9026	14,819
	D Fibre Optic temperature sensor system with 8 temperature channels	Set	9026	4,44,566
	E Aircell for conservator for 220 kV and above Transformers	No.		1,48,189
	F Aircell for conservator for 110 kV and below transformers	No.		59,275
6	Transformer mounted Protection in Power Transformers			
	A Buchholz relay	No.	8536	8,743
	B Oil surge Relay (OSR)	No.	8536	3,743
	C Pressure Relief Device (PRD or PRV)	No.	8536	10,817

Sl. No.	Description of Materials	Unit	HSN Code	Amount in Rs.
7	Control Valves for Power Transformers			
	A Drain Valve (100 mm to 200 mm size) suitable for			
	i 220 kV and above class	No.	8481	4,446
	ii 110 kV and below class	No.	8481	3,705
	B Top/Bottom Filter Valve (50 mm to 100 mm size) suitable for			
	i 220 kV and above class Transformers	No.	8481	6,668
	ii 110 kV and above class Transformers	No.	8481	4,742
	C Oil Sampling Valve with Plug (20 mm size) suitable for			
	i 220 kV and above class Transformers	No.	8481	4,446
	ii 110 kV and above class Transformers	No.	8481	3,335
	D Header pipe valve	No.	8481	3,260
	E Gate/Butterfly valves of various sizes ranging from 50 mm to 200 mm suitable for			
i 220 kV and above class Transformers	No.	8481	8,336	
ii 110 kV and above class Transformers	No.	8481	2,963	
8	Nitrogen Fire Protection System (NIFPS) for Power Transformers			
	A Fire Sensors for NIFPS/LHD Cable	No.	8531	4,446
B PNRV for NIFPS	No.	8481	2,223	
9	Others			
	A Marshalling Box (with IP 55 degree of protection, TBs, Earthing arrangement, mounting arrangements for various components etc.,)	No.		22,229
B Transformer Oil	kL		As per latest IEEMA Rates	
10	Credit Parts of Power Transformers			
	A Scrap Copper	rate/kg		569
	B Scrap Iron	rate/kg		41
	C Scrap CRGO	rate/kg		133
	D Scrap Brass	rate/kg		416
E Released Oil	kL		At 60% of latest IEEMA Rates	

Rates for Repair of Power Transformer

(Only Labour Portion - Exclusive of GST)

Sl. No.	Description of Jobs	Unit	HSN Code	Capacity in MVA	Amount in Rs.
1	Draining out oil from the Power Transformer complete duly collecting the oil in barrels (supplied by KPTCL) shifting barrels to safe place (in the Station premises only) with proper tightness of cork/lid to avoid entry of moisture.	L	9988	All capacity	1.32
2	Unloading of the faulty Transformer tank with active parts and accessories at firm's work or loading of repaired Transformer tank with active parts or accessories at firm's works.	t	9988	All capacity	186
3	Dismantling faulty Transformer for joint inspection at repairer's premises including all activities such as opening of top cover, de-tanking of core and winding, separation of HV/LV coils, conducting preliminary test required for assessment of repair work to be undertaken, dismantling core etc., in the presence of KPTCL authorised representative.	66/11 kV Class			
		Each	9988	8	28,290
		Each		12.5	44,034
		Each		16/20	57,143
		Each		31.5	67,534
		220/66/11 kV Class			
		Each	9988	100	70,939
		Each		150	1,06,579
		400/√3 / 220/√3 kV - 33 kV Class			
		Each	9988	167	1,17,985
		400/220 kV - 33 kV Class			
		Each	9988	315	2,21,898
		Each		500	3,56,840
		110/33-11 kV Class or 110/11 kV Class			
		Each	9988	10	30,107
		Each		16/20	59,427
Each	100	71,120			

Sl. No.	Description of Jobs	Unit	HSN Code	Capacity in MVA	Amount in Rs.
4	Main Tank of Power Transformers				
A	Minor modification to Transformer Main Tank/Top lid or frame assembly in case required during repair.	kg	9988	All capacity	218
B	Modification/replacement of link board for 110/33-11 kV Transformers (Rate given per phase)	per Phase	9988	All capacity	26,895
5	Drying of Power Transformers				
A	Drying of Transformer at site : Drying of active parts of Power Transformer upto 5 cycles, by Vacuum application, external heating, nitrogen purging, till the required dew point is achieved. Work should be carried out at site only (Required new Transformer oil will be supplied by KPTCL). Provision for replacement of gaskets also may be made as per Sl. No 1(B) of material portion.				
i	220 kV and above class Transformer	No.	9988	All capacity	4,84,961
ii	110 kV and below class Transformer	No.	9988	All capacity	3,03,113
B	Drying of active parts for each cycle over and above 5 cycles, if required				
i	220 kV and above class Transformer	No.	9988	All capacity	67,932
ii	110 kV and below class Transformer	No.	9988	All capacity	39,359
C	Drying of Transformer at factory : Drying of active parts of transformer in VPD chamber				
i	220 kV and above class Transformer	No.	9988	All capacity	2,07,775
ii	110 kV and below class Transformer	No.	9988	All capacity	1,19,883
D	Drying of Transformer at factory : Drying of active parts of transformer in Oven				
i	220 kV and above class Transformer	No.	9988	All capacity	1,65,660
ii	110 kV and below class Transformer	No.	9988	All capacity	96,193

Sl. No.	Description of Jobs	Unit	HSN Code	Capacity in MVA	Amount in Rs.	
E	Re-assembly of Core and winding	66/11 kV Class				
		Each	9988	8	33,089	
		Each	9988	12.5	51,590	
		Each	9988	16/20	65,127	
		Each	9988	31.5	78,916	
		220/66/11 kV				
		Each	9988	100	83,119	
		Each	9988	150	1,23,741	
		Single Phase 400/$\sqrt{3}$ / 220/$\sqrt{3}$ kV - 33 kV Class				
		Each	9988	167	1,36,712	
		400/220 kV - 33 kV Class				
		Each	9988	315	2,57,843	
		Each	9988	500	4,05,801	
		110/33-11 kV Class - 110/11 kV Class				
		Each	9988	10	34,823	
		Each	9988	16/20	69,940	
220/110/11 kV Class						
Each	9988	100	82,304			
F	Filling of oil to the main tank and OLTC tank, filtering the oil including filtering till attainment of prescribed BDV valves including labour, filtering equipment along with accessories.	L	9988	All capacity	5.32	
6	Cooler Bank of Power Transformers					
A	Refurbishment of radiators including removal of bends of radiators, fins, test for leakages and arrest if any.					
i	220 kV and above class Transformer	Each	9988	All capacity	4,932	
ii	110 kV and below class Transformer	Each	9988	All capacity	1,844	

Sl. No.	Description of Jobs	Unit	HSN Code	Capacity in MVA	Amount in Rs.
B	Overhauling of fans and pump	No.	9988	All capacity	2,493
C	Repair of cooling fan	No.	9988	All capacity	6,067
D	Repair of oil pump	No.	9988	All capacity	10,929
7	Tests to be carried out on Power Transformers				
A	Impulse test on transformer below 72.5 kV (For Transformer above 72.5 kV class, Impulse test comes under routine test)	No.	9988	All capacity	1,51,250
B	<p>a) Testing the Transformer for routine tests as per IS 2026-1983 if repairs are carried out at Repairer's work.</p> <p>b) Testing the Transformer for IR values, Voltage ratio at all Taps, Short Circuit Test, Magnetic Balance, Magnetising Current Measurement at low voltage from HV & LV. Magnetising Current Measurement at rated voltage from LV side.</p>	66/11 kV Class			
		Each	9988	8	18,987
		Each	9988	12.5	29,327
		Each	9988	16/20	38,114
		Each	9988	31.5	44,850
		220/66/11 kV			
		Each	9988	100	69,415
		Each	9988	150	1,02,425
		400/$\sqrt{3}$ / 220/$\sqrt{3}$ kV - 33 kV Class			
		Each	9988	167	1,14,041
		400/220 kV - 33 kV Class			
		Each	9988	315 MVA	2,14,854
		Each	9988	500 MVA	3,41,063
		110/33-11 kV Class - 110/11 kV Class			
		Each	9988	10 MVA	19,994
		Each	9988	16/20 MVA	40,470
		220/110/11 kV Class			
Each	9988	100 MVA	69,415		

Sl. No.	Description of Jobs	Unit	HSN Code	Capacity in MVA	Amount in Rs.	
C	Supervising and Commissioning of Transformer	66/11 kV Class				
		Each	9988	8	7,605	
		Each	9988	12.5	11,905	
		Each	9988	16/20	15,035	
		Each	9988	31.5	18,553	
		220/66/11 kV - 66/11 kV Class				
		Each	9988	100	20,575	
		Each	9988	150	30,410	
		Single Phase 400/$\sqrt{3}$ / 220/$\sqrt{3}$ kV - 33 kV Class				
		Each	9988	167	33,895	
		400/220 kV - 33 kV Class				
		Each	9988	315	62,835	
		Each	9988	500	94,598	
		110/33-11 kV Class - 110/11 kV Class				
		Each	9988	10	8,074	
		Each	9988	16/20	16,618	
		220/110/11 kV Class				
Each	9988	100 MVA	19,992			
8	Redesigning of Power Transformer (where ever applicable) (3 Winding/Auto Transformer/2 Winding)					
A	220 kV and above class Transformer	Each	9988	All Capacity	90,750	
B	110 kV and below class Transformer	Each	9988	All Capacity	60,500	

Sl. No.	Description of Jobs	Unit	HSN Code	Capacity in MVA	Amount in Rs.
9	Reconditioning of accessories like Radiators, Conservator by hot air circulation along with pressure test of radiators and reconditioning of Transformer mounted mechanical relays				
A	220 kV and above class Transformer	Each	9988	All Capacity	1,21,000
B	110 kV and below class Transformer	Each	9988	All Capacity	84,700

Rates for Repair of Power Transformer

(Both Material & Labour Portion - Exclusive of GST)

Sl. No.	Description of Materials	Unit	HSN Code	Capacity in MVA	Amount in Rs.
1	Main Tank of Power Transformer				
A	Providing new pipeline from main tank to Buchholz relay and conservator/from conservator to breather	kg	9988	All capacity	195
B	Cleaning, repairing and painting inside the Transformer Tank with hot oil bath and acid proof epoxy paint and painting outside the tank with enamel paint after thorough cleaning including the cost of materials including the painting of radiators at site/firm.	66/11 kV Class			
		per Transformer	9988	8	20,269
		per Transformer	9988	12.5	32,115
		per Transformer	9988	16/20	40,599
		per Transformer	9988	31.5	48,227
		220/66/11 kV Class			
		per Transformer	9988	100	52,830
		per Transformer	9988	150	79,652
		400/$\sqrt{3}$/220/$\sqrt{3}$ kV - 33 kV Class			
		per Transformer	9988	167	88,928
		400/220 kV - 33 kV Class			
		per Transformer	9988	315	1,65,559
		per Transformer	9988	500	2,62,638
		110/33-11 kV Class - 110/11 kV Class			
		per Transformer	9988	10	27,138
		per Transformer	9988	16/20	43,756
		220/110/11 kV Class			
		per Transformer	9988	100	53,038

Sl. No.	Description of Materials	Unit	HSN Code	Capacity in MVA	Amount in Rs.		
C	Tanking the assembly, giving connection, providing new gaskets and insulating materials conforming to relevant ISS, putting back the cover, tightening the fixtures, fixing the bushing etc., including the cost of all materials like gasket, insulating materials, bolts and nuts etc., and labour. Other accessories at repairers work to facilitate the testing.	66/11 kV Class					
		per Transformer	9988	8	18,768		
		per Transformer	9988	12.5	29,426		
		per Transformer	9988	16/20	37,525		
		per Transformer	9988	31.5	44,511		
		220/66/11 kV Class					
		per Transformer	9988	100	61,423		
		per Transformer	9988	150	92,446		
		400/$\sqrt{3}$/220/$\sqrt{3}$ kV - 33kV Class					
		per Transformer	9988	167	1,02,895		
		400/220 kV-33kV Class					
		per Transformer	9988	315	1,94,169		
		per Transformer	9988	500	3,06,316		
		110/33-11 kV Class - 110/11kV Class					
		per Transformer	9988	10	25,267		
		per Transformer	9988	16/20	39,550		
		220/110/11 kV Class					
		per Transformer	9988	100	61,423		
		2	Bushing of Power Transformers Modifying existing / Providing new turret	kg	9988	All capacity	200

Sl. No.	Description of Materials	Unit	HSN Code	Capacity in MVA	Amount in Rs.
3	Active Parts with lead (Cost of Material is being updated every month in KPTCL website under Tendering & Procurement under updating SR of Major works)				
A	Core				
i	Providing new CRGO lamination to the core in place of damaged lamination wherever necessary including cost of materials and labour				
a	Labour	kg		All capacity	1.21
b	Material	kg		All capacity	774
	Total	kg	9988	All capacity	776
B	Solid Insulation				
i	Providing solid insulation materials for replacement of damaged or burnt insulation as per actual weight				
a	Labour	kg		All capacity	19
b	Material	kg		All capacity	920
	Total	kg	9988	All capacity	939
C	Winding				
i	Providing re-insulation to HV/LV winding whenever necessary for total weight of winding except solid insulation				
a	Labour	kg		All capacity	30
b	Material	kg		All capacity	218
	Total	kg	9988	All capacity	248
ii	Providing new windings in place of damaged winding including cost of materials, labour, drying etc., (Both HV & LV) - per kg of winding				
a	Labour	kg		All capacity	21
b	Material	kg		All capacity	952
	Total	kg	9988	All capacity	973
iii	Providing HV static rings/LV static rings/end rings for Tap coils including new insulation	Each	9988	All capacity	495

Sl. No.	Description of Materials	Unit	HSN Code	Capacity in MVA	Amount in Rs.
D	Leads and Supports Modification/replacement of lead if required	kg	9988	All capacity	1,244
4	OLTC of Power Transformers : A Repair and overhauling of OLTC each Divertor switch including change of oil, lubrication and replacement of gaskets and other parts which are locally available	66/11 kV Class			
per Transformer		9988	8	19,643	
per Transformer		9988	12.5	30,723	
per Transformer		9988	16/20	38,834	
per Transformer		9988	31.5	46,707	
220/66/11 kV					
per Transformer		9988	100	70,237	
per Transformer		9988	150	1,06,398	
400/$\sqrt{3}$ / 220/$\sqrt{3}$ kV - 33 kV Class					
per Transformer		9988	167	1,17,076	
400/220 kV - 33 kV Class					
per Transformer		9988	315	2,20,114	
per Transformer		9988	500	3,55,390	
110/33-11 kV Class - 110/11 kV Class					
per Transformer		9988	10	24,988	
per Transformer		9988	16/20	40,176	
220/110/11 kV Class					
per Transformer		9988	100	70,237	

Sl. No.	Description of Materials	Unit	HSN Code	Capacity in MVA	Amount in Rs.
B	Reconditioning of RTCC Panel and modification for SCADA compatability, replacement of all types switches, indicating lamps, annunciator windows, ROTI, RWTI, Tap position indicator etc, if required.				
i	220 kV and above class	No.	9988	1	92,131
ii	110 kV and below class	No.	9988	1	61,698
C	Retrofitting of existing OLTC by new one of other make including mounting arrangement, fixing of drives, drive linkages, modification in the maintenance lid, leads etc.,				
i	220 kV and above class (inclusive of cost of OLTC)	No.	9988	1	17,59,272
ii	110 kV and below class (inclusive of cost of OLTC)	No.	9988	1	13,16,036
5	Cooler Bank of Power Transformers				
A	Providing 2 Nos. of SCADA compatible analog O/P of 4-20 mA and remote temperature indicator for WTI & OTI to be provided along with necessary RTCs.	Set	9988	All capacity	12,542
B	Providing new fan control cubicle with main switch, contactors, relay and new wiring to meet requirement up to and including 8 nos. of fans as per standard /latest drawing.	Set	9988	All capacity	90,815
C	Providing new fan control cubicle with main switch, contactors, relay and new wiring to meet requirement for more than 8 fans as per standard/latest drawing.	Set	9988	All capacity	1,04,002
D	Providing new external wiring /cabling for cooling fans using 2.5Sq mm, 4 core armoured copper cable.	m	9988	All capacity	127
E	Providing mounting arrangement for each fan frame for cooling fans.	kg	9988	All capacity	223

Sl. No.	Description of Materials	Unit	HSN Code	Capacity in MVA	Amount in Rs.
6	Nitrogen Fire Protection System (NIFPS) for Power Transformers				
	Re-commissioning of NIFPS in case of replacement of Transformers (includes modification works required to connect all the accessories of NIFPS) All Voltage Class Transformers	No.	9988	All capacity	1,16,098
B	Replenishment of Nitrogen gas (50 kg)	No.	9988	All capacity	24,409

Note :

1. Wherever explosion vent is present, the same shall be replaced by PRV.
2. Provision for refurbishment/overhauling of various items may be made wherever the items seems to be in good condition by visual inspection. Decision regarding replacement of such items may be taken during Joint inspection for which Schedule of Rates are available.
3. Any Transformer that does not have NIFPS, provision shall be made for fixing of NIFPS to the Transformer for capacities of 20 MVA and above.
4. **GST Reference Code 9988 : Manufacturing services on physical inputs (goods) owned by others.**

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Part - IV

Rates for Civil Works

(Rates are exclusive of GST)

PART-IV:
Rates for Civil Works
Surveying and Geo-technical investigation works for
Transmission Lines and Sub-stations
(Exclusive of GST)

Sl. No.	Description	Unit	Amount in Rs.			
			400 kV Line	220 kV Line	66 kV & 110 kV Line	33 kV Line
1	<p>Preliminary survey: Preliminary survey for identification of 3 alternative routes using Google Images and Survey of India maps and finalization of most economical, optimum route showing the topographical and other features on either side and indicating final selected route alignment and digital modeling in undulated hilly terrain along the proposed route using contour data from topographical map and submission of preliminary survey reports for approval as detailed in technical specification, in all types of terrain.</p>	per km	4,477	4,235	3,993	3,630
<p>The rates include walk over/reconnaissance survey along the alignment of the line with collecting topographical details on either side upto 8 km in case of 400 kV Line upto 5 km in case of 220 kV Line upto 3 km in case of 110 kV Line, upto 2 km in case of 66 kV Lines and upto 1 km in case of 33 kV Lines. The output shall be in the form of digitized route alignment colour drawings with latest topographical and other details on either side of the alignment (both in hard and soft copies) and submission of preliminary survey reports in 3 set for approval of the final route alignment.</p> <p>Note : Minimum 1 km length shall be considered for payment.</p>						
2	<p>Detailed Survey: Detailed survey along the approved route alignment by using Modern Survey equipment like DGPS/Total Stations/Digital Theodolites/GPS including profiling, tower spotting and optimization of locations by using computer aided techniques as detailed in the scope of work using PLS-CADD software in all types of terrains and includes the following:</p>	per km	18,029	17,061	16,214	14,641
<ul style="list-style-type: none"> • Drawing the route profile including geographical features like Nalas, Rivers, Gardens, P&T Lines, Railways crossing etc., • Leveling of the profile with reference to Survey of India bench marks (MSL). • Tower Schedule with optimization of tower location/tower spotting. 						

Sl. No.	Description	Unit	Amount in Rs.			
			400 kV Line	220 kV Line	66 kV & 110 kV Line	33 kV Line
	<ul style="list-style-type: none"> • Line Schedule along the Right of Way. • Burgie details and providing GPS, Co-ordinates at each anchor points for identification of anchor locations including permanent marks, like poles, telephone lines, buildings etc., • Soil resistivity along the selected route with measurement at a distance not exceeding 2 km. • Route marking along the approved route with GPS Co-ordinates for all tower locations duly marking river/road/power line/telecommunication/railway line crossings. • Making 150 mm dia bore holes for a depth not less than 3 m or refusal strata at all tower locations in case of 400 kV and 220 kV Transmission Lines and at anchor points for 110 kV, 66 kV and 33 kV Transmission Lines and furnishing the bore log details for soil classification for tower foundations along with GPS Co-ordinates for each bore holes and back filling of bore holes on completion of work. • Digitized contouring at undulated/hilly tower locations for assessing the quantum of benching and revetment required. • Detailed land schedule along the Right of Way duly plotting the line corridor on the digitized Revenue village maps to show details of land along the corridor with Sy. No. and computation of estimate of land compensation for line corridor and tower foot area as per the prevailing guidance value notified by GoK. • Preparation of schedules for processing for statutory clearances such as PTCC proposal (30 copies), Railway crossing proposal (10 sets per crossing), Forest proposal (10 sets) in required number of copies (both hard and soft copies) as per the requirement of respective departments. • Tree schedule containing the details like name of tree, girth size of tree, distance from center line of the alignment, approximate height of tree etc., • Submission of detailed consolidated final report for surveying work done appending all the approved draft reports including all relevant information collected during survey, calibration certificates of the instruments used for the work, photos/videos taken at site and submitting soft copies of all documents and hard copy of reports in 6 sets. • The detailed report shall contain following approved draft reports Preliminary Report/Detailed Survey Report/Soil Resistivity Report/Soil classification report with location wise/Tree Schedule/Line Schedule/Land schedule/Burgie details/Digitized contours/ Digitized village map geo referenced and superimposed on the Line corridor. <p>Note: Minimum 1km length shall be considered for payment.</p>					

Sl. No.	Description	Unit	Amount in Rs.			
			400 kV Line	220 kV Line	66 kV & 110 kV Line	33 kV Line
3	<p>Check survey to be conducted during construction stage: Conducting detailed check survey along the approved route duly following the route alignment, GPS Co-ordinates, submission of detailed line schedule, tower schedule, land schedule and comparing the same with respect to detailed survey report, bringing out the differences if any. Submission of contour maps for undulated/hilly tower. The work also includes marking corridor width in the field and computing the quantum of benching and revetment, preparation of detailed land schedule along the corridor on the digitized Revenue village maps indicating the Sy. Nos. falling within the corridor for the purpose of estimation of the land compensation, submission of detailed consolidated hard copy of reports of check survey in 6 sets along with soft copy for approval in all types of terrain per km.</p> <p>Note: Minimum 1km length shall be considered for payment.</p>	per km	3,267	3,025	2,904	2,662
4	<p>Contour surveying for Sub-stations: Contour surveying of Sub-station land using total stations and other survey equipment duly running peripheral traversing, establishing RL's at every 5 m intervals and atleast two TBM's with reference to a permanent bench mark/GTS bench marks, fixing boundary stones at every corner points along with providing GPS Co-ordinates, submission of CADD drawings for block levels, generating contours at suitable intervals, superimposing GA drawings of the Sub-station on the contour map, computation of cutting and filling quantities for site grading and submission of hard copy of detailed report and drawings in 6 sets along with soft copy.</p> <p>Note: Minimum 1 hectare shall be considered for payment</p>	per ha		19,481		

Sl. No.	Description	Unit	Amount in Rs.			
			400 kV Line	220 kV Line	66 kV & 110 kV Line	33 kV Line
5	<p>Geo-technical investigation for Sub-stations: Conducting Geo-technical investigation for Sub-stations duly collecting undisturbed soil samples by soil exploration with augur boring with at least 3 Nos. of bore holes for 33 kV, 66 kV and 110 kV Sub-stations, 6 Nos. of bore holes for 220 kV stations, 10 Nos. of bore holes for 400 kV Sub-stations and 3 Nos. of bore holes for GIS Sub-stations. The depth of bore holes for collection of samples shall not be less than 5 m below natural ground level or refusal strata. Collection of undisturbed sample shall be at every 2 m intervals or at change of strata, transportation of collected samples to the laboratory and back filling of the bore holes.</p> <p>Conducting various laboratory tests on the soil samples collected at approved laboratory of the agency or at NABL accredited Laboratory, for analysis of the soil parameters like moisture content, density, specific gravity, grain size distribution, Atterbergs limits, permeability, Swell pressure and index, Un confined compressive strength, shear, consolidation tests and CBR etc., as per the relevant Indian Standards of latest edition and submission of hard copy of final reports in 6 sets incorporating all field records and laboratory tests results. Furnishing the safe bearing capacity of the soil and recommendations on the type of foundations to be adopted for various structures of the Sub-station.</p>	per Sub-station	123420	76351	50820	50820
6	<p>UG Cable Surveying: Detailed survey along the route alignment by using Modern Survey equipment like DGPS / Total stations / Digital theodolites / GPS including profiling by using computer aided techniques as detailed in the scope of work, includes the following:</p> <ul style="list-style-type: none"> • Drawing the route profile including features like Roads, Railway lines, drains, park, gardens, P&T Lines, Railways crossing etc., • Preparation of cable route profile and final cable route alignment, marking lines and grades. 	per km	–	15,651		

Sl. No.	Description	Unit	Amount in Rs.						
			400 kV Line	220 kV Line	66 kV & 110 kV Line	33 kV Line			
	<ul style="list-style-type: none"> • Leveling of the profile with reference to Survey of India bench marks (MSL). • Line Schedule along the Right of Way. • Soil resistivity along the selected route with measurement at a distance not exceeding 2 km. • Route marking along the route with GPS Co-ordinates at every 50 m duly marking road/power line/telecommunication/railway line crossings. • Making 150 mm dia bore holes for a depth not less than 3 m or refusal strata at every 50 m for soil classification along with GPS Co-ordinates for each bore holes and back filling of bore holes on completion of work. • Burgie details and providing GPS, Co-ordinates at every 50 m, turning points including permanent marks, like poles, telephones lines, buildings etc., • Submission of detailed consolidated final report for surveying work done appending all the reports including all relevant information collected during survey, calibration certificates of the instruments used for the work, photos/ videos taken at site and submitting soft copies of all documents and hard copy of reports in 6 sets. • The detailed report shall contain detailed Survey Report/Soil Resistivity Report/ Line Schedule/Land schedule/Geo referenced and superimposed on the line corridor. <p>Note: Minimum 1km length shall be considered for payment.</p>								
7	<p>Preparation of Revenue Survey sketch of the land along the line corridor for the purpose of computing compensation for corridor land and tower foot area land through licensed GoK approved surveyors and submission of survey sketch, extent of land falling in the line corridor, name of the land owner and RTC in the form of a schedule with due certification from Revenue authorities for the purpose of making payment of land compensation.</p>								
	Rural area	per Survey sketch		1,970					
	Urban area	per Survey sketch		2,366					
<p>NOTE: Applicable Area Specific Loading (ASL) as mentioned in Common SR are to be considered.</p>									

Rates for Organization Specific Civil Works

For Station and UG Cable work (Exclusive of GST)

Sl. No.	Specification	Unit	Amount in Rs.
1	<p>Jelly Spreading (20-25 mm) : Supplying and providing jelly in the station yard of uniform thickness of 100 mm including the cost of materials, labour charges, required tools and plants etc., complete.</p> <p>Work shall be carried out as per the instructions of Engineer-in-charge of works as per the standard procedure.</p>	m ³	1,773
2	<p>Spreading of Stone Dust : Supplying and providing stone dust in the station yard or wherever required including watering, ramming, consolidating and dressing. The rate includes the cost of material, labour charges, required tools and plants etc., complete. Work shall be carried out as per the instructions of Engineer-in-charge of works as per the standard procedure.</p>	m ³	1,673
3	<p>Providing M-Sand : Supplying and filling in plinth, foundations / UG cable work with approved M-sand including watering, ramming, consolidating and dressing. The rate includes the cost of material, labour charges, required tools and plants etc., complete. Work shall be carried out as per the instructions of Engineer- in-charge of works as per the standard procedure.</p>	m ³	1,965
4	<p>Supplying and Providing pre cast RCC Protection Covers using M20 grade Concrete, steel of approved size/shape (as per the approved drawings) to be laid in UG cable works. The rate includes the cost of material, labour charges, loading, unloading, handling, transportation charges, required tools and plants etc., complete. Work shall be carried out as per the instructions of Engineer-in-charge of works as per the standard procedure.</p>	m ²	1,298
5	<p>Supplying and Providing Pre cast Cable Route/ Joint marker using M15 grade Concrete, MS rods of approved size/shape (as per the approved drawings) to be laid in UG cable works. The rate includes the cost of material, labour charges, loading, unloading, handling, transportation charges, required tools and plants etc., complete. Work shall be carried out as per the instructions of Engineer-in-charge of works as per the standard procedure.</p>	No.	342

Sl. No.	Specification	Unit	Amount in Rs.
6	<p>HDD method for laying of 110 kV and 66 kV UG Cables: Installation of 3 rows of HDPE pipes PE 80 PN6 of 160 mm dia using Horizontal directional drilling technique (HDD method) including preparing and setting up the plant and equipment, preparing and installation of new pipe work materials and commissioning system or making the system ready for commissioning by HDD operation including all excavation, shoring/strutting etc., drilling, stringing, ramming and pulling back the new work on the design bore path alignment, proper disposal of drilling fluid and restoration of site after completion etc., for HDD technique suiting Indian conditions in all types of soil.</p>	m	8,384
7	<p>HDD method for 220 kV UG Cable work: Installation of 3 rows of HDPE pipes PE 80 PN6 of 250 mm dia using Horizontal directional drilling technique (HDD method) including preparing and setting up the plant and equipment, preparing new pipe work materials, installing new pipe work and commissioning system or making the system ready for commissioning by HDD operation including excavation, shoring/ strutting etc., drilling, stringing, ramming and pulling back the new work on the design bore path alignment, proper disposal of drilling fluid and restoration of site after completion etc., for HDD technique suiting Indian conditions in all types of soil.</p>	m	16,889
<p>Note :</p> <p>1) Applicable Area Specific Loading as mentioned in the Common SR are to be considered.</p> <p>2) Rates for other items of civil engineering works shall be referred in Common SR.</p>			

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Part - V

**Abstracts of Tower
Weights & Tower
Foundations, Station
Structures & Mounting
Structures**

400 kV DC Tower with Twin Moose ACSR Conductor
(Design Code : KPTCL-4D-TM-BTPS)

Type of Tower	Base Width m x m	Fabricated Steel members (in kg)			Stub & Cleat (in kg)		Bolts & Nuts (in kg)
		HT	MS	Total	HT	MS	
DA Normal	10.6 x 8.0	3236	5614	8850			419
+3M Extn	11.6 x 8.6	328	957	1285	253	-	51
+6M Extn	12.5 x 9.2	807	1908	2715			93
DB Normal	14.0 x 14.0	6190	8972	15162			509
+3M Extn	15.3 x 15.3	506	2314	2820	452	-	95
+6M Extn	16.5 x 16.5	751	3200	3951			100
DC Normal	16.0 x 16.0	6933	9930	16863			505
+3M Extn	17.5 x 17.5	485	2917	3402	467	-	105
+6M Extn	19.0 x 19.0	833	3772	4605			115
DD Normal	16.7 x 16.7	7760	11572	19332			614
+3M Extn	18.2 x 18.2	615	3070	3685	660	-	99
+6M Extn	19.7 x 19.7	1193	3848	5041			109
+9M Extn	21.3 x 21.3	1670	5205	6875			164
+12M Extn	22.8 x 22.8	2736	9926	12662			314
+18M Extn	25.9 x 25.9	5461	13921	19382	797	-	565
+25M Extn	29.0 x 29.0	10120	24071	34191			891

Note:

1. The towers are designed for
 - a) Normal Span : 400 m
 - b) Conductor : Twin ACSR Moose
2. These towers are used for 400 kV DC BTPS - Hiriyur Line

400 kV DC Tower with Quad Moose ACSR Conductor
(Design Code : KPTCL-4D-QM-UPCL)

Type of Tower	Fabricated Steel members (in kg)			Stub & Cleat (in kg)		Bolts & Nuts (in kg)
	HT	MS	Total	HT	MS	
DA Normal	6694	8102	14796	410		579
+3M Extn	348	1688	2036			70
+6M Extn	647	2495	3142			88
+9M Extn	995	3284	4279			110
DB Normal	12079	12879	24958	809		763
+3M Extn	728	2958	3686			97
+6M Extn	1360	4018	5378			129
+9M Extn	2110	5260	7370			193
DC Normal	13742	13563	27305	931		817.9
+3M Extn	825	3538	4363			93
+6M Extn	1513	4651	6164			130
+9M Extn	2362	5934	8296			199
DD Normal	16198	16114	32312	1395		950
+3M Extn	1215	3976	5191			116
+6M Extn	2238	5171	7409			159
+9M Extn	3484	6564	10048			229
+18M Extn	7041	13421	20462			494
+25M Extn	9870	23960	33830			758

Note:

1. The towers are designed for
 - a) Normal Span : 400 m
 - b) Conductor : Quad Moose ACSR
2. These towers are used for 400 kV DC Line between Nandikur & Shanthigram

400 kV DC Tower with Quad Moose ACSR Conductor (Design Code : KPTCL-4D-QM-VSNP)

Type of Tower	Base width (in mm)	Tower weight (in kg)		Bolts, Nuts & Washers (in kg)	Stub weight (in kg)		Bolts, Nuts & Washers (in kg)	
		HT	MS		HT	MS		
DA	BTB	10450.00	6660.04	5490.24	594.50	421.72	8.16	10.72
	0 BE	12457.22	720.81	1275.15	90.53			
	3 BE	13460.83	1147.35	1965.11	110.34			
	6 BE	14464.44	739.37	2090.97	89.81			
	9 BE	15468.05	970.96	3215.81	144.66			
DB	BTB	13200.00	16363.12	4608.00	751.99	849.20	8.20	14.46
	0 BE	16360.00	2393.00	1293.00	137.80			
	3 BE	17852.92	3793.50	1604.90	185.60			
	6 BE	19345.83	2476.96	3007.29	141.08			
	9 BE	20838.74	3494.81	3662.90	193.36			
DC	BTB	13450.00	19220.41	4358.28	782.59	939.44	8.17	17.03
	0 BE	16670.00	2893.16	1110.68	111.31			
	3 BE	18191.76	3828.37	2144.03	166.36			
	6 BE	19712.52	2972.35	3608.75	169.30			
	9 BE	21233.78	4558.31	3656.09	185.39			
DD	BTB	13084.00	21496.95	4237.54	870.77	1411.44	8.17	21.18
	0 BE	16825.10	4344.08	1061.01	132.92			
	3 BE	18352.08	5670.22	1908.80	197.92			
	6 BE	19879.06	5176.25	1657.90	153.86			
	9 BE	21406.04	7547.15	1675.83	220.13			
	18 BE	30000	18867.88	4189.58	550.33			
	25 BE	33000	37735.75	8379.15	1100.65			

Note:

1. The towers are designed for
 - a) Normal Span : 400 m
 - b) Conductor : Quad Moose ACSR
2. These towers are used for 400 kV DC Line between Vasanthanasapura - PGCIL - Kelaginakanive

400 kV DC Tower with Quad Moose ACSR Conductor
(Design Code : KPTCL-4D-QM-YTPS)

Type of Tower	Base width (in mm)	Tower weight (in kg)		Bolts, Nuts & Washers (in kg)	Stub weight (in kg)		Bolts, Nuts & Washers (in kg)	
		HT	MS		HT	MS		
DA	BTB	9794.31	6502.31	4770.70	474.05	386.02	-	9.41
	0 BE	12261.92	824.74	1966.35	102.05			
	3 BE	13234.70	1218.67	2493.42	138.90			
	6 BE	14207.42	674.82	1971.57	87.33			
	9 BE	15180.25	1001.92	2647.98	129.63			
DB	BTB	10964.82	13029.46	5387.11	830.63	824.09	-	15.01
	0 BE	14421.37	1800.61	3243.42	142.08			
	3 BE	15717.58	2482.29	4386.84	183.09			
	6 BE	17013.80	1515.63	3362.25	127.85			
	9 BE	18310.00	2116.24	4493.42	162.65			
DC	BTB	11627.34	13198.25	7276.20	891.99	955.23	-	15.26
	0 BE	15286.81	2388.69	3131.32	155.52			
	3 BE	16659.10	2857.50	4703.03	195.72			
	6 BE	18031.40	1573.03	3835.77	139.63			
	9 BE	19403.70	2431.98	5043.84	207.32			
DD	BTB	12736.28	16747.67	6892.30	915.33	1273.65	-	19.18
	0 BE	17068.06	3442.82	3423.99	213.96			
	3 BE	18652.86	4025.04	5600.44	252.82			
	6 BE	20051.88	2345.06	4463.33	179.97			
	9 BE	21822.45	4615.34	4712.88	232.08			
	18 BE	26576.84	8461.80	13024.15	520.83	1316.51	-	19.18
	25 BE	30274.7	11023.06	18144.35	665.66			

Note:

1. The towers are designed for
 - a) Normal Span : 400 m
 - b) Conductor : Quad Moose ACSR
2. These towers are used for 400 kV DC Line between YTPS & BPS

400 kV MC Tower with Quad Moose ACSR Conductor
(Design Code : KPTCL-4M-QM-YTPS)

Type of Tower		Base width (in mm)	Tower weight (in kg)		Bolts, Nuts & Washers (in kg)	Stub weight (in kg)		Bolts, Nuts & Washers (in kg)
			HT	MS		HT	MS	
MA	BTB	14123.75	21145.59	8272.32	969.26	956.23	0.00	15.78
	0 ME	17416.94	2503.89	3140.81	192.04			
	3 ME	18514.66	3154.20	4139.12	227.78			
	6 ME	19612.40	1757.29	2944.38	149.42			
	9 ME	20710.13	2528.25	3823.78	199.08			
MB	BTB	15267.26	44288.45	15003.76	2650.13	2396.13	0.00	74.17
	0 ME	18617.92	4687.78	5430.94	374.76			
	3 ME	19849.77	6525.73	6478.60	413.86			
	6 ME	21081.63	4079.88	5748.40	280.92			
	9 ME	22313.49	6015.36	6661.14	414.92			
MD	BTB	15523.89	65662.25	17114.77	3517.22	3487.50	0.00	62.83
	0 ME	20178.00	14076.22	2672.73	714.27			
	3 ME	21579.77	17442.02	4190.48	727.93			
	6 ME	22981.54	8309.04	4589.90	412.30			
	9 ME	24383.31	12238.68	6021.66	634.14			

Note:

1. The towers are designed for
 - a) Normal Span : 400 m
 - b) Conductor : Quad Moose ACSR
2. These towers are used for 400 kV MC Line between YTPS & BPS

ABSTRACT OF TOWER WEIGHTS AND BASE WIDTHS

Sl. No.	Basic Tower Extn	220 kV SC TOWERS (KPTCL-2S-OLD)			220 kV DC TOWERS (KPTCL-2D-KCOLD)			220 kV DC TOWERS (KPTCL-2D-LTOLD)			220 kV DC TOWERS (KPTCL-2D-KLPOLD)		
		Base width (in m)	Tower weight with Stub (in t)	B&N weight (in kg)	Base width (in m)	Tower weight with Stub (in t)	B&N weight (in kg)	Base width (in m)	Tower weight with Stub (in t)	B&N weight (in kg)	Base width (in m)	Tower weight with Stub (in t)	B&N weight (in kg)
1	A+0M	4.150	2.630	140	5.100	3.707	150	5.690	4.150	170	5.95	3.422	152
2	A+3M	4.629	3.060	158	5.651	4.244	173	6.300	4.810	198	6.63	3.884	167
3	A+6M	5.109	3.649	185	6.202	4.731	190	6.967	5.350	220	7.31	4.283	175
4	B+0M							7.450	5.350	215	8.50	5.327	190
5	B+3M							8.390	6.700	259	9.58	6.252	218
6	B+6M							9.340	7.350	280	10.65	6.805	225
7	C+0M	6.800	3.600	165	6.750	6.089	247	8.300	6.000	240	9.90	6.060	218
8	C+3M	7.852	4.321	196	7.683	7.114	279	9.400	7.490	290	11.25	7.227	251
9	C+6M	8.904	4.940	221	8.616	7.677	285	10.500	8.220	315	12.57	8.133	265
10	D+0M	8.000	4.980	188	10.150	8.588	268	10.200	7.925	300	10.60	7.597	275
11	D+3M	9.206	6.062	229	11.694	10.137	320	11.600	9.905	356	12.07	9.031	314
12	D+6M	10.412	6.777	249	13.328	11.692	364	13.000	10.875	385	13.54	10.175	343

Note:

1 Weight of Stubs is included in Normal Tower weights only

2 The above 220KV towers are absolute and not to be used for new projects.

A Type : 0° - 2° Deviation

B Type : 2° - 15° Deviation

C Type : 15° - 30° Deviation

D Type : 30° - 60° Deviation & DE Condition

**220 kV DC Tower
(KPTCL-2D-RPG)**

Type of Tower	Base Width m x m	Fabricated Steel members (in kg)			Stub & Cleat (in kg)		Bolts & Nuts (in kg)
		HT	MS	Total	HT	MS	
DA Normal	5.7 x 5.7		4090	4090		190	190
+3M Extn	6.4 x 6.4		635	635			30
+6M Extn	7.1 x 7.1		1115	1115			50
DB Normal	8.0 x 8.0		6340	6340		340	520
+3M Extn	9.0 x 9.0		1140	1140			50
+6M Extn	9.9 x 9.9		1980	1980			75
DC Normal	8.9 x 8.9	1190	5360	6550	260	50	680
+3M Extn	10.0 x 10.0	250	920	1170			80
+6M Extn	11.2 x 11.2	470	1520	1990			155
DD Normal	9.5 x 9.5	1940	5940	7880	345	100	770
+3M Extn	10.7 x 10.7	320	1200	1520			110
+6M Extn	12.0 x 12.0	615	1720	2335			160

Note:

1. The towers are designed for
 - a) Normal Span : 320 m
 - b) Conductor : AAAC Moose
2. These towers are used in 220 kV DC Narendra - Ambewadi Line

220 kV DC Narrow Based Tower
(Design Code : KPTCL-2D-NB-NRS)

Sl. No.	Type of Tower	Type 'DA' (0° - 2°)		Type 'DB & 'DE' (0° - 30°)		
		Super Structure (in kg)	Bolt & Nuts (in kg)	Super Structure (in kg)		Bolt & Nuts (in kg)
		MS	MS	HT	MS	MS
1	Normal Tower	5814	272	4325	6351	404
2	+3M Extn only	678	30	849	526	55
3	+6M Extn only	-	-	1572	815	74
4	+12M Extn only	-	-	3562.98	2165.13	151.52
5	+18M Extn only	-	-	3853.60	3062.05	206.91
6	Stub for +3M & +6M	761	2	1271	100	2
7	Stub for +12M & +18M	-	-	1565	100	13.94

Note:

1. The towers are designed for
 - a) Normal Span : 320 m
 - b) Conductor : ACSR Drake
2. The maximum angle deviation shall be restricted to 30°

220 kV DC Narrow Based Tower
(Design Code : KPTCL-2D-NB-HAL)

Type of Tower	Base Width m x m	Fabricated Steel members (in kg)			Stub & Cleat (in kg)		Bolts & Nuts (in kg)
		HT	MS	Total	HT	MS	
DA Normal	3.0 x 3.0	1590	2060	3650	270		254
+3M Extn	3.3 x 3.3	200	194	394			19
+6M Extn	3.6 x 3.6	396	396	792			36
+9M Extn	3.8 x 3.8	594	607	1201			52
DB Normal	3.5 x 3.5	2684	2802	5486	498		328
+3M Extn	3.8 x 3.8	379	260	639			27
+6M Extn	4.1 x 4.1	707	546	1253			42
+9M Extn	4.4 x 4.4	1086	827	1913			70
DC Normal	3.8 x 3.8	4077	2080	6157	641		368
+3M Extn	4.1 x 4.1	559	225	784			41
+6M Extn	4.5 x 4.5	1025	568	1593			80
+9M Extn	4.8 x 4.8	1508	913	2421			118
DD Normal	3.9 x 3.9	5301	2643	7944	856		403
+3M Extn	4.3 x 4.3	836	220	1056			60
+6M Extn	4.6 x 4.6	1548	484	2032			90
+9M Extn	4.9 x 4.9	2129	843	2972			132
Auxiliary Cross Arm	-	131.66	446.7	578.36	-	-	20.499

Note:

1. The towers are designed for
 - a) Normal Span : 200 m
 - b) Conductor : AAAC Moose (61/3.55)
2. These towers are used for 220 kV DC Narrow Based Hoody - HAL Line

220 kV DC Tower
(Design Code : KPTCL-2D-GDG)

Type of Tower		Base width (in mm)	Tower weight (in kg)			Stub weight (in kg)		Bolts, Nuts & Washers (in kg)
			HT	MS	Total	HT	MS	
DA	DA+0	5049.20	963	2958	3921	150		224
	3M Extn	5624.19	238	406	644			35
	6M Extn	6199.17	303	715	1018			43
	9M Extn	6774.16	626	1114	1740	170		84
	12M Extn	7349.14	711	1460	2171			100
	15M Extn	7924.13	818	1993	2811			121
	18M Extn	8499.12	1246	2281	3527			167
	24M Extn	9649.10	1426	3528	4954			214
DB	DB + 0	7557.79	2237	3427	5664	227		250
	3M Extn	8478.90	398	636	1034			55
	6M Extn	9400.00	546	1047	1593			78
	9M Extn	10321.11	990	1536	2526	275		115
	12M Extn	11242.21	1354	2337	3691			157
	15M Extn	12163.31	1593	2907	4500			180
	18M Extn	13084.43	1987	3708	5695			225
DC	DC+0	8002.32	2619	3614	6233	278		310
	3M Extn	8952.06	328	770	1098			51
	6M Extn	9901.80	500	1284	1784			84
	9M Extn	10851.54	800	1941	2741	310		95
	12M Extn	11801.28	1266	2745	4011			153
	15M Extn	12751.02	1657	3221	4878			190
	18M Extn	13700.76	2048	4003	6051			211
DD	DD	10064.31	3859	3152	7011	325		300
	3M Extn	11385.26	428	980	1408			63
	6M Extn	12706.20	710	1457	2167			85
	9M Extn	14027.14	1170	2090	3260	360		120
	12M Extn	15348.09	1781	3388	5169			188
	15M Extn	16669.03	2422	3780	6202			217
	18M Extn	17989.97	2791	4778	7569			270
Auxiliary Cross Arm		-	1123	330	1453	-	-	53

Note:

1. The towers are designed for
 - a) Normal Span : 320 m
 - b) Conductor : Drake ACSR
2. These towers are used for 220 kV DC Line between Gadag & Bagalkot

220 kV MC Tower (4 Circuits)
(Design Code : KPTCL-2M-DGM)

Type of Tower	Base Width m x m	Fabricated Steel members (in kg)			Stub & Cleat (in kg)			Bolts & Nuts (in kg)
		HT	MS	Total	HT	MS	Total	
MA Normal	6.0 x 6.0	2574	5716	8290	436	84	520	492
+3M Extn	6.6 x 6.6	371	311	682				44
+6M Extn	7.2 x 7.2	438	937	1375				56
MB Normal	9.0 x 9.0	3026	11660	14686	613	121	734	776
+3M Extn	10.0 x 10.0	470	1189	1659				98
+6M Extn	11.1 x 11.1	911	1919	2830				98
MD Normal	11.0 x 11.0	7478	18316	25794	1140	225	1365	772
+3M Extn	12.4 x 12.4	882	1546	2428				82
+6M Extn	13.9 x 13.9	1646	2895	4541				155
+15M Extn	18.31 x 18.31	4970	7977	12947	1350	224	1574	337.28

Note:

1. The towers are designed for
 - a) Normal Span : 320 m
 - b) Conductor : Drake ACSR
2. These towers are used for 220 kV MC Shimoga - Dugudimane Line

220 kV DC Monopole
(Design Code : KPTCL-2MP-JGN)

Monopole Type		Weight of the pole (in kg)	Embedded Foundation Details				
			HT	L	D	Excavation in m ³	Steel
P1 (0° - 10°)	P1+0M	8183	6.50	1.50	11.60	222	7.48
	P1+3M	9812	6.50	1.50	11.60	222	7.39
	P1+9M	-	7.30	1.50	13.03	246	7.58
P2 (11° - 30°)	P2+0M	9450	7.30	1.50	13.03	246	7.90
	P2+3M	10858	7.30	1.50	13.03	246	7.14
	P2+9M	14858	7.45	1.50	13.30	249	6.62
P3 (60° - 70°)	P3+0M	-	-	-	-	-	-
	P3+3M	17687	8.10	1.70	18.58	334	9.72
	P3A+3M(90°)	-	8.10	1.70	18.58	334	9.46
PS4/PS5 +0 DC Monopole with single sided cross arm	0 M	20585	-	-	-	-	-
PS6 +0 SC Monopole with single sided cross arm	0 M	8069	-	-	-	-	-

Note:

The Monopoles are designed for :

1. Span Length : 150 m
2. Conductor : Drake ACSR
3. The Monopoles are used in 220kV Jigani Line

220/110 kV MCMV Tower
(Design Code : KPTCL-21M-KHMR)

Type of Tower	Base Width m x m	Fabricated Steel members (in kg)			Stub & Cleat (in kg)		Bolts & Nuts (in kg)
		HT	MS	Total	HT	MS	
MA Normal	7.5 x 7.5	1421	4203	5624	200		313
+3M Extn	8.3 x 8.3	167	589	756			31
+6M Extn	9.2 x 9.2	315	721	1036			40
MB Normal	9.3 x 9.3	3808	5421	9229	354		477
+3M Extn	10.3 x 10.3	284	810	1094			45
+6M Extn	11.3 x 11.3	527	1378	1905			74
MC Normal	10.2 x 10.2	3378	7331	10709	406		490
+3M Extn	11.3 x 11.3	331	927	1258			55
+6M Extn	12.5 x 12.5	622	1680	2302			88
MD Normal	11.5 x 11.5	4651	7658	12309	503		505
+3M Extn	12.7 x 12.7	408	1177	1585			62
+6M Extn	14.0 x 14.0	796	1830	2626			84
+9M Extn	15.3 x 15.3	750	2349	3099			101

Note:

1. These towers are designed for

a) Normal Span : 320 m

b) Conductor : 220 kV Circuit : Drake ACSR
110 kV Circuit : Lynx ACSR

2. These towers are used for 220/110 kV MCMV Line from Khemar to Guruvayankere

220/110 kV MCMV Tower (4 Circuits)
(Design Code : KPTCL-21M-NB-KVR)

Type of Tower	Base Width m x m	Fabricated Steel members (in kg)			Stub & Cleat (in kg)			Bolts & Nuts (in kg)
		HT	MS	Total	HT	MS	Total	
MA Normal	3.96 x 3.96	2007	4493	6500				391
+3M Extn	4.13 x 4.13							
+6M Extn	4.23 x 4.23	672	911	1583				102
MB Normal	5.95 x 5.95	3625	4627	8252				440
+6M Extn	6.58 x 6.58	876	1312	2188	689		689	95
+9M Extn	6.89 x 6.89	1528	2003	3531				
MC Normal	6.27 x 6.27	4503	8401	12904				579
+3M Extn	6.58 x 6.58	626	863	1489				72
+6M Extn	6.90 x 6.90	1157	1508	2665				112
MD Normal	7.20 x 7.20	6757	7809	14566				572
+3M Extn	7.57 x 7.57	972	914	1886	905		905	91
+6M Extn	7.94 x 7.94							

Note:

1. The towers are designed for
 - a) Normal Span : 320 m
 - b) Conductor : 220 kV - Drake ACSR
: 110 kV - Lynx ACSR
2. These towers are used for 220/110 kV MC Varahi - Khemar - Kavoov Line

220 kV MC Tower
(Design Code : KPTCL-2M-NB-VKTP)

Type of Tower	Base Width m x m	Fabricated Steel members (in kg)			Stub & Cleat (in kg)			Bolts & Nuts (in kg)
		HT	MS	Total	HT	MS	Total	
MA Normal	3.335	4506.64	4548.66	9055.30				612.00
+3M Extn	3.54	472.88	376.23	849.11	517.55		517.55	54.10
+6M Extn	3.747	1045.76	852.46	1898.22		121.30		
MB Normal	3.76	8108.74	6189.66	14298.40				
+3M Extn	3.97	890.15	505.76	1395.91	962.00		962.00	76.84
+6M Extn	4.021	1780.30	1028.91	2809.21		140.61		
MD Normal	4.0	17836.60	7075.50	24912.10				
+3M Extn	4.16	2445.15	315.19	2760.34	2487.50		2487.50	192.23
+6M Extn	4.34	4935.17	658.55	5593.72		384.34		
+9M Extn	4.52	7450.77	1011.30	8462.07		567.25		
Auxiliary cross arm	-	282.436	1838.33	2120.77		-		-

Note:

1. The towers are designed for
 - a) Normal Span : 200 m
 - b) Conductor : AAAC Moose
2. These towers are used for 220/220 kV MC Line for Vikas Tech Park

220/66 kV MC Tower
(Design Code : KPTCL-26M-BIAL)

Type of Tower	Base Width m x m	Fabricated Steel members (in kg)			Stub & Cleat (in kg)		Bolts & Nuts (in kg)
		HT	MS	Total	HT	MS	
MA Normal	6.0 x 6.0	2175	3672	5847	206	-	374
+3M Extn	6.8 x 6.8	264	582	846			846
+6M Extn	7.6 x 7.6	438	937	1375			1375
MB Normal	8.0 x 8.0	5400	3906	9306	403	-	449
+3M Extn	8.9 x 8.9	381	850	1231			45
+6M Extn	9.9 x 9.9	787	1289	2076			77
MC Normal	10.0 x 10.0	5108	5578	10686	391	-	484
+3M Extn	11.4 x 11.4	568	1040	1608			60
+6M Extn	12.7 x 12.7	887	1670	2557			87
MD Normal	11.5 x 11.5	6638	5982	12620	494	-	562
+3M Extn	13.0 x 13.0	603	1388	1991			65
+6M Extn	14.6 x 14.6	1043	2100	3143			99

Note:

1. The towers are designed for
 - a) Normal Span : 275 m
 - b) Conductor : Drake ACSR (220 kV Circuit)
: Coyote ACSR (66 kV Circuit)
2. These towers are used for 220/66 kV MC Hosakote - BIAL Line

220/66 kV MCMV Narrow Based Tower
(Design Code : KPTCL-26M-NB-MVKTP)

Type of Tower	Base Width in m	Fabricated Steel members (in kg)			Stub & Cleat (in kg)		Bolts & Nuts (in kg)		
		HT	MS	Total	HT	MS	Tower	Stub	Total
MA Normal	3.335	3574.5	3948.9	7523.4			602.29		602.29
+3M Extn	3.541	394.5	376.2	770.7	425.9	-	53.927	5.7	53.927
+6M Extn	3.748	789.9	766.9	1556.8			111.7		111.7
MB Normal	3.76	6616.3	5651.8	12268.1			681.6		681.6
+3M Extn	3.971	752.4	505.8	1258.2	795.3	-	76.9	9.9	76.9
+6M Extn	4.182	1554.8	1111.6	2666.4			163.8		163.8
MD Normal	3.982	14030	7396.59	21426.6			1581.6		1581.6
+3M Extn	4.163	2666	323.38	2989.38			246.2		246.2
+6M Extn	4.343	5024.83	666.64	5691.47	2279.7	-	517.5	67.7	517.5
+9M Extn	4.523	7385.9	1019.3	8405.2			776.7		776.7
+12M Extn	4.703	9767	1410	11177			957.6		957.6

Note:

1. The towers are designed for
 - a) Normal Span : 200 m
 - b) Conductor : AAAC Moose (for both 220 kV & 66 kV circuits)
2. These towers are used for 220/66 kV MCMV Line for Chikkabettahalli (Yelahanka)

220/220 kV MC Tower
(Design Code: KPTCL-2M-DHP)

Type of Tower		Base Width in m	Super Structure (in kg)			Stub (in kg) (Up to +9M BE)		
			HT	MS	B&N	HT	MS	B&N
MA (0 - 2°)	Basic Body	4.65	3339.68	5615.51	452.90	449.6	-	9.724
	0M BE (Attached to Basic Body)	5.08	557.97	458.43	32.26			
	3M BE (Attached to +0M BE)	5.37	443.92	297.22	28.69			
	6M BE (Attached to +0M BE)	5.66	747.54	692.76	46.71			
	9M BE (Attached to +0M BE)	5.95	1192.48	1009.02	51.49			
MB (0 - 15°)	Basic Body	5.57	9580.08	4632.34	680	903.79	-	17.82
	0M BE (Attached to Basic Body)	6.11	1364.864	185.012	61.911			
	3M BE (Attached to Basic Body)	6.51	2180.164	554.984	90			
	6M BE (Attached to +0M BE)	6.91	1401.9	1074.1	85.469			
	9M BE (Attached to Basic Body)	7.32	3864.994	1363.564	180.4			
MC (15 - 30°)	Basic Body	6.54	12150.43	4395.44	732.5	1007.6	-	16.5
	0M BE (Attached to Basic Body)	7.11	917.328	540.6	61.415			
	3M BE (Attached to Basic Body)	7.67	1485.43	1134.3	78.18			
	6M BE (Attached to +0M BE)	8.24	1848.068	844.375	79.843			
	9M BE (Attached to Basic Body)	8.81	-	-	-			
MD (30 - 60°)/ DE (0 - 15°)	Basic Body	7.46	13989.77	6479.632	899.405	1580.8	-	21.312
	0M BE (Attached to Basic Body)	8.13	1453.948	722.891	89.151			
	3M BE (Attached to Basic Body)	8.80	2673.276	1016.528	100.948			
	6M BE (Attached to +0M BE)	9.47	3101.66	1019.996	98.892			
	9M BE (Attached to +0M BE)	10.14	-	-	-			

Note:

1. The towers are designed for
 - a) Normal Span : 320 m
 - b) Conductor : AAAC Moose (for both circuits)
2. These towers are used for 220/220 kV MC Line in Devanahalli project (Wind Zone-1)

220/220 kV MC Tower
(Design Code : KPTCL-2M-MYLS)

Type of tower	Base Width m x m	Fabricated Steel members (in kg)				Stub & Cleat (in kg)				
		HT	MS	Total	B&N	HT	MS	Total	B&N	
MA Normal	5.07x5.07	5142.922	4071.69	9214.612	407.179					
+3M Extn	5.46x5.46	468.84	360.56	829.4	40.586	364.2		364.2	4.832	
+6M Extn	5.85x5.85	954.568	737.492	1692.06	81.172					
MB Normal	6.1x6.1	10799.373	5240.89	16040.263	560.88	838.88		838.88	17.808	
+3M Extn	6.5x6.5	939.05	632.16	1571.21	64.03					
+6M Extn	7.0x7.0	1564.72	1141.83	2706.55	79.75					
+9M Extn	7.5x7.5	2140.76	1985.73	4126.49	130.44					
MC Normal	7.1x7.1	18585.03	5552.62	24137.65	688.6	913.96		913.96	17.55	
+3M Extn	7.67x7.67	1048.692	766.14	1814.832	72.75					
+6M Extn	8.2x8.2	1827.37	1240.42	3067.79	97.35					
MD Normal	8.0x8.0	12038.85	12720.89	24759.74	1057.24	1162.06	176.212	1338.272	38.72	
+3M Extn	8.6x8.6	1159.84	1434.88	2594.72	105.52					
+6M Extn	9.3x9.3	1924.64	2155.88	4080.52	125.05					
+9M Extn	10.0x10.0	2890.9	3242.58	6133.48	214.81					
+18M Extn	11.8x11.8	6683.38	6804.83	13488.21	465.91	1353.28	176.212	1529.492	44.544	

Note:

1. The towers are designed for
 - a) Normal Span : 320m
 - b) Conductor : AAAC Moose
2. These towers are used for 220 kV MC Mylasandra - Yarandanahalli Line (Wind Zone-1)

220/220 kV MC Narrow Based Tower
(Design Code: KPTCL-2M-NB-NEWDHP)

Type of Tower		Base Width in m	Super Structure (in kg)			Stub (in kg)		
			HT	MS	B&N	HT	MS	B&N
NBMA (V-strings) (0 - 2°)	Basic Tower	-	6208.558	6888.731	546.549	930.8	-	19.72
	0M BE (Attached to Basic Body)	3.50	873.852	476.838	57.326			
	3M BE (Attached to +0M BE)	3.60	731.44	525.5	63.324			
	6M BE (Attached to +0M BE)	3.70	1532.268	918.477	113.968	1036.06	-	20.52
	9M BE (Attached to +0M BE)	3.80	2404.668	1359.249	168.48			
	12M BE (Attached to +0M BE)	3.90	3124.908	1786.69	185.372			
NBMB (0 - 15°)	Basic Tower	-	9982.728	4334.7	597.89	1276	-	31.104
	0M BE (Attached to Basic Body)	4.00	2076.92	590.748	71.066			
	3M BE (Attached to +0M BE)	4.16	1260	550	120			
	6M BE (Attached to +0M BE)	4.32	2487.328	990.003	167.8	1472.2	-	31.104
	9M BE (Attached to +0M BE)	4.48	3845.12	1599.55	256.39			
	12M BE (Attached to 0M BE)	4.64	4879.012	2217.899	288.57			
NBMC (15 - 30°)	Basic Tower	-	11492.185	4838.23	702.844	1632	-	32.2
	0M BE (Attached to Basic Body)	4.5	2459.71	719.72	101.754			
	3M BE (Attached to +0M BE)	4.72	1473.4	705.47	103.74			
	6M BE (Attached to +0M BE)	4.925	2507.98	1307.48	131.48	1740.53	-	33.24
	9M BE (Attached to +0M BE)	5.13	3978.368	1974.126	225.19			
	12M BE (Attached to +0M BE)	5.335	5098.26	2625.5	253.6			
NBMD (30 - 60°)/ DE (0 - 15°)	Basic Tower	-	17275.841	5172.54	120.15	2346.76	-	50.36
	0M BE (Attached to Basic Body)	5.00	3461.632	920.868	158.99			
	3M BE (Attached to +0M BE)	5.24	2359.844	556.03	132.467			
	6M BE (Attached to +0M BE)	5.49	4863.624	869.334	255.701			
	9M BE (Attached to +0M BE)	5.74	6945.83	1180.09	288.12			
	12M BE (Attached to +0M BE)	6.00	9486.42	1505.094	402.55			

Note:

1. The towers are designed for
 - a) Normal Span : 320 m
 - b) Conductor : AAAC Moose (for both circuits)
2. These towers are used for 220/220 kV MC Line in SBT Corridor & Vidyanagar Corridor (New-Devanahalli)

ABSTRACT OF TOWER WEIGHTS AND BASE WIDTHS

Sl. No.	Basic Tower Extn	110 kV SC TOWERS (KPTCL-1S-OLDSAE)			110 kV DC TOWERS (KPTCL-1D-OLDSAE)			110 kV SC TOWERS (KPTCL-1S-OLDKLP)			110 kV DC TOWERS (KPTCL-1D-OLDKLP)		
		Base width (in m)	Tower weight with Stub (in t)	B&N weight (in kg)	Base width (in m)	Tower weight with Stub (in t)	B&N weight (in kg)	Base width (in m)	Tower weight with Stub (in t)	B&N weight (in kg)	Base width (in m)	Tower weight with Stub (in t)	B&N weight (in kg)
1	A+0M	3.334	1.660	91	4.200	2.700	135	3.400	1.525	84	4.30	1.974	71
2	A+3M	3.820	2.004	108	4.705	3.128	155	3.868	1.808	100	4.87	2.301	79
3	A+6M	4.306	2.362	129	5.211	3.596	178	4.325	2.122	119	5.44	2.672	88
4	B+0M	4.826	1.933	131					2.218	77	6.00	3.315	86
5	B+3M	5.624	2.325	147					2.645	101	6.84	4.039	96
6	B+6M	6.410	2.857	165					2.902	126	7.68	4.493	108
7	C+0M	4.826	2.380	131	6.700	3.790	195		2.218	77	6.00	3.315	86
8	C+3M	5.624	2.875	150	7.699	4.594	220		2.645	101	6.84	4.039	96
9	C+6M	6.410	3.545	159	8.698	5.240	250		2.902	126	7.68	4.493	108
10	D+0M	4.826	3.070	174	7.400	4.910	258	5.000	3.006	141	7.20	4.61	182
11	D+3M	5.624	3.707	201	8.498	5.880	297	5.729	3.540	166	8.36	5.66	210
12	D+6M	6.410	4.453	219	9.596	6.690	331	6.400	4.130	193	9.52	6.127	218

Note: Weight of Stubs is included in Normal Tower weights only

A Type : 0° - 2° Deviation

The above 110KV towers are absolute and not to be used for new projects.

B Type : 2° - 15° Deviation

C Type : 15° - 30° Deviation

D Type : 30° - 60° Deviation & DE Condition

110 kV DC Narrow Based Tower
(Design Code : KPTCL-1D-NB)

Type of Tower	Base Width m x m	Fabricated Steel members (in kg)			Stub & Cleat (in kg)		Bolts & Nuts (in kg)
		HT	MS	Total	HT	MS	
DA Normal	2.0 x 2.0		2812.94	2812.94			207.2
+3M Extn	2.1 x 2.1		422.035	422.035		201	19.72
+6M Extn	2.3 x 2.3		816.947	816.947			36.2
DC Normal	2.5 x 2.5		4868.96	4868.96			284
+3M Extn	2.65 x 2.65		772.665	772.665		502.819	37.5
+6M Extn	2.82 x 2.82		1517.37	1517.37			71.2
DD Normal	3.2 x 3.2		6297	6297			248.473
+3M Extn	3.47 x 3.47		983	983		610.289	23
+6M Extn	3.75 x 3.75		1891.75	1891.75			71.28
+9M Extn	4.019 x 4.019		3474.07	3474.07		745	131.23
+12M Extn	4.3 x 4.3		4457.07	4457.07			154.23
Auxiliary cross arm	-		695.43	695.43	-	-	34.335

Note:

1. The towers are designed for
 - a) Normal Span : 320 m
 - b) Conductor : Lynx ACSR

110 kV MC Tower
(Design Code : KPTCL-1M-CPRI)

Type of Tower	Base Width m x m	Fabricated Steel members (in kg)			Stub & Cleat (in kg)		Bolts & Nuts (in kg)
		HT	MS	Total	HT	MS	
MA Normal	6.0 x 6.0	-	6901	6901	-	362	317
+3M Extn	6.8 x 6.8	-	864	864			33
+6M Extn	7.6 x 7.6	-	1737	1737			68
+9M Extn	8.4 x 8.4	-	1761	1761			72
MC Normal	6.8 x 6.8	-	12402	12402	-	820	435
+3M Extn	7.8 x 7.8	-	1543	1543			45
+6M Extn	8.8 x 8.8	-	2900	2900			96
+9M Extn	9.9 x 9.9	-	3008	3008			110
MD Normal	7.8 x 7.8	-	17280	17280	-	1039	512
+3M Extn	8.5 x 8.5	-	2013	2013			50
+6M Extn	9.2 x 9.2	-	3750	3750			105
+9M Extn	9.9 x 9.9	-	3888	3888			120

Note:

1. The towers are designed for
 - a) Normal Span : 320 m
 - b) Conductor : Lynx ACSR

110 kV DC Tower
(Design Code: KPTCL-1D-AQUS)

Type of Tower		Base width (B/B) in m	Tower weight (in kg)		Bolts, Nuts & Washers (in kg)	Stub weight (in kg)		Bolts, Nuts & Washers (in kg)
			HT	MS		HT	MS	
DA (0 - 2°)	NT	3.50	942.96	1911.00	135.45	147.00	-	3.24
	3 BE	3.95	169.44	332.88	20.28			
	6 BE	4.41	366.24	689.80	40.19			
	9 BE	4.87	695.28	1025.68	77.22	210.08	-	4.32
	12 BE	5.33	1032.52	1381.60	112.26			
	15 BE	5.79	1432.44	1720.60	140.19			
	18 BE	6.25	1852.00	2080.32	170.48			
	24 BE	6.71	2836.28	2904.04	231.63			
DB (0 - 15°)	NT	4.50	1587.90	2058.68	181.35	210.44	-	4.86
	3 BE	5.12	257.12	435.08	28.07			
	6 BE	5.75	594.00	849.88	55.87			
	9 BE	6.38	955.36	1296.52	86.05	212.48	-	4.86
	12 BE	7.01	1352.68	1800.56	117.57			
	15 BE	7.64	1523.34	2407.90	148.59			
	18 BE	8.27	1945.00	2994.43	184.52			
DC (15 - 30°)	NT	5.00	2044.90	1862.02	203.68	236.88	-	4.86
	3 BE	5.71	310.68	450.08	31.46			
	6 BE	6.43	688.12	917.80	62.64			
	9 BE	7.15	1099.88	1442.28	92.15	236.88	-	4.86
	12 BE	7.87	1293.08	1977.68	119.83			
	15 BE	8.59	1709.04	2728.20	167.40			
	18 BE	9.31	1942.28	3351.40	194.53			
DD (30 - 60°) & DE (0 - 15°)	NT	5.50	2969.89	1649.00	204.10	301.56	-	6.86
	3 BE	6.27	414.24	463.64	32.13			
	6 BE	7.04	861.80	982.68	64.54			
	9 BE	7.81	1348.56	1559.92	99.18	301.56	-	6.86
	12 BE	8.58	1645.04	2211.64	137.36			
	15 BE	9.35	2089.12	2971.64	173.85			
	18 BE	10.12	2476.76	3787.24	216.65			
Auxiliary cross arm	-	-	306.14	118.63	21.57	-		

Note:

1. The towers are designed for
 - a) Normal Span : 320 m
 - b) Conductor : Lynx ACSR

ABSTRACT OF TOWER WEIGHTS AND BASE WIDTHS

Sl. No.	Basic Tower / Extn	66 kV Single Circuit						66 kV Double Circuit								
		KPTCL-6S-OLDSAE			KPTCL-6S-OLDLT			KPTCL-6D-OLDKEC			KPTCL-6D-OLDLT			KPTCL-6D-OLDKLP		
		Base width (in m)	Tower Weight with Stub (in t)	B&N wt (in kg)	Base width (in m)	Tower Weight with Stub (in t)	B&N wt (in kg)	Base width (in m)	Tower Weight with Stub (in t)	B&N wt (in kg)	Base width (in m)	Tower Weight with Stub (in t)	B&N wt (in kg)	Base width (in m)	Tower Weight with Stub (in t)	B&N wt (in kg)
1	A+0M	2.000	1.126	137.72	2.495	1.210	75.000	2.800	1.506	93.220	3.323	1.658	83.000	4.200	1.293	56
2	A+3M	2.311	1.454	176.98	2.948	1.545	96.007	2.257	1.839	109.880	3.899	2.041	104.551	4.852	1.578	65
3	A+6M	2.622	1.756	213.82	3.404	1.888	111.761	3.727	2.164	127.140	4.476	2.443	121.000	5.695	1.897	70
4	B+0M				3.347	1.436	76.800							5.200	1.645	53
5	B+3M				4.019	1.796	95.916							6.205	2.029	61
6	B+6M				4.691	2.172	109.519							7.198	2.416	68
7	C+0M	3.000	1.619	156.69	4.250	1.669	84.700	4.600	2.355	129.700	4.360	2.500	150.400	5.250	1.910	63
8	C+3M	3.549	1.992	183.01	5.156	2.143	106.164	5.480	2.865	152.510	5.240	3.046	173.801	6.250	2.304	73
9	C+6M	4.099	1.395	209.33	6.063	2.566	120.388	6.361			6.113	3.504	198.109	7.206	2.762	80
10	D+0M	4.300	1.885	224.44	4.700	2.279	127.720	5.700	3.112	142.020	4.428	3.620	188.770	7.800	2.487	83
11	D+3M	5.162	2.506	258.16	5.518	2.821	149.926	6.660	3.744	168.870	5.325	4.296	215.157	6.868	3.030	97
12	D+6M	6.024	2.886	277.62	6.636	3.335	174.170	7.620	4.291	180.020	6.222	4.936	238.838	7.936	3.699	115

Note: Weight of Stubs is included in Normal Tower weights only
The above 66KV towers are absolute and not to be used for new projects.

A Type : 0° - 2° Deviation

B Type : 2° - 15° Deviation

C Type : 15° - 30° Deviation

D Type : 30° - 60° Deviation & DE Condition

66 kV DC Narrow Based Tower
(Design Code : KPTCL-6D-NB)

Type of Tower	Base Width m x m	Fabricated Steel members (in kg)			Stub & Cleat (in kg)			Bolts & Nuts (in kg)
		HT	MS	Total	HT	MS	Total	
DA Normal	1.4 x 1.4		1824	1824				135
+3M Extn	1.898 x 1.898		333	333		179	179	25
+6M Extn	1.549 x 1.549		649	649				35
DC Normal	1.6 x 1.6		2710	2710				165
+3M Extn	1.767 x 1.767		583	583		418	418	35
+6M Extn	1.934 x 1.934		1132	1132				70
DD Normal	1.8 x 1.8		3440	3440				180
+3M Extn	1.967 x 1.967		781	781		553	553	35
+6M Extn	2.134 x 2.134		1491	1491				50
Auxiliary cross arm	-	-	193.2	193.2	-	-	-	15.2

Note:

The towers are designed for

- a) Normal Span : 250 m
- b) Conductor : Coyote ACSR

66 kV DC Narrow Based Tower with Single Side Cross Arm
(Design Code : KPTCL-6D-NBS-MDKR)

Type of Tower	Base Width m x m	Fabricated Steel members (in kg)			Stub & Cleat (in kg)			Bolts & Nuts (in kg)
		HT	MS	Total	HT	MS	Total	
DA Normal	1.5 x 1.5	1382	1545	2927	215	23	237	212
+3M Extn	1.7 x 1.7	223	151	374				30
+6M Extn	1.9 x 1.9	430	284	714				41
+9M Extn	2.1 x 2.1	653	445	1098				65
+12M Extn	2.3 x 2.3	859	595	1405				75
DB Normal	1.8 x 1.8	2102	1756	3858	410	59	469	248
+3M Extn	1.9 x 1.9	367	168	535				28
+6M Extn	2.0 x 2.0	707	317	1024				39
+9M Extn	2.2 x 2.2	1074	501	1574				64
+12M Extn	2.3 x 2.3	1413	672	2085				76
DC Normal	2.0 x 2.0	2255	1917	4171	434	59	493	262
+3M Extn	2.1 x 2.1	374	226	599				39
+6M Extn	2.3 x 2.3	713	438	1151				55
+9M Extn	2.4 x 2.4	1087	686	1773				87
+12M Extn	2.5 x 2.5	1427	463	1890				103
DD Normal	2.6 x 2.6	2440	2409	4849	546	59	605	319
+3M Extn	2.8 x 2.8	280	287	567				40
+6M Extn	3.0 x 3.0	926	545	1471				56
+9M Extn	3.2 x 3.2	1406	876	2282				89
+12M Extn	3.4 x 3.4	1853	1184	3036				108

Note:

1. The towers are designed for
 - a) Normal Span : 200 m
 - b) Conductor : Coyote ACSR
2. These towers are used for 66 kV DC Kushalnagara - Madikere Line

66/66 kV MC Tower (4 Circuits)
(Design Code : KPTCL-6M-CPRI)

Type of Tower	Base Width m x m	Fabricated Steel members (in kg)			Stub & Cleat (in kg)		Bolts & Nuts (in kg)
		HT	MS	Total	HT	MS	
MA Normal	4.2 x 4.2	-	4178	4178	-	297	259
+3M Extn	4.8 x 4.8	-	557	557			29
+6M Extn	5.3 x 5.3	-	1201	1201			57
+9M Extn	5.9 x 5.9	-	1295	1295			57
MC Normal	5.2 x 5.2	-	6794	6794	-	550	257
+3M Extn	5.8 x 5.8	-	1054	1054			31
+6M Extn	6.5 x 6.5	-	2223	2223			68
+9M Extn	7.1 x 7.1	-	2301	2301			68
MD Normal	5.8 x 5.8	-	8688	8688	-	712	356
+3M Extn	6.5 x 6.5	-	1317	1317			39
+6M Extn	7.2 x 7.2	-	2664	2664			91
+9M Extn	7.9 x 7.9	-	2780	2780			95

Note:

1. The towers are designed for
 - a) Normal Span : 275 m
 - b) Conductor : Coyote ACSR

66/66 kV MC Narrow Base Tower (4 Circuits)
(Design Code: KPTCL-6M-NB-VMGL)

Type of tower	Base Width m x m	Fabricated Steel members (in kg)				Stub & Cleat (in kg)			
		HT	MS	Total	B&N	HT	MS	Total	B&N
MA Normal	2.56	5533.3	2257.1	7790.4	484.71	684		684	9.96
+3M Extn	2.78 x 2.78	973.55	102.06	1075.6	58				
+6M Extn	3.0 x 3.0	984.08	106.81	1090.9	58.52				
MC Normal	3.0 x 3.0	7416.9	2603.6	10020	581.44	984.96		985	11.95
+3M Extn	3.5 x 3.5	1345	245.08	1590.1	79.87				
+6M Extn	3.87 x 3.87	1371.4	267.43	1638.8	79.87				
MD Normal	3.0 x 3.0	16198	691.42	16889	772	1698.16		1698	52.54
+3M Extn	3.35 x 3.35	2657.5	1.52	2659.1	82				
+6M Extn	3.715 x 3.715	2678.6	1.94	2680.6	155				

Note:

1. The towers are designed for
 - a) Normal Span : 200 m
 - b) Conductor : Drake ACSR
2. These towers are used for 66 kV MC Line in Vemagal Industrial Area, Kolar

66 kV DC Tower
(Design Code: KPTCL-6D-NGML)

Type of Tower		Base width in m	Tower weight (in kg)		Bolts, Nuts & Washers (in kg)	Stub weight (in kg)		Bolts, Nuts & Washers (in kg)
			HT	MS		HT	MS	
DA (0 - 2°)	NT	3.00	1145.00	1240.00	170.36	104.80	-	1.60
	3 BE	3.42	217.52	219.56	28.81			
	6 BE	3.84	447.92	453.56	57.63			
	9 BE	4.26	735.04	672.16	88.84	140.44	-	3.19
	12 BE	4.68	1051.72	899.12	124.79			
DB (0 - 15°)	NT	4.00	1620.50	1020.24	177.10	144.32	-	3.19
	3 BE	4.63	370.72	195.76	37.07			
	6 BE	5.26	813.00	367.20	74.14			
	9 BE	5.89	1212.76	558.16	111.59	185.52	-	3.38
	12 BE	6.52	1468.44	777.88	150.42			
DC (15° - 30°)	NT	4.50	1595.76	1348.76	201.30	191.32	-	3.38
	3 BE	5.20	481.84	174.36	37.76			
	6 BE	5.90	997.84	371.24	76.27			
	9 BE	6.60	1310.76	590.52	114.03	209.76	-	3.38
	12 BE	7.30	1869.84	840.48	159.25			
DD (30° - 60°) & DE (0 - 15°)	NT	5.00	2197.90	1227.70	209.02	218.56	-	5.08
	3 BE	5.77	498.68	256.40	37.83			
	6 BE	6.55	1052.48	533.12	75.66			
	9 BE	7.32	1048.22	1292.42	108.77	264.92	-	5.08
	12 BE	8.09	1619.94	1672.10	151.11			
Auxiliary cross arm	-	-	285.50	106.50	19.56	-		

Note:

1. The towers are designed for
 - a) Normal Span : 275 m
 - b) Conductor : Coyote ACSR

66 kV DC Narrow Based Tower with Single Side Cross Arms
(Design Code: KPTCL-6D-NBS-HSR)

Sl. No.	Type of Tower	Type 'DA' (0° - 2°)		Type 'DD/DE'		
		Super Structure (in kg)	Bolt & Nuts (in kg)	Super Structure (in kg)		Bolt & Nuts (in kg)
		MS		HT	MS	
1	Normal Tower	2174.52	138.037	2672	3880	358.726
2	+3M Extn only	317.82	15.818	680	603	57.36
3	+6M Extn only	636.62	31.094	-	-	-
4	Stub	302.72	3.404	981.12	-	14.448

**Bill of Materials for 400 kV MC Towers suitable for
Quad Moose Conductor
(YTPS-BPS Line - M/s. L&T Design)
(Design Code : KPTCL-4M-QM-YTPS)**

Type of Tower		Base width (in mm)	Tower weight (in kg)		Bolts, Nuts & Washers (in kg)	Stub weight (in kg)		Bolts, Nuts & Washers (in kg)
			HT	MS		HT	MS	
MA	BTB		21145.59	8272.32	969.26			
	0 ME	17417 x 14639	2503.89	3140.81	192.04	956.23	0.00	15.78
	6 ME	19612 x 16212	1757.29	2944.38	149.42			
MB	BTB		44288.45	15003.76	2650.13			
	0 ME	18636	4687.78	5430.94	374.76	2396.13	0.00	74.17
	6 ME	21100	4079.88	5748.40	280.92			
MC	BTB		50215.68	14313.10	2701.88			
	0 ME	19803	6707.74	6651.88	431.02	2774.16	0.00	86.99
	6 ME	22482	4552.74	6119.81	308.44			
MD	BTB		65662.25	17114.77	3517.22			
	0 ME	20196	14076.22	2672.73	714.27			
	3 ME		17442.02	4190.48	727.93	3487.50	0.00	62.83
	6 ME	23000	8309.04	4589.90	412.30			
	9 ME		12238.68	6021.66	634.14			

DETAILS OF FOUNDATION OF TRANSMISSION LINE TOWERS NORMALLY USED

ABSTRACT OF CONCRETE AND EXCAVATION VOLUMES

(Common for Normal, + 3M, +6M and Body Extension)

FDN TYPE	BASIC TOWER EXTNS	KPTCL-6S-OLDSAE				KPTCL-6S-OLDLT				KPTCL-6D-OLDKC			KPTCL-6D-OLDKLP				BASIC TOWER EXTNS
		CONC (in m³)	EXCA (in m³)	REINF (in kg)	CONC (in m³)	EXCA (in m³)	REINF (in kg)	CONC (in m³)	EXCA (in m³)	REINF (in kg)	CONC (in m³)		EARTH EXCA (in m³)	Steel REINF (in kg)			
											01:02:04	01:03:06					
Normal	A	3.53	24.82	-	3.195	20.620	-	3.05	21.17	-	1.54	-	14.20	-	A		
D	B	-	-	-	3.302	22.250	-	2.08	-	-	2.08	-	20.60	-	B		
R	C	3.50	25.14	-	3.417	23.912	-	5.76	37.98	-	2.64	-	27.65	-	C		
Y	D	3.64	26.44	-	4.013	31.232	-	5.49	48.58	-	4.03	-	41.07	-	D		
Normal	A	4.91	39.02	-	4.600	37.363	-	5.06	37.26	-	3.50	-	23.00	-	A		
W	B	-	-	-	4.600	37.363	-	4.72	-	0.59	4.72	-	38.79	133	B		
E	C	6.78	48.92	-	5.073	41.760	-	9.00	73.73	-	5.82	0.72	52.27	166	C		
T	D	7.08	50.72	-	7.260	59.050	-	11.33	95.00	-	8.27	1.11	84.27	219	D		
Partially Submerged	A	10.55	66.01	939	4.600	37.363	-	8.39	56.44	-	4.51	0.62	36.99	118	A		
	B	-	-	-	5.331	44.042	-	6.48	-	0.93	6.48	-	57.62	175	B		
	C	11.13	71.63	-	5.332	44.020	-	11.83	91.25	-	7.83	1.11	75.84	215	C		
	D	11.67	74.08	-	9.910	76.250	-	13.24	107.03	-	10.46	1.51	111.63	274	D		
Fully Submerged	A	10.55	66.01	939	6.712	56.400	-	14.20	82.42	-	6.05	0.80	50.69	154	A		
	B	-	-	-	6.712	56.400	-	8.37	-	1.28	8.37	-	76.89	222	B		
	C	17.73	99.29	-	8.059	64.538	-	18.36	125.40	-	9.73	1.46	97.2	240	C		
	D	18.49	102.18	-	15.475	106.170	-	19.54	144.02	-	13.04	1.99	142.83	351	D		

FDN TYPE	BASIC TOWER EXTINS	KPTCL-6S-OLDSAE			KPTCL-6S-OLDLT			KPTCL-6D-OLDKC			KPTCL-6D-OLDKLP				BASIC TOWER EXTINS
		CONC (in m³)	EXCA (in m³)	REINF (in kg)	CONC (in m³)	EXCA (in m³)	REINF (in kg)	CONC (in m³)	EXCA (in m³)	REINF (in kg)	CONC (in m³)		EARTH EXCA (in m³)	Steel REINF (in kg)	
											01:02:04	01:03:06			
Soft Rock	A	7.12	16.87	-	3.104	5.155		5.81	16.76		1.90	-	4.99	41	A
	B	-	-	-	3.195	5.978					2.50	-	6.20	44	B
	C	9.51	26.72	-	3.304	6.863		7.27	22.19		2.60	-	7.91	51	C
	D	10.03	25.83	-	4.830	17.568		8.29	24.28		4.03	-	17.97	56	D
Wet Black Cotton	A	8.30	76.82	-	9.693	106.171	261.4	17.07	127.00	592	8.84	1.36	74.00	206	A
	B	-	-	-	9.693	106.175	261.4				11.94	1.91	110.00	291	B
	C	14.35	85.78	-	10.293	113.490	282.3	23.14	194.69	797	14.03	2.25	143.88	382	C
	D	14.85	87.87	-	14.779	167.020	548.2	35.95	246.96	1245	18.90	3.04	211.68	593	D
Hard Rock	A	1.21	1.03	37	1.190	1.010		1.06	0.93	51	-	-	-	-	A
	B	-	-	-	1.190	1.010					-	-	-	-	B
	C	1.62	1.44	65	1.191	1.008		1.12	1.00	61	-	-	-	-	C
	D	1.62	1.44	65	4.830	17.568		1.55	1.43	73	-	-	-	-	D
Wet Fissured Rock (WFR)	A	-	-	-							3.12	-	5.49	44	A
	B	-	-	-							4.77	-	13.61	50	B
	C	-	-	-							5.96	-	22.03	56	C
	D	-	-	-							9.51	-	40.11	61	D
Submerged Fissured Rock (SFR)	A	-	-	-							5.91	-	18.98	44	A
	B	-	-	-							8.95	-	29.23	50	B
	C	-	-	-							10.87	-	42.45	56	C
	D	-	-	-							16.50	-	67.79	60	D

DETAILS OF FOUNDATION OF TRANSMISSION LINE TOWERS NORMALLY USED

ABSTRACT OF CONCRETE AND EXCAVATION VOLUMES

(Common for Normal, + 3M, +6M and Body Extension)

FDN TYPE	BASIC TOWER EXTNS	KPTCL-1S-OLDLT										KPTCL-1S-OLDKLP			
		CONC (in m³)				CONC (in m³)				REINF (in kg)		CONC (in m³)		EXCA (in m³)	REINF in kg
		A	B	C	D	16.90	17.60	18.22				01:02:04	01:03:06		
Normal Dry	A	2.59	2.64	2.68	16.90	17.60	18.22					2.24		21.07	
	B	2.72	2.77	2.86	18.40	19.20	20.40					3.37		32.32	
	C	3.10	3.23	3.35	24.34	25.48	26.63					3.81		37.36	
	D	4.77	4.91	5.10	42.86	44.28	45.70					5.03		48.27	
Normal Wet	A	4.70	4.83	4.94	31.55	32.41	43.37					4.83	0.56	35.38	110
	B	5.30	5.58	5.88	36.60	38.60	40.70					6.94	0.90	59.74	118
	C		7.27			49.46						8.16	1.06	73.01	212
	D		14.51			96.43						13.35		94.08	
Partially Submerged	A	6.82	7.22	7.59	45.50	47.67	49.85					6.69	0.9	52.71	166
	B	6.93	7.65	8.50	47.20	51.80	56.60					9.21	1.30	82.85	242
	C		12.23			75.14						10.60	1.49	99.15	303
	D		14.20			142.20				468		12.97	1.76	129.10	331
Fully Submerged	A	10.42	10.98	11.54	64.40	67.02	69.63					8.49	1.87	71.27	218
	B	11.70	12.90	14.20	72.30	78.00	83.90					11.79	1.75	108.40	341
	C		13.60			109.60				384		13.37	1.97	127.80	421
	D		20.36			187.10				538		13.81	1.52	138.72	369

FDN TYPE	BASIC TOWER EXTINS	KPTCL-1S-OLDLT								KPTCL-1S-OLDKLP						
		CONC (in m³)				CONC (in m³)				REINF (in kg)		CONC (in m³)		EXCA (in m³)	REINF in kg	
												01:02:04	01:03:06			
Dry Soft Rock	A	3.59	3.63	4.43	8.43	9.42	10.40							2.38	7.60	25
	B	3.98	4.25	4.55	9.00	10.00	11.10							2.49	8.57	41
	C	6.47	6.72	6.59	18.03	18.52	19.49							2.68	9.65	41
	D	12.07	12.07	13.00	35.26	35.89	39.52							9.398	43.01	
Wet Soft / Fissured Rock	A													4.07	9.93	25
	B													4.84	13.15	41
	C													5.36	17.55	119
	D													11.91	38.32	284
Wet Black Cotton	A	12.25	13.00	14.36	105.50	192.50	116.50							12.17	101.00	308
	B	14.36	15.20	14.62	116.50	1223.70	131.00							16.21	151.59	515
	C		18.10			163.00								18.30	178.02	651
	D		31.30			250.00								22.13	232.32	713
Hard Rock	A		1.60			1.40								1.66	1.13	52
	B		2.00			1.80								1.92	1.39	52
	C		2.30			2.00								2.13	1.62	89
	D		3.40			3.24								2.33	1.84	92
Submerged Fissured Rock (SFR)	A													6.37	17.88	25
	B													7.81	24.32	41
	C													7.95	35.93	194
	D													18.316	120.66	404

DETAILS OF FOUNDATION OF TRANSMISSION LINE TOWERS NORMALLY USED

ABSTRACT OF CONCRETE AND EXCAVATION VOLUMES
(Common for Normal, + 3M, +6M and Body Extension)

FDN TYPE	BASIC TOWER EXTINS	KPTCL-1D-OLDSAE				110 kV DC R&C Design			KPTCL-1D-OLDKLP			
		CONC (in m ³)	EXCA (in m ³)	REINF (in kg)	CONC (in m ³)	EXCA (in m ³)	REINF (in kg)	CONC (in m ³)	EXCA (in m ³)	Steel REINF (in kg)	CONC (in m ³)	EXCA (in m ³)
Normal Dry	A	3.64	26.24		3.440	24.986		2.35			23.06	
	B				5.048	42.439		3.34			35.82	
	C	5.18	42.21		6.359	54.684		4.32			43.77	
	D	8.10	64.03		8.736	71.424		7.70			66.27	
Normal Wet	A	6.23	50.92	54.44				5.08			41.53	
	B							8.54			66.64	
	C	10.50	78.64	81.12	10.93	81.12	486	9.41	1.22	260	92.06	260
	D	21.28	130.68		21.28		950	12.88	1.56	427	134.87	427
Partially Submerged	A	8.45	66.27		8.158	58.538		6.69	1.00		61.94	179
	B				13.991	95.287		8.38	1.20		90.75	248
	C	11.70	109.44		21.980	135.200	486	14.62	2.18	459	155.52	459
	D	17.51	166.06		27.007	161.312	950	15.97	2.42	615	171.40	615
Fully Submerged	A	9.54	93.41		11.385	68.920	328	8.78	1.39		82.98	241
	B				16.295	117.211		10.55	1.60		117.50	319
	C	15.51	147.00		26.519	152.352	624	14.62	2.18	450	155.50	450
	D	22.80	215.73		31.575	180.000	1233	19.42	3.04	835	211.60	835

FDN TYPE	BASIC TOWER EXTINS	KPTCL-ID-OLDSAE				110 kV DC R&C Design			KPTCL-ID-OLDKLP			
		CONC (in m³)		EXCA (in m³)	REINF (in kg)	CONC (in m³)	EXCA (in m³)	REINF (in kg)	CONC (in m³)		EARTH EXCA (in m³)	Steel REINF (in kg)
									01:02:04	01:03:06		
Dry Soft Rock	A	4.39	7.80	181	6.742	9.236			2.01		7.59	46
	B				7.865	10.934			3.41		11.62	56
	C	7.35	28.66	369	14.667	28.572			4.50		20.08	57
	D	11.04	54.64	618	15.063	35.334			7.74		34.00	59
Wet Soft / Fissured Rock	A	10.59	50.87	366	9.659	21.946			5.05		14.48	51
	B				13.399	27.953			7.14		28.50	61
	C	17.07	101.11	718	24.227	57.897			10.23		42.50	61
	D	24.57	158.32	1410	30.813	67.829			16.34		66.45	61
Wet Black Cotton	A	14.81	151.23	468	10.425	68.926			12.34	2.04	117.60	359
	B				12.713	80.162			15.60	2.52	177.80	558
	C	20.34	204.68	765	21.864	139.392			20.31	3.20	221.86	738
	D	29.46	281.66	1636	25.703	156.800			26.43	4.29	291.00	1276
Hard Rock	A	1.49	1.31	43								
	B											
	C	2.66	2.48	83								
	D	4.24	4.50	154								
Submerged Fissured Rock (SFR)	A								9.96		34.90	51
	B								12.56		62.06	61
	C								17.95		72.21	61
	D								14.56	2.18	102.39	509

DETAILS OF FOUNDATION OF TRANSMISSION LINE TOWERS NORMALLY USED

ABSTRACT OF CONCRETE AND EXCAVATION VOLUMES
(Common for Normal, + 3M, +6M and Body Extension)

FDN TYPE	BASIC TOWER EXTNS	KPTCL-2S-OLD			KPTCL-2DKCOLD			KPTCL-2D-LTOLD			KPTCL-2D-KLPOLD			
		CONC (in m ³)	EXCA (in m ³)	REINF (in kg)	CONC (in m ³)	EXCA (in m ³)	REINF (in kg)	CONC (in m ³)	EXCA (in m ³)	REINF (in kg)	CONC (in m ³)		EXCA (in m ³)	REINF (in kg)
											01:02:04	01:03:06		
Normal Dry	A	2.92	18.54		3.340	22.580		3.637	29.70		3.54		32.15	
	B							5.696	51.80		5.33		47.80	
	C	4.08	29.07		6.400	50.270		7.148	63.40		6.82		56.66	
	D	5.46	41.28		7.820	60.550		12.672	98.40		9.37	1.48	109.44	492
Normal Wet	A	4.82	33.93		5.910	41.990		7.816	56.60		6.14	0.76	50.63	167
	B							10.992	116.10		10.73	1.27	95.43	294
	C	8.27	57.92		14.123	96.180		12.708	138.30		11.00	1.51	111.63	301
	D	11.60	85.64		16.720	111.080		19.016	197.40		17.34	2.66	187.13	806
Partially Submerged	A	9.60	59.69		9.520	61.250		8.792	86.10		9.11	1.12	71.29	226
	B							14.620	157.20		13.60	1.80	130.68	350
	C	16.38	95.48		22.772	134.400		17.212	194.80		13.79	2.02	145.32	431
	D	20.46	128.86		24.870	146.110		24.308	256.70		21.07	3.43	236.50	1270
Fully Submerged	A	14.94	80.14		18.680	94.170		11.842	118.20		11.88	1.53	94.25	297
	B							19.140	206.40		16.80	2.38	168.70	498
	C	24.06	122.33		38.740	186.440		22.764	241.20		16.86	2.58	181.59	602
	D	29.28	162.53		39.910	196.020		30.848	328.90		26.67	4.25	289.30	1409

FDN TYPE	BASIC TOWER EXTINS	KPTCL-2S-OLD			KPTCL-2DKCOLD			KPTCL-2D-LTOLD			KPTCL-2D-KLPOLD			
		CONC (in m³)	EXCA (in m³)	REINF (in kg)	CONC (in m³)	EXCA (in m³)	REINF (in kg)	CONC (in m³)	EXCA (in m³)	REINF (in kg)	CONC (in m³)		EXCA (in m³)	REINF (in kg)
											01:02:04	01:03:06		
Soft Rock	A				7.930	17.080		5.184	29.91	267.04	6.26		24.98	47
	B				13.300	39.060		9.374	60.00	440.20	11.26		47.04	59
	C				16.490	46.720		10.626	71.40	551.68	14.19		56.84	60
	D				18.390	85.290		16.472	114.60	815.08	25.83		98.36	62
Wet Black Cotton	A				39.250	179.480		16.696	167.80	844.40	14.14	2.24	133.23	461
	B				44.120	188.790		26.528	286.90	1218.00	22.45	3.39	234.40	704
	C							30.304	327.60	1560.80	23.22	3.72	255.00	985
	D							41.068	428.70	2347.80	34.13	5.64	377.60	2134
Hard Rock	A	2.09	1.90	46										
	B													
	C	2.53	2.34	55										
	D	3.85	3.66	110										
Wet Fissured Rock (WFR)	A										10.98		36.32	53
	B										11.99	1.71	77.48	297
	C										13.16	1.98	92.15	432
	D										21.30	3.23	167.20	1035
Submerged Fissured Rock (SFR)	A										11.16	1.80	68.92	310
	B										16.92	2.61	125.26	523
	C										18.59	2.96	144.56	734
	D										29.69	4.71	249.80	1706

FOUNDATION VOLUMES FOR 66 kV MC TOWERS

(Common for Normal, + 3M & + 6M Body Extension Towers)

(Design Code:KPTCL-6M-CPRI)

Type of Soil/ Foundation	Tower Type	Concrete Mix. (in m ³ /Twr.)		Earth Exvn. (in m ³ /Twr.)	Steel Re inf (in kg/Twr.)
		M20	1:3:6		
Normal Dry	MA	11.5	1.20	90	760
	MB	-	-	-	-
	MC	21.0	2.05	150	1612
	MD	29.9	2.90	205	2332
Normal Wet	MA	20.3	2.04	150	1120
	MB	-	-	-	-
	MC	40.0	4.04	280	2700
	MD	54.0	5.40	365	4584
Partially Sub- Merged	MA	25.00	2.75	183	1284
	MB	-	-	-	-
	MC	45.08	4.60	315	3136
	MD	54.00	5.40	364	4324
Fully Sub- Merged	MA	30.08	3.20	222	1444
	MB	-	-	-	-
	MC	44.28	4.60	315	3136
	MD	54.00	5.40	364	4452
Wet Black Cotton	MA	30.70	3.20	222	1496
	MB	-	-	-	-
	MC	52.76	5.40	365	3728
	MD	71.21	7.20	476	5816
Dry Fissured Rock	MA	20.00	2.05	165	1132
	MB	-	-	-	-
	MC	39.00	4.04	215	2828
	MD	50.08	5.40	292	4452
Submerged Fissured Rock	MA	30.70	3.20	170	1440
	MB	-	-	-	-
	MC	45.08	4.60	250	3136
	MD	58.01	5.80	316	4548

FOUNDATION VOLUMES FOR 110 kV MC TOWERS
(Common for Normal, + 3M, & + 6M Body Extension Towers)
(Design Code:KPTCL-1M-CPRI)

Type of Soil/ Foundation	Tower Type	Concrete Mix. (in m ³ /Twr.)		Earth Exvn. (in m ³ /Twr.)	Steel Re inf (in kg/Twr.)
		M20	1:3:6		
Normal Dry	MA	12.0	1.3	95	836
	MB	-	-	-	-
	MC	32.8	3.2	225	2856
	MD	43.0	4.0	270	4148
Normal Wet	MA	24.6	2.5	175	1300
	MB	-	-	-	-
	MC	58.9	6.0	390	5100
	MD	84.6	7.7	510	8384
Partially Sub- Merged	MA	28.4	2.9	205	1388
	MB	-	-	-	-
	MC	66.7	6.8	450	5832
	MD	86.0	8.7	575	8676
Fully Sub- Merged	MA	33.2	3.6	245	1544
	MB	-	-	-	-
	MC	75.0	7.7	510	6224
	MD	105.0	10.0	640	9080
Wet Black Cotton	MA	33.8	3.6	245	1604
	MB	-	-	-	-
	MC	76.0	7.7	510	6468
	MD	96.5	10.0	640	9788
Dry Fissured Rock	MA	24.2	2.5	130	1252
	MB	-	-	-	-
	MC	58.0	6.0	320	4872
	MD	76.0	7.7	425	8032
Submerged Fissured Rock	MA	33.8	3.6	185	1608
	MB	-	-	-	-
	MC	76.0	7.7	425	6192
	MD	96.5	10.0	545	9972

FOUNDATION VOLUMES FOR 220 kV/110 kV
(Common for Normal, + 3M, & + 6M Body Extension Towers)
(Design Code:KPTCL-21M-KHMR)

Type of Soil/ Foundation	Tower Type	Concrete Mix. (in m ³ /Twr.)		Earth Exvn. (in m ³ /Twr.)	Steel Re inf (in kg/Twr.)
		1:2:4	1:3:6		
Normal DRY	MA	3.53	0.40	39	82
	MB	9.20	1.35	101	707
	MC	12.14	1.74	125	935
	MD	16.93	2.45	173	1390
Normal WET	MA				
	MB				
	MC				
	MD				
Partially Sub- Merged	MA	12.14	1.51	112	82
	MB	20.64	3.36	232	1688
	MC	28.00	4.05	276	1888
	MD	36.47	5.20	350	2849
Fully Sub- Merged	MA	17.20	1.68	123	82
	MB	28.89	4.23	288	1559
	MC	36.90	5.00	337	1968
	MD	44.96	6.50	432	3258
Wet Black Cotton	MA				
	MB				
	MC				
	MD				
Dry Fissured Rock	MA	6.12	0.76	33	82
	MB	12.93	2.05	101	965
	MC	16.77	2.52	127	1291
	MD	23.08	3.36	173	1778
Submerged Fissured Rock	MA	22.70	2.05	101	82
	MB	31.29	4.61	243	1654
	MC	36.74	5.41	288	2246
	MD	48.12	6.96	376	3513

FOUNDATION VOLUMES FOR 220 kV MC TOWER
(Common for Normal, +3M & +6M Body Extension Tower)
(Design Code:KPTCL-2M-DGM)

Type of Soil/ Foundation	Tower Type	Concrete Mix. (in m ³ /Twr)		Earth Exvn. (in m ³ /Twr)	Steel Re inf (in kg/Twr)
		1:2:4	1:3:6		
Normal DRY	MA	-	-	-	-
	MB	-	-	-	-
	MC	-	-	-	-
	MD	-	-	-	-
Normal WET	MA	17.16	2.244	191.8	1887
	MB	47.96	5.100	401.0	4916
	MC	-	-	-	-
	MD	-	-	-	-
Partially Sub- Merged	MA	20.24	2.82	236.2	2057
	MB	61.06	6.73	521.0	6167
	MC	-	-	-	-
	MD	-	-	-	-
Fully Sub- Merged	MA	-	-	-	-
	MB	-	-	-	-
	MC	-	-	-	-
	MD	-	-	-	-
Wet Black Cotton	MA	-	-	-	-
	MB	-	-	-	-
	MC	-	-	-	-
	MD	145.96	12.0	933	11225
Dry Fissured Rock	MA	14.95	2.8	98.1	1508
	MB	35.5	3.2	190.9	3602
	MC	-	-	-	-
	MD	40.1	5.0	273	6190
Submerged Fissured Rock	MA	-	-	-	-
	MB	-	-	-	-
	MC	-	-	-	-
	MD	95.6	10.36	637	9030

FOUNDATION VOLUMES FOR 220 kV DC NB TOWER
(Common for Normal, +3M & +6M Body Extension Towers)
(Design Code:KPTCL-2D-NB-NRS)

Type of Soil / Foundation	Tower Type	Concrete Mix. (in m ³ /Twr.)		Earth Exvn. (in m ³ /Twr.)	Steel Re inf (in kg/Twr.)
		1:2:4	1:3:6		
Soft Rock	DA	27.00	1.80	142	988
	DB & DE	67.43	4.14	343	2482
Wet Soft Rock	DA	34.70	2.45	199	1275
	DB & DE	-	-	-	-
Hard Rock	DA	-	-	-	-
	DB & DE	65.93	-	93.26	3141

220/66 kV MC TOWER
(Design Code:KPTCL-26M-BIAL)

Tower Type	Soil Classification										1:3:6	M20	Steel
	NDS	Wet	PS	FS	WBC	DFR	SFR	PSFR	Hard Rock	m ³			
A+0, +3, +6	47.70				154.00	16.90				1.35	0.41	3.40	86.50
			96.00	123.00							0.00	1.50	91.20
											0.51	4.13	86.50
											1.95	12.28	832.00
											1.51	10.20	584.00
											1.15	8.36	527.00
B+0, +3, +6	103.97					90.99					1.62	12.11	912.00
											1.30	9.98	781.00
											5.41	32.83	2317.00
											1.68	12.34	1042.82
											1.92	13.74	1108.00
											5.83	37.81	2586.00
D+0, +3, +6	172.50									6.73	0.00	7.03	212.13
											2.38	17.88	1377.34
											2.20	16.72	1496.00
											6.60	44.27	3262.00

220 kV DC NARROW BASED TOWER
(DesignCode:KPTCL-2D-NB-HAL)

Tower Type	Soil Classification											1:3:6	M15	Steel	
	NDS	Wet	PS	FS	WBC	DFR	SFR	PSFR	Hard Rock						
A+0, +3, +6, +9				221.00									2.94	33.30	1636
			213.00										2.81	32.30	1586
						109.76							1.74	22.94	1148
B+0, +3						136.00							2.11	28.55	1483
B+6, +9						154.00							2.38	31.32	1533
C+0, +3, +6						213.90							3.00	40.04	2060
C+9				485.20									6.05	67.41	5262
						213.80							3.00	40.93	2035
D+0, +3, +6												15.29	0.00	15.73	605
						235.10							3.28	51.80	2777
DD/DE +9												15.29	0.00	15.73	605
						237.80							3.28	50.74	2771

400 kV DC LINE
(Design Code:KPTCL-4D-TM-BTTPS)

Soil Classification												
Tower Type	NDS	Wet	PS	FS	WBC	DFR	SFR	PSFR	Hard Rock	1:3:6	M20	Steel
										m ³	m ³	kg
A+0, +3, +6, +9							124.03		77.14	1.68	11.71	613.00
				158.12						2.56	16.85	987.00
			125.19							2.22	14.77	865.00
		62.38								1.72	11.86	667.00
										0.78	5.78	405.81
			100.23				43.60			1.34	9.74	509.00
					224.99					3.25	21.15	1178.00
										1.03	7.02	504.00
									178.30	3.56	24.60	2334.00
B+0, +3, +6, +9										3.72	25.85	2197.00
				312.12						4.61	31.47	2680.00
			255.03							6.00	43.93	2734.00
		130.68			400.00					1.80	14.77	1331.00
			203.69							2.92	20.85	1895.00
							116.44			2.42	17.13	1674.00

Soil Classification											1:3:6	M20	Steel
Tower Type	NDS	Wet	PS	FS	WBC	DFR	SFR	PSFR	Hard Rock	m ³	m ³	kg	
C+0, +3, +6, +9				339.63					199.23	3.94	27.08	2574.00	
			279.95			127.92				5.04	34.15	3081.00	
					434.88					4.10	28.32	2590.00	
										2.64	18.48	1933.00	
		136.28	224.99							6.54	47.49	2995.00	
D+0, +3, +6, +9				467.25					279.67	5.58	42.14	3972.00	
										7.06	53.55	5118.00	
			389.88							5.83	44.73	4496.00	
						183.27				3.80	29.78	3007.00	
		202.71	320.75			591.36				9.03	75.21	4831.00	
D+12				476.28						2.90	25.02	2189.00	
						191.81				7.20	56.24	5550.00	
										3.96	32.62	3221.00	

Soil Classification											1:3:6	M20	Steel
Tower Type	NDS	Wet	PS	FS	WBC	DFR	SFR	PSFR	Hard Rock		m ³	m ³	kg
D+18/25				538.88					324.17		6.38	49.59	4610.00
			439.23								8.19	63.72	6012.00
						185.89					6.61	52.02	5289.00
					675.00						4.14	33.83	3628.00
											10.36	86.99	5583.00
		363.00									5.41	42.98	4479.00
	221.88										3.20	28.32	2548.00

400 kV DC LINE
(Design Code:KPTCL-4D-QM-UPCL)

Tower Type	Soil Classification										1:3:6	M20	Steel
	NDS	Wet	PS	FS	WBC	DFR	SFR	PSFR	m ³	m ³			
D+3	453.96					421.85					7.20	64.50	7544.20
					1078.00						8.00	78.71	8385.90
							811.30				17.30	168.20	14523.20
											14.80	151.28	12906.50
			790.60	923.42							14.80	142.02	12690.40
										598.65		121.26	10768.20
D+6		672.60									11.10	108.10	10834.40
											10.73	99.68	10009.70
						429.05					8.13	79.98	8515.10
							826.30				15.05	153.32	13427.50
											14.96	143.27	12777.60
										607.23		99.68	10009.70
		672.60									11.25	109.51	10894.40
											17.67	171.10	15107.60
	468.97		805.40								7.44	66.11	7949.30
											12.88	120.77	11520.70

Soil Classification											1:3:6	M20	Steel
Tower Type	NDS	Wet	PS	FS	WBC	DFR	SFR	PSFR	m ³	m ³	m ³	kg	
D+9			805.40			445.15	836.36		8.19	81.75	8366.90		
				944.77				615.86	15.23	154.49	13517.30		
		695.43							12.88	120.77	11520.70		
D+18	468.97								11.40	110.95	11048.70		
		695.43							15.14	144.60	13156.80		
									11.10	102.49	10503.90		
D+25									7.44	66.11	7949.30		
							851.57		15.49	156.91	13942.30		
		695.43						633.31	11.10	103.14	10406.70		
D+25									11.70	115.39	11303.20		
						467.52			8.58	84.42	9326.10		
		704.67					861.80		15.66	162.33	14179.80		
D+25									11.25	108.17	10425.20		
									11.70	117.61	11412.60		
						467.52		633.31	8.58	84.42	9326.10		

Soil Classification											
Tower Type	NDS	Wet	PS	FS	WBC	DFR	SFR	PSFR	1:3:6	M20	Steel
									m ³	m ³	kg
B+3	243								3.87	29.01	3760.70
					661.57	230.71			4.51	36.28	4374.40
							492.00		10.73	80.61	8143.40
									8.91	70.19	6965.50
					546.75				8.84	69.15	6460.70
				457.57					7.38	55.97	5714.30
			376.32						6.05	48.45	4748.30
									6.50	51.15	5716.10
B+6	245.71								3.92	29.69	3763.90
						233.35			4.56	35.45	4619.60
							489.12		8.98	71.16	7070.80
									8.91	69.22	6443.40
					550.81				7.44	57.25	5655.50
			379.69	461.28					6.11	48.55	4833.00
									6.50	51.15	5716.10
						675.00			10.95	81.88	8461.40

Soil Classification											
Tower Type	NDS	Wet	PS	FS	WBC	DFR	SFR	PSFR	1:3:6	M20	Steel
									m ³	m ³	kg
B+9						236.00			4.61	35.73	4635.50
							492.96		9.05	72.70	7005.70
				554.88					8.98	69.86	6726.80
				465.00					7.50	59.03	5657.60
			386.47						6.61	52.14	5758.30
		248.43				675.00			6.22	49.29	4930.10
A+3									10.95	81.88	8461.40
									3.96	29.93	3776.70
		93.95							1.43	10.28	1273.50
						88.50			1.71	12.29	1463.40
					326.72				5.15	32.99	2618.40
					244.31			210.41	3.92	27.11	2375.20
			200.11					3.83	24.62	2169.30	
		164.77						3.12	20.35	1862.00	
								2.56	17.38	1608.70	
								141.29	2.70	19.79	1791.60

Soil Classification											
Tower Type	NDS	Wet	PS	FS	WBC	DFR	SFR	PSFR	1:3:6	M20	Steel
									m ³	m ³	kg
A+6						90.14			1.74	12.63	1453.20
					329.89				5.20	33.20	2729.00
		164.77		249.80			212.95		3.96	27.64	2359.60
	95.65							143.38	3.92	24.90	2241.90
A+9									2.56	17.61	1567.20
									2.74	20.11	1801.30
	95.65								1.46	10.73	1295.20
C+3			207.59						3.24	20.85	1960.70
		167.10							1.46	10.73	1295.20
									2.59	17.81	1573.10
	314.22					297.00			4.95	41.61	4878.80
					800.44				5.62	48.38	5690.40
							603.58		12.80	107.42	10549.60
C+3									10.80	93.77	9391.50
		472.76		568.28					9.05	73.33	7587.60
									7.50	61.32	6496.90
								436.84	7.94	67.02	7599.40
				695.43					11.10	86.94	9671.20

Soil Classification											1:3:6	M20	Steel
Tower Type	NDS	Wet	PS	FS	WBC	DFR	SFR	PSFR	m ³	m ³	m ³	kg	
C+6						303.05			5.72	49.00	5791.50		
					810.35				12.96	110.47	10413.30		
							604.71		10.95	95.74	9471.50		
			484.22						7.69	63.49	6753.80		
		323.57						444.17	8.06	68.17	7651.90		
				589.29					5.10	42.47	5105.70		
C+9						306.10			5.78	49.31	5944.50		
									11.10	98.10	9623.60		
							620.86		7.69	63.64	6757.60		
			484.22						8.19	70.10	7617.30		
		323.57							5.10	42.47	5105.70		
				589.29					9.38	75.44	7941.50		
				695.43				11.10	86.94	9671.20			
					820.33			13.12	111.55	10659.80			

66 kV DC NARROW BASED TOWER
(Design Code:KPTCL-6D-NB)

		Soil Classification										1:3:6	M20	Steel
Tower Type	NDS	PSS	FSS	WET	WBC	DFR	SFR	m ³	m ³	m ³	kg			
A NT	32.67								0.45	5.44	198.40			
		50.43							0.72	7.34	313.41			
			48.00						0.68	7.07	288.16			
				48.00					0.68	7.07	288.16			
						52.92			0.76	7.61	323.42			
A+3M, +6M						16.38			0.33	4.35	168.74			
							28.02		0.57	7.14	268.44			
	38.88								0.54	6.09	233.38			
		58.08							0.84	8.97	343.50			
				60.75					0.88	9.30	376.82			
				55.47					0.80	8.64	337.16			
					63.48				0.92	10.19	373.11			
						22.46			0.45	5.02	213.51			
							33.92		0.68	9.22	418.46			

Soil Classification										
Tower Type	NDS	PSS	FSS	WET	WBC	DFR	SFR	1:3:6	M20	Steel
C NT (03° to 10° deviation)	50.43							m ³	m ³	kg
		72.03						0.72	9.70	363.83
			75.00					1.05	12.21	486.18
				75.00				1.10	12.67	508.84
								1.10	12.67	506.74
					81.12			1.20	14.51	291.57
							29.88	0.61	7.71	307.29
								0.92	11.77	522.69
		60.75						0.88	11.32	424.41
			90.75					1.35	15.95	610.80
C+3M, +6M (03° to 10° deviation)			94.08					1.40	16.51	655.24
				90.75				1.35	15.95	628.95
					97.47			1.45	17.07	719.66
						38.00		0.76	9.39	352.91
							50.21	1.01	14.44	695.96

Soil Classification										
Tower Type	NDS	PSS	FSS	WET	WBC	DFR	SFR	1:3:6	M20	Steel
C NT (11° to 20° deviation)	58.08							m ³	m ³	kg
		84.27						0.84	10.97	424.44
			90.75					1.25	15.50	596.50
				81.12				1.35	16.49	630.63
								1.20	14.97	571.63
					94.08			1.40	17.05	696.74
						33.92		0.68	9.22	363.35
							52.69	1.05	15.02	660.99
	72.03							1.05	14.11	565.77
		104.43						1.56	18.18	843.13
C+3M, +6M (11° to 20° deviation)			104.43					1.56	18.40	868.00
				97.47				1.45	17.22	796.75
					111.63			1.68	19.62	996.49
						38.78		0.84	10.66	484.96
							71.63	1.40	18.16	869.50

Soil Classification										
Tower Type	NDS	PSS	FSS	WET	WBC	DFR	SFR	1:3:6	M20	Steel
CNT (21° to 30° deviation)	63.48							m ³	m ³	kg
		94.08						0.92	11.77	492.37
			97.49					1.40	16.65	774.11
				90.75				1.45	17.07	819.62
								1.35	15.95	734.65
					99.18			1.48	17.36	877.21
						34.24		0.70	10.03	481.93
							59.18	1.25	18.33	842.90
		94.08						1.40	20.05	904.77
			138.72					2.11	29.58	1398.09
D+3M, +6M (41° to 50° deviation)			147.00					2.24	31.36	1482.35
				142.83				2.17	30.47	1388.54
					151.23			2.31	32.28	1650.95
						67.43		1.40	20.42	977.67
							110.40	2.24	33.57	1506.32

Soil Classification										
Tower Type	NDS	PSS	FSS	WET	WBC	DFR	SFR	1:3:6	M20	Steel
D NT (51° to 60° deviation)	84.27							m ³	m ³	kg
		126.75						1.25	17.61	886.14
			130.68					1.92	25.56	1264.49
				122.88				1.98	26.35	1341.82
								1.86	24.79	1197.17
						138.72		2.11	27.97	1558.46
D+3M, +6M (51° to 60° deviation)						55.86		1.15	17.02	802.01
							95.22	1.92	27.24	1349.22
	115.32							1.74	24.78	1268.42
		153.36						2.34	32.61	1597.27
			155.52					2.38	33.20	1771.85
				151.23				2.31	32.76	1596.53
					168.75		2.59	36.34	2095.58	
						76.21		1.56	23.79	1058.23
							110.29	2.17	38.59	1694.63

Soil Classification										
Tower Type	NDS	PSS	FSS	WET	WBC	DFR	SFR	1:3:6	M20	Steel
C+3M, +6M (21° to 30° deviation)	81.12							m ³	m ³	kg
		115.32						1.20	15.64	684.76
			119.07					1.74	20.24	1012.36
				115.32				1.80	20.88	1057.46
								1.74	20.24	1049.01
					126.75			1.92	22.18	1332.43
						43.69		0.92	13.32	616.37
							76.65	1.62	23.00	1098.97
	75.00							1.10	15.30	630.56
			111.63					1.68	22.54	933.56
D NT (31° to 40° deviation)			111.63					1.68	22.54	1051.28
				108.00				1.62	21.82	946.37
					115.32			1.74	23.28	1077.89
						39.55		0.88	12.53	602.11
							68.86	1.43	20.78	1068.76

Soil Classification										
Tower Type	NDS	PSS	FSS	WET	WBC	DFR	SFR	1:3:6	M20	Steel
								m ³	m ³	kg
D+3M, +6M (31° to 40° deviation)	90.75							1.35	19.35	841.61
		126.75						1.92	27.01	1143.26
			130.68					1.98	27.85	1229.83
				126.75				1.92	27.01	1143.26
					138.72			2.11	29.58	1458.76
						51.47		1.10	16.37	788.57
							92.27	1.86	28.22	1294.43
	81.12							1.20	16.50	756.47
		119.07						1.80	24.03	1160.78
				119.07				1.80	24.03	1123.50
D NT (41° to 50° deviation)				122.88				1.86	24.79	1140.29
					130.68			1.98	26.35	1302.63
						54.45		1.12	15.75	750.87
							88.78	1.80	25.79	1219.40

220 kV DC LINE
(Design Code:KPTCL-2D-GDG)

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	1:3:6		M20	Steel
										m ³	m ³		
DA (NT, +3, +6)	34.68									0.39	3.11	145.00	
		127.53								1.75	9.16	417.00	
			77.41							1.00	5.96	267.00	
				58.08						0.72	4.86	202.00	
					51.91					0.63	4.52	185.00	
						19.17				0.42	3.22	148.00	
							64.00			1.24	6.89	336.00	
								44.00		0.89	5.52	246.00	
									30.00	0.63	4.52	185.00	
		58.00								0.72	5.59	243.80	
DB (NT, +3, +6)		241.92								3.51	19.69	1106.65	
			171.46							2.42	13.32	921.44	
				136.28						1.88	11.21	717.38	
					103.00					1.38	9.12	506.00	
						46.28				0.92	6.61	373.15	
							149.84			2.77	15.20	971.63	
								112.63		2.11	11.87	822.60	
									83.24	1.59	9.50	657.52	

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	1:3:6		Steel
										m ³	M20	
DC (NT,+3,+6)	70.27									0.90	6.88	371.00
		286.94								4.21	23.04	1558.00
			208.68							3.00	16.95	1219.00
				167.85						2.37	13.99	1004.00
					129.88					1.79	11.24	732.00
						60.41				1.18	8.45	493.00
							181.45			3.39	19.24	1331.00
								139.83		2.59	14.61	1145.00
									106.11	2.00	11.45	1044.00
		81.12								1.06	7.86	445.29
DD (NT,+3,+6)		312.12								4.61	25.42	1968.29
			232.32							3.36	19.07	1545.32
				186.28						2.65	16.84	1025.70
					145.32					2.02	13.22	830.71
						69.91				1.35	10.29	558.16
							206.00			3.75	22.03	1430.90
								156.70		2.89	17.78	1112.78
									118.59	2.22	14.38	878.20

220 kV DC LINE
(Design Code:KPTCL-2D-GDG)

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	1:3:6		Steel
										m ³	M20	
DA (+9 +12 +15 +18 +24)	34.68									0.39	3.11	145.00
		138.72								1.92	9.83	522.27
			85.55							1.12	6.43	334.22
				69.12						0.88	5.49	264.36
					55.99					0.69	4.75	207.70
						19.18				0.42	3.22	147.72
							71.08			1.37	7.41	424.51
								50.13		0.99	5.93	307.81
		58.08							34.44	0.71	4.81	209.15
										0.72	5.38	243.76
DB (+9 +12 +15 +18)		247.34								3.60	20.03	1137.17
			176.03							2.49	13.60	982.80
				140.36						1.95	11.45	755.80
					106.56					1.44	9.33	524.85
						47.23				0.94	6.67	374.58
							154.11			2.84	15.49	981.96
								115.60		2.16	12.08	846.21
									85.79	1.64	9.68	664.40

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	1:3:6		M20	Steel
										m ³	kg		
DC (+9 +12 +15 +18)	75.00									0.97	7.53	441.42	
		300.00								4.42	23.85	1746.44	
			218.80							3.15	17.56	1338.44	
				177.87						2.52	14.59	1129.56	
					137.09					1.90	11.73	806.55	
						64.80				1.26	8.87	525.28	
							190.87			3.56	19.98	1418.84	
								148.15		2.74	15.18	1287.00	
									111.90	2.10	12.10	1068.45	
		87.48								1.15	8.23	537.00	
DD (+9 +12 +15 +18)		324.48								4.80	26.19	2205.91	
			243.00							3.53	19.73	1698.00	
				192.96						2.75	17.25	1105.42	
					150.38					2.10	13.53	918.80	
						75.83				1.46	10.71	597.12	
							213.00			3.87	22.51	1533.70	
								165.49		3.04	18.39	1202.84	
									123.16	2.30	14.69	937.80	

400 kV DC LINE
(Design Code:KPTCL-4D-QM-VSNP)

Tower Type	NDS	Wet	PS	FS	WBC	DFR	SFR	PSFR	1:3:6		Steel
									m ³	M20	
A NT +3						52.88	190.30		1.10	9.49	634.45
								3.38	23.17	1470.74	
					333.23			4.32	28.84	1902.41	
A NT +6						53.41			1.10	9.54	668.00
A NT +9						54.49			1.12	9.65	671.25
A NT / +3/ +6/ +9	95.51	152.63	194.32						1.10	9.54	727.50
									2.42	17.09	1180.80
									1.86	13.85	964.87
A +6/ +9							194.39		3.44	23.55	1480.70
									4.42	29.38	2019.00
A NT / +3/ +6/ +9	HR										
DD NT/ +3						319.96			6.01	61.76	4471.58
									15.49	150.77	12021.67

Tower Type	NDS	Wet	PS	FS	WBC	DFR	SFR	PSFR	1:3:6		Steel	
									m ³	m ³	M20	kg
DD +6/ +9						322.60			6.05	62.13	4484.00	
					1138.63				15.66	152.31	12258.78	
DD NT/ +3/ +6/ +9							801.98		13.81	129.23	12114.11	
		691.38							9.33	90.35	7472.00	
									5.72	59.35	4324.71	
	HR		816.85						11.10	105.68	9368.27	
DD NT/ +3									9.00	77.25	6200.00	
					668.31							
DB NT/ +3/ +6/ +9									2.66	25.36	1991.68	
							449.98		7.71	59.42	5874.00	
						162.13			3.06	27.98	2157.18	
			449.65						5.94	47.39	4074.00	
		374.85							4.90	40.36	3284.49	
					670.21				9.03	77.46	5689.27	

400 kV DC LINE
(Design Code:KPTCL-4D-QM-VSNP)

Tower Type	NDS	Wet	PS	FS	WBC	DFR	SFR	PSFR	1:3:6		Steel	
									m ³	M20	m ³	kg
DC NT/ +3/ +6						216.77			3.96	35.82	2971.81	
DC NT/ +3/ +6/ +9	281.55 HR		565.79				573.12		7.56	60.20	6128.78	
									3.61	33.28	2766.20	
									9.66	75.35	7657.47	
DC+9					821.07			11.16	87.59	8763.28		
DD+18 +25	434.15					271.86			3.98	35.94	2976.45	
									6.05	62.13	4484.00	
									13.88	129.81	12248.00	
									15.66	152.31	12258.78	
									5.72	59.35	4324.71	
		691.39	816.85				806.16		11.10	105.68	9275.36	
									9.33	90.35	7472.00	

66 kV DC LINE
(Design Code:KPTCL-6D-NGML)

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	1:3:6		M20	Steel
										m ³	m ³		
DA (NT,+3,+6)	24.95									0.29	3.37	113.24	
		90.82								1.35	8.12	297.71	
			53.22							0.74	4.97	174.54	
				39.82						0.52	4.17	145.55	
					31.21					0.39	3.67	124.79	
						16.07				0.29	3.37	113.24	
							37.92			0.92	5.94	205.73	
								25.08		0.65	4.76	165.18	
									16.19	0.45	4.00	138.33	
		30.72								0.34	3.87	124.09	
DB (NT,+3,+6)		130.68								1.80	10.22	337.73	
			81.12							1.05	6.89	229.51	
				60.75						0.76	5.63	185.68	
					50.43					0.61	5.00	165.82	
						17.96				0.45	4.38	143.33	
							61.97			1.30	8.05	276.22	
								42.08		0.92	6.42	227.65	
									29.68	0.68	5.39	178.18	

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	1:3:6		M20	Steel
										m ³	m ³		
DC (NT, +3, +6)	38.88									0.45	4.38	143.33	
		147								2.05	11.61	384.61	
			94.08							1.25	8.16	281.39	
				72.03						0.92	6.76	222.31	
					58.08					0.72	5.77	195.40	
						19.45				0.48	4.51	145.60	
							73.34			1.51	9.61	324.36	
								51.54		1.10	7.64	254.68	
									35.61	0.80	6.32	215.28	
		43.32								0.51	4.72	165.40	
DD (NT, +3, +6)		192								2.73	14.86	585.85	
			130.68							1.80	10.47	404.00	
				104.43						1.40	8.76	313.34	
					75					0.97	6.98	239.24	
						27.83				0.65	5.30	203.30	
							106.00			2.11	12.28	457.24	
								76.34		1.56	9.59	350.80	
									54.06	1.15	8.09	273.13	

66 kV MC LINE
(Design Code:KPTCL-6M-NB-VMGL)

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	1:3:6		Steel
										m ³	M20	
MA (NT,+3,+6)(0-2 Deg Dev)	98.78									1.41	20.92	748.14
		158.8								2.31	34.18	1189.40
			158.8							2.31	34.18	1189.40
				158.8						2.31	34.18	1189.40
						73.94				1.30	19.68	696.17
MC (NT,+3,+6)(30 Deg Dev)	206.68									3.04	60.45	3311.21
		334.18								5.00	94.01	4340.93
			334.18							5.00	94.01	4340.93
				334.18						5.00	94.01	4340.93
						152.61				2.59	51.75	2963.20
MD (NT,+3,+6)(60 Deg Dev)	266.62									3.96	94.15	4010.53
		388.11								5.83	138.65	5650.07
			388.11							5.83	138.65	5650.07
				388.11						5.83	138.65	5650.07
						190.88				3.20	79.16	4261.45

220kV NBMC LINE
(Design Code:KPTCL-2M-NB-NEWDHP)

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	1:3:6		Steel
										m ³	M20	
	276.48									4.32	38.55	3065.00
		393.31								6.22	49.95	4611.00
			333.27							5.24	44.12	3795.00
NBMA (NT, +3, +6)				330.75						5.20	43.88	3623.00
				330.75						5.20	43.88	3408.00
					240.31					4.01	38.54	2973.00
							330.75			5.51	47.36	4082.00
										5.20	42.30	3627.00
	294.03									4.61	41.76	3754.00
		417.72								6.61	54.16	5173.00
			383.07							6.05	50.71	4849.00
				369.63						5.83	49.37	4300.00
NBMA (+9, +12)					363					5.72	48.71	4189.00
						285.19				4.75	43.55	3752.00
							363			6.05	51.04	4771.00
									349.92	5.83	49.70	4128.00

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	1:3:6		Steel
										m ³	M20	
NBMB (NT, +3 & +6)	340.27									5.36	58.71	3778.00
		468.75								7.44	74.33	5993.00
			417.72							6.61	68.17	5106.00
				403.68						6.38	66.46	4803.00
					396.75					6.27	65.62	4659.00
						322.61				5.38	60.47	3929.00
							403.68			6.73	69.36	5312.00
								383.07		6.38	66.79	4863.00
		340.27								5.36	60.32	4003.00
			468.75							7.44	76.07	6256.00
				417.72						6.61	69.85	5107.00
	NBMB (+9, +12)				403.68					6.38	68.13	5086.00
					396.75				6.27	67.28	4921.00	
						322.61			5.38	62.10	4192.00	
							403.68		6.73	71.05	5541.00	
								383.07	6.38	68.46	5087.00	

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	1:3:6		Steel
										m³	M20	
NBMC (NT,+3 & +6)	396.75									6.27	74.05	5102.00
		579.63								9.25	97.67	8100.00
			514.83							8.19	89.37	6559.00
				499.23						7.94	87.36	6523.00
					491.52					7.81	86.37	5609.00
						383.07				6.38	78.45	5308.00
							499.23			8.32	90.71	67.33
								483.87		8.06	88.69	6490.00
		396.75								6.27	76.54	5606.00
			579.63							9.25	100.39	8317.00
NBMC (+9,+12)			514.83							8.19	92.01	6723.00
				499.23						7.94	89.99	6724.00
					491.52					7.81	88.98	5928.00
						383.07				6.38	81.06	6033.00
							499.23			8.32	93.37	6898.00
								483.87		8.06	91.33	6774.00
		563.07								8.98	113.55	12176.00
			768							12.32	141.25	15592.00
				693.12						11.10	130.46	14089.00
					666.03					10.66	126.54	13300.00
NBMD (NT,+3 & +6)												

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	1:3:6		M20		Steel	
										m ³	m ³	m ³	m ³	kg	kg
NBMD (NT, +3 & +6)					657.12						10.51	125.25	13097.00		
						546.75					9.11	113.64	13423.00		
						648.27					10.80	128.17	14071.00		
									639.48		10.66	126.87	13623.00		
		563.07									8.98	114.86	12691.00		
			768								12.32	144.82	15942.00		
NBMD (+9, +12)			693.12								11.10	133.93	14422.00		
				666.03							10.66	129.98	13626.00		
					657.12						10.51	128.68	13421.00		
						546.75					9.11	116.95	13943.00		
							648.27				10.80	131.62	14446.00		
									639.48		10.66	130.31	13996.00		
NBMD (+15/18/25M)	702.27										11.25	158.55	14286.00		
		867									13.94	185.16	19813.00		
			797.07								12.80	173.92	17442.00		
				787.32							12.64	172.34	16177.00		
					777.63						12.48	170.78	16310.00		
						720.75					12.01	168.62	16174.00		
NBMD (+15/18/25M)							768				12.80	174.25	17454.00		
											12.64	172.67	16799.00		
									758.43						

110kV DC TOWER
(Design Code:KPTCL-1D-AQUS)

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	HR	1:03:06 m ³	M20 m ³	Steel kg
DA (NT,+3m,+6m)	34.68										0.39	3.42	161.00
		137.90									1.90	11.65	461.00
			84.91								1.11	7.87	308.00
				84.91							1.11	7.87	308.00
					50.92						0.62	5.50	222.00
						16.56					0.42	3.56	164.00
							65.35				1.36	9.06	355.00
										10.00	0.00	4.88	125.00
		49.45									0.60	5.02	318.00
			231.27								3.35	21.57	1223.00
DB(NT,+3m,+6m)			162.51								2.28	15.44	868.00
				162.51							2.28	15.44	868.00
					97.47						1.30	9.79	512.00
						38.59					0.86	6.46	381.00
							134.07				2.62	17.37	966.43
										11.03	0.00	5.45	277.00

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	HR	1:03:06 m³	M20 m³	Steel kg
DB(+9m to +18m Body Extn.)	49.45										0.60	5.02	318.00
		231.27									3.35	21.57	1223.00
			162.51								2.28	15.44	868.00
				162.51							2.28	15.44	868.00
DB(+9m to +18m Body Extn.)					97.47						1.30	9.79	512.00
						38.59					0.86	6.46	381.00
							134.07				2.62	17.37	966.00
										13.86	0.00	6.33	246.00
DC(NT,+3m,+6m)	61.29										0.77	5.95	380.00
		261.71									3.82	24.55	1571.00
			187.23								2.66	17.85	1064.00
				187.23							2.66	17.85	1064.00
					115.32						1.57	11.54	651.00
						48.63					1.05	7.53	477.00
						157.46				3.04	20.03	1293.00	
										11.03	0.00	5.45	285.00

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	HR	1:03:06 m³	M20 m³	Steel kg
DC(+9m to +18m Body Extn.)	61.29										0.77	5.95	380.00
		261.71									3.82	24.55	1571.00
			187.23								2.66	17.85	1064.00
				187.23							2.66	17.85	1064.00
					115.32						1.57	11.54	651.00
						48.63					1.05	7.53	477.00
							157.46				3.04	20.03	1293.00
										14.40	0.00	6.80	253.00
		93.41									1.24	10.37	495.00
			342.19								5.08	32.58	2399.00
DD/DE(NT,+ 3m,+6m)			257.24								3.75	24.82	1698.00
				257.24							3.75	24.82	1698.00
					164.28						2.31	16.49	1007.00
						75.17					1.55	12.11	589.00
DD/DE(NT,+ 3m,+6m)							221.09				4.18	27.31	1934.00
										12.10	0.00	6.23	333.00

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	HR	1:03:06 m ³	M20 m ³	Steel kg	
DD/DE(+9m to +18m Body Extrn.)	97.47										1.30	10.72	525.00	
		349.92									5.20	33.29	2606.00	
			265.08								3.87	25.53	1807.00	
				265.08							3.87	25.53	1807.00	
					168.75						2.38	16.89	1068.00	
						78.20					1.60	12.43	622.00	
							229.40				4.32	28.17	2054.00	
											0.00	9.01	298.00	

110kV DC NARROW BASED TOWER
(Design Code:KPTCL-1D-NB)

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	HR	1:03:06 m ³	M20 m ³	Steel kg
DA (NT)	55.47										0.80	9.11	343.71
		84.27									1.25	11.78	498.07
			73.50								1.08	10.46	393.20
				73.50							1.08	10.46	393.20
						26.15					0.54	6.41	222.56
							45.77				1.13	11.69	420.37
DA (+3m & +6m)	55.47										0.80	8.46	343.71
		94.08									1.40	14.10	561.48
			84.27								1.25	11.78	498.07
				84.27							1.25	11.78	498.07
						29.02					0.72	7.60	278.83
							59.52				1.40	14.10	542.97
DC (NT)	90.75										1.35	17.41	780.07
		155.52									2.38	35.17	1538.50
			130.68								1.98	24.60	1153.45
				130.68							1.98	24.60	1153.45
						47.67					1.15	15.49	735.50
							87.16				1.86	28.24	1250.56

Tower Type	NDS	WBC	FSS	PSS	WET	DFR	SFR	PSFR	WFR	HR	1:03:06 m ³	M20 m ³	Steel kg
DC(+3m, +6m)	119.07										1.80	26.41	1168.91
		187.23									2.89	40.00	1877.20
			155.52								2.38	35.17	1538.50
				155.52							2.38	35.17	1538.50
						63.64					1.45	22.01	1027.10
DD (NT)							122.46				2.42	36.53	1430.00
	126.75										1.92	27.04	1139.79
		196.83									3.04	43.16	1993.86
			187.23								2.89	40.00	1925.97
				187.23							2.89	40.00	1925.97
DD(+3m, +6m)						89.92					1.68	25.11	1225.59
							137.07				2.74	42.00	1658.19
	151.23										2.31	32.75	1392.22
		232.32									3.61	54.41	2564.63
			216.75								3.36	52.23	2181.37
			216.75							3.36	52.23	2181.37	
					118.50					2.18	36.05	1786.97	
						178.28				3.61	54.41	2109.75	

STATION STRUCTURES AND MOUNTING STRUCTURES

Sl. No.	Specifications	Weight of Steel in t	Weight of B&N in t	Total in t	
I	Station Structures - 220 kV Station				
	220 kV side Station structure				
	i	Station structures Tower - 2T1 with peak	1.502	0.076	1.578
	ii	Station structures Tower - 2T2 without peak	1.272	0.053	1.325
	iii	Station structures Beam - 2B1 suitable for fixing under hung isolator	1.631	0.064	1.695
	iv	Station structures Beam - 2B2 without under hung isolator	1.112	0.055	1.167
	110 kV side Station structure (for 220/110 kV Stations)				
	i	Station structures Tower - 21T1 with peak	0.908	0.044	0.952
	ii	Station structures Tower - 21T1 with peak with 2.5 metre Extn	1.290	0.062	1.352
	iii	Station structures Tower - 21T2 without peak	1.020	0.066	1.086
	iv	Station structures Beam - 21B1 suitable for fixing under hung isolator	0.524	0.028	0.552
	v	Station structures Beam - 21B2 without under hung isolator	0.429	0.036	0.465
	66 kV side Station structure (for 220/66 kV Stations)				
	i	Station structures Tower - 26T1 with peak	0.891	0.041	0.932
	ii	Station structures Tower - 26T2 without peak	0.732	0.042	0.774
	iii	Station structures Tower - 26T3 with peak	0.865	0.047	0.912
	iv	Station structures Tower - 6T3 with peak with 5 metre Extn	1.359	0.063	1.422
	v	Station structures Beam - 26B1 suitable for fixing under hung isolator	0.443	0.030	0.473
	vi	Station structures Beam - 26B2 without under hung isolator	0.417	0.031	0.448
	vii	Station structures Beam - 26B3 suitable for fixing under hung isolator	0.555	0.039	0.594
	33 kV side Station structure				
	i	Station structures Tower - 3T1 with peak	0.348	0.017	0.365
	ii	Station structures Beam - 3B1 (6M Width)	0.184	0.010	0.194

Sl. No.		Specifications	Weight of Steel in t	Weight of B&N in t	Total in t
E		Mounting structures for 220 kV Stations			
	1 Isolator				
	a 220 kV Isolator				
	i	Live point height 8250 mm	1.404	0.034	1.438
	ii	Live point height 5750 mm	0.911	0.026	0.937
	b 110 kV Isolator				
	i	Live point height 6350 mm	0.894	0.030	0.924
	ii	Live point height 4600 mm	0.726	0.015	0.741
	c 66 kV Isolator				
	i	Live point height 5500 mm	0.612	0.014	0.626
	ii	Live point height 4250 mm	0.463	0.012	0.475
	d 33 kV Isolator				
	i	Live point height 4750 mm	0.320	0.010	0.330
	ii	Live point height 3750 mm	0.240	0.008	0.248
	2 Current Transformer				
	a	For 220 kV CTs and NCTs	0.160	0.010	0.170
	b	For 110 kV CTs and 11 kV NCTs	0.140	0.012	0.152
	c	For 66 kV CTs and NCTs	0.140	0.011	0.151
	d	For 33 kV CTs and NCTs	0.142	0.010	0.152
	3 Voltage Transformers / CVTs				
	a	For 220 kV VTs and CVTs	0.170	0.010	0.180
	b	For 110 kV VTs	0.131	0.011	0.142
	c	For 66 kV VTs	0.163	0.010	0.173
	d	For 33 kV CTs	0.142	0.010	0.152
	4 Surge Arrestors				
	a	For 198 kV LAs	0.180	0.005	0.185
	b	For 96 kV LAs	0.100	0.011	0.111
	c	For 60 kV LAs	0.142	0.005	0.147
d	For 30 kV LAs	0.070	0.005	0.075	

Sl. No.		Specifications	Weight of Steel in t	Weight of B&N in t	Total in t	
	5	For Post insulator of Rigid bus				
		a	For 220 kV side	0.127	0.017	0.144
		b	For 110 kV side	0.129	0.012	0.141
		c	For 66 kV side	0.133	0.010	0.143
		d	For 33 kV side	0.070	0.005	0.075
	6	For High Post insulator of Transformers & CBs				
		a	For 100 MVA Transformer both on 220 kV side & 110 kV/66 kV side	0.204	0.017	0.221
		b	110/66 kV Capacitor Bank	0.201	0.017	0.218
		c	110/11 kV or 66/11 kV Transformer	0.201	0.017	0.218
	II	A	Station structures & Equipment Mounting Structures for 110/11 kV & 66/11 kV Sub-Stations			
110 kV, 66 kV & 33 kV side Station structures fabricated out of galvanised mild steel						
i			Station Towers (Verticals 1T1)	0.986	0.068	1.054
ii			Station Beams 1B1	0.521	0.032	0.553
iii			Station Towers (Verticals 6T1)	0.915	0.041	0.956
iv			Station Beams 6B1 (7.6M Width)	0.419	0.03	0.449
v			Station Beams 6B1 (8.2M Width)	0.46	0.03	0.490
vi			Station Towers (Verticals 3T1)	0.57	0.0285	0.599
vii		Station Beams 3B1	0.23	0.0115	0.242	
B		Beam out of Channel 100 x 50 with arrangements for stringing power conductor on 11 kV side				
		i	1B1 7.45 metre Long	0.068	0.0034	0.071
		ii	1B2 4.00 metre Long	0.036	0.0018	0.038
C		110kV Mounting Structures				
		i	110kV CT Mounting Structure	0.146	0.012	0.158
		ii	110kV PT Mounting Structure	0.137	0.011	0.148
	iii	110kV LA Mounting Structure	0.105	0.011	0.116	
	iv	110kV PI Mounting Structure	0.127	0.013	0.140	

Sl. No.		Specifications	Weight of Steel in t	Weight of B&N in t	Total in t
	v	110kV HPI Mounting Structure	0.134	0.016	0.150
	vi	110kV Isolator Mounting Structure with Earth Switch (LPH - 4600mm)	0.726	0.026	0.752
	vii	110kV Isolator Mounting Structure with Earth Switch (LPH - 6350mm)	0.955	0.027	0.982
	viii	11kV NCT Mounting Structure	0.146	0.011	0.157
	D	66kV Mounting Structures			
	i	66kV CT Mounting Structure	0.146	0.012	0.158
	ii	66kV PT Mounting Structure	0.137	0.011	0.148
	iii	66kV LA Mounting Structure	0.105	0.011	0.116
	iv	66kV PI Mounting Structure	0.127	0.013	0.140
	v	66kV HPI Mounting Structure	0.134	0.016	0.150
	vi	66kV Isolator Mounting Structure with Earth Switch (LPH - 4600mm)	0.522	0.010	0.532
	vii	66kV Isolator Mounting Structure with Earth Switch (LPH - 5500mm)	0.602	0.011	0.613
	viii	11kV NCT Mounting Structure	0.146	0.011	0.157
	E	33kV Mounting Structures			
	i	33kV CT Mounting Structure	0.08885	0.004	0.093
	ii	33kV PT Mounting Structure	0.089	0.004	0.093
	iii	33kV LA Mounting Structure	0.082	0.005	0.087
	iv	33kV PI Mounting Structure	0.082	0.005	0.087
	v	33kV Isolator Mounting Structure	0.25	0.007	0.257
	vi	11 kV cable terminating structure of LV side of 110/66/11 kV Tr.	0.069	0.003	0.072
	vii	For High Pedestal Insulator 33 kV (with bolted type foundation)	0.22	0.011	0.231
	viii	For High Pedestal Insulator 11 kV (with bolted type foundation)	0.22	0.011	0.231

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Part - VI

Deleted Items from MWSR 2019

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Sl. No.	Supply of Materials	Unit	Remarks
1	LT Switchgear (Indoor) as per technical specification		
1.1	11 kV HT Metering Cubicle	Set	Refer ESCOM SR
2	1.1 kV Class Armoured Aluminium Cable with glands/lugs/ferrules		
2.1	2C x 6 Sq mm	m	Refer ESCOM SR
2.2	2C x 10 Sq mm	m	Refer ESCOM SR
2.3	3.5C x 35 Sq mm	m	Refer ESCOM SR
2.4	3.5C x 70 Sq mm	m	Refer ESCOM SR
2.5	3.5C x 240 Sq mm	m	Refer ESCOM SR
2.6	3.5C x 300 Sq mm	m	Refer ESCOM SR
2.7	4C x 16 Sq mm	m	Refer ESCOM SR
2.8	4C x 25 Sq mm	m	Refer ESCOM SR
3	RCC POLES		
3.1	9 metre Long 145 kg working load for ODS	No.	Refer ESCOM SR
3.2	9.5 metre Long 350 kg working load for ODS	No.	Refer ESCOM SR
4	MISCELLANEOUS ITEM		
4.1	11 kV GOS : D/B 400 A	Set	Refer ESCOM SR
4.2	11 kV GOS : S/B 200 A	Set	Refer ESCOM SR
4.3	11 kV, 400 A Special Roster GOS	Set	Refer ESCOM SR
4.4	11 kV HG Fuse unit	No.	Refer ESCOM SR
4.5	9 kV, 5 kA Lightning Arrestor : Metal Oxide type	No.	Refer ESCOM SR
4.6	9 kV, 10 kA Lightning Arrestor : Metal Oxide type	No.	Refer ESCOM SR
5	11 kV HV UG Cable		
5.1	3C x 400 Sq mm	m	Refer ESCOM SR
5.2	3C x 240 Sq mm	m	Refer ESCOM SR
5.3	3C x 95 Sq mm	m	Refer ESCOM SR

Sl. No.	Supply of Materials	Unit	Remarks
6	Heat Shrinkable type transition jointing kit for XLPE Cable		
6.1	3 x 95 Sq mm	No.	Refer ESCOM SR
6.2	3 x 240 Sq mm	No.	Refer ESCOM SR
6.3	3 x 400 Sq mm	No.	Refer ESCOM SR
7	11 kV JOINTS & POT HEADS		
7.1	11 kV Heat Shrinkable Cable termination kit for XLPE Cable		
7.1.1	Indoor		
7.1.1.1	3 x 95 Sq mm	No.	Refer ESCOM SR
7.1.1.2	3 x 240 Sq mm	No.	Refer ESCOM SR
7.1.1.3	3 x 400 Sq mm	No.	Refer ESCOM SR
7.1.2	Out door		
7.1.2.1	3 x 95 Sq mm	No.	Refer ESCOM SR
7.1.2.2	3 x 240 Sq mm	No.	Refer ESCOM SR
7.1.2.3	3 x 400 Sq mm	No.	Refer ESCOM SR
7.2	11 kV Heat Shrinkable Straight through jointing kit for XLPE Cable with Copper Lugs & Aluminium Ferrules		
7.2.1	3 x 95 Sq mm	No.	Refer ESCOM SR
7.2.2	3 x 240 Sq mm	No.	Refer ESCOM SR
7.2.3	3 x 400 Sq mm	No.	Refer ESCOM SR
7.3	11 kV side Station structures		
7.3.1	Columns out of 8.0 metre Length RCC pole of working load 115 kg (using TOR Steel)	No.	Refer ESCOM SR
7.3.2	8.0 metre Long RCC pole of WL 115 kg for 11 kV Double pole structures for mounting roaster Isolator (1 for Aux. Distribution Transformer)	No.	Refer ESCOM SR

These materials are available in ESCOM & KPWD UNI SR of
Vol-I & VI and reproduced for ready reference

Sl. No.	Description	Unit	Remarks
1	Control Cables and UG Cables		
	Providing, laying and jointing PVC pipes conforming to IS 4085-1960 & 7634-1975 and approved makes with necessary accessories such as collars, bends, elbows, tee, nipples, plugs with cuts and threads using jointing ring with solutions, wherever necessary as per the directions of the field Engineer including all lead and lift.	m	As per Latest KPWD Common SR (Electrical)
1.1	25 mm dia (outer) 2 mm to 2.5 mm thick	m	
1.2	32 mm dia (outer) 2 mm to 2.5 mm thick	m	
1.3	63 mm dia (outer) 2 mm to 2.5 mm thick	m	
1.4	75 mm dia (outer) 2 mm to 2.5 mm thick	m	
1.5	90 mm dia (outer) 2 mm to 2.5 mm thick	m	
1.6	110 mm dia (outer) 2 mm to 2.5 mm thick	m	
1.7	140 mm dia (outer) 2 mm to 2.5 mm thick	m	
1.8	160 mm dia (outer) 2 mm to 2.5 mm thick	m	
2	Station Yard Lightning		
2.1	Supplying and erection of fabricated supporting structures including foundation.	Per Set	As per Latest KPWD Common SR (Electrical)
2.2	Supplying and fixing of sodium vapour lamp fittings of 250 watts/90 watts LED with fittings.	Per fitting	
2.3	Supplying and laying of 1.1 kV, 6 Sq mm PVC cable or any other specified size, testing and commissioning of yard lights.	Rmtr	
2.4	Erection of RCC poles with stringing of OH Conductor/laying of cable for yard lights.		ESCOM Common SR
3	Painting of Structures		
3.1	Applying priming coat: With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/steel works including preparing the surface after thoroughly cleaning oil, grease, dirt and foreign matter, cost of materials, labour complete as per specification and as per directions of Engineer in charge.	Sq m	KPWD Common SR

Sl. No.	Description	Unit	Remarks
3.2	Painting with aluminium paint of approved brand and manufacture to give an even shade. Two coats on new work including preparing the surface after thoroughly cleaning oil, grease, dirt and foreign matter, cost of materials, labour complete as per specification and as per directions of Engineer in charge.	Sq m	KPWD Common SR
3.3	As per (b) but with synthetic enamel paint	Sq m	KPWD Common SR
3.4	Painting with aluminium paint of approved brand and manufacture to give an even shade: One coat on old work after cleaning and scraping the surface as per specification and as per directions of Engineer in charge.	Sq m	KPWD Common SR
3.5	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade: One coat on old work after cleaning and scraping the surface as per specification and as per directions of Engineer in charge.	Sq m	KPWD Common SR
4	Watch and Ward		
	Emoluments for watch and ward including pay and DA for 8 hours duty	Per Shift	Karnataka Minimum Wages Act
5	Transportation		
5.1	Transportation of Transformer, CTs, PTs, Breakers, C&R Panels, 11 kV Switchgears and EHT LAs only.		
1	Using 10 MT Lorry		
	Upto 250 km	m	KPWD Common SR
	Greater than 250 km	m	KPWD Common SR
2	Using 10 MT Truck & Tractor		
	Upto 250 km	m	KPWD Common SR
	Greater than 250 km	m	KPWD Common SR
3	Using 11 to 20 MT Truck & Tractor		
	Upto 250 km	m	KPWD Common SR
	Greater than 250 km	m	KPWD Common SR
4	Using 21 MT to 40 MT Truck & Tractor		
	Upto 250 km	m	KPWD Common SR
	Greater than 250 km	m	KPWD Common SR

Sl. No.	Description	Unit	Remarks
5	Using 41 MT to 80 MT Truck & Tractor		
	Upto 250 km	m	KPWD Common SR
	Greater than 250 km	m	KPWD Common SR
6	Using 81 MT to 120 MT Truck & Tractor		
	Upto 250 km	m	KPWD Common SR
	Greater than 250 km	m	KPWD Common SR
5.2	Crane hiring charges for Sub-station works		
1	Up to 5 hours	hour	KPWD Common SR
2	Greater than 5 hours	hour	KPWD Common SR
	Note:- 1) The rates are for up and down journey and for a minimum distance of 250 km. 2) Detention charges are Rs. 5000.00 per day for vehicles upto 40 MT Tractor and Rs. 15000.00 for vehicles greater than 40 MT Tractor.		
6	Using light vehicle including fuel, oil, lubricants and crew subject to a minimum of 100 km per day in case of break down / subject to prior approval of CEE (Transmission Zone).	Per Day	KPWD Common SR
7	Loading and Unloading		
7.1	Loading of Power Transformers, CTs, PTs, Breakers, C&R Panels, 11 kV Switchgears, Wave Trap, Coupling Capacitors, HT UG Cables, Insulators, ACSR Conductor, Ground Conductor, etc.,	t	KPWD Common SR
7.2	Unloading of Power Transformers, CTs, PTs, Breakers, C&R Panels, 11 kV Switchgears, Wave Trap, Coupling Capacitors, HT UG Cables, Insulators, ACSR Conductor, Ground Conductor, etc.,	t	KPWD Common SR
7.3	Loading of other materials like structural steel, building materials etc.,	t	KPWD Common SR
7.4	Unloading of other materials like structural steel, building materials etc.,	t	KPWD Common SR
8	Labour for 33 kV Lines using 9/9.5 metre long RCC Poles		
8.1	Erection of 9/9.5 metre RCC Poles 300 kg working load, in the excavated pit as per the approved drawing specification (excluding the cost of excavation, backfilling and concreting)	No.	ESCOM Common SR

Sl. No.	Description	Unit	Remarks
8.2	Erection of DP structure excluding cost of erection of RCC poles, including fixing of braces insulators etc., as per the approved drawings and specification (excluding the cost of excavation, backfilling and concreting)	Set	ESCOM Common SR
8.3	Fixing of V-Shape cross arms, single top supports and insulators	Set	ESCOM Common SR
8.4	Fixing of spiral earth electrodes	Set	ESCOM Common SR
8.5	Road/P&T Guarding	Set	ESCOM Common SR
8.6	Stringing Rabbit conductor, fixing Disc Insulator to cross arms etc.,		
i	For Hilly terrain	m	ESCOM Common SR
ii	For Plain terrain	m	ESCOM Common SR
8.7	Fixing of guy sets in the excavated pits using 7/9 or 7/10 SWG guy wire/turn buckle, guy rod break insulators as per the approved drawings and specification (excluding the cost of excavation, backfilling and concreting)	No.	ESCOM Common SR
8.8	Supplying and fixing of AC devices as per specification	Rmtr	ESCOM Common SR
9	Transportation by Head Load wherever there is no accessibility for transportation by vehicle for Transmission Line works only		
	Total Distance		
9.1	Up to 50 metres initial lead		KPWD Common SR
9.2	Beyond 50 metres and upto 100 metres		KPWD Common SR
9.3	Beyond 100 metres and upto 150 metres		KPWD Common SR
9.4	Beyond 150 metres and upto 200 metres		KPWD Common SR
9.5	Beyond 200 metres and upto 250 metres		KPWD Common SR
9.6	Beyond 250 metres and upto 300 metres		KPWD Common SR



PART – II
Distribution (ESCOMs)

**Schedule Of Rate For
Standard Stock Material in
Common SR 2023-24
(11kV System)**

**Schedule of Rate for Standard Stock Materials in
Common SR 2023-24 (11 kV System)**

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
	1	Line Supports (Pole)				
1	1.01	RCC Pole - 9 Mtr Long, 145 Kg WL (Dwg No. BESCO/GM/QS&S/02 Dtd 24.11.2018) as per IS-785	200105	No	6062	7076
2	1.02	RCC Pole - 9 Mtr Long, 150 Kg WL Sq Section (Dwg No. BESCO/GM/QS&S/51 Dtd 24.11.2018) as per IS-785	200106	No	6971	8316
3	1.03	RCC Pole - 8 Mtr Long, 115 Kg WL (Dwg No. BESCO/GM/QS&S/05 Dtd 24.11.2018) as per IS-785	200103	No	4497	5129
4	1.04	PSCC Pole - 8 Mtr Long, 140 Kg WL (Dwg No. BESCO/GM/QS&S/17 Dtd 24.11.2018) as per REC Standards	200003	No	2115	2674
5	1.05	PSCC Pole - 8 Mtr Long, 200 Kg WL (Dwg No. BESCO/GM/QS&S/49 Dtd 24.11.2018) as per REC Standards	200004	No	3032	3699
6	1.06	PSCC Pole - 9 Mtr Long, 200 Kg WL (Dwg No. BESCO/GM/QS&S/50 Dtd 24.11.2018) as per REC Standards	200006	No	3624	4199
7	1.07	Pre-Stressed Tubular Spun Pole - 11 Mtr Long, 500 Kg WL (Dwg No. BESCO/GM/QS&S/45 Dtd 24.11.2018) as per IS-13158: 1991	200120	No	15373	17702
8	1.08	RCC Pole - 9.5 Mtr Long, 350 Kg WL for 33kV Line as per REC Standards	200107	No	6464	7509
9	1.09	PSCC Pole - 11 Mtr Long, 365 Kg WL for Intermediate Poles only as per REC Standards	200010	No	6673	7913
10	1.10	PSCC Pole - 9 Mtr Long, 300 Kg WL (Dwg No. BESCO/GM/QS&S/55 Dtd 24.11.2018) as per REC Standards	200005	No	4280	5052
		Note: PCC, PSC & PSCC Poles are one and the same and pre-stressed wire/cable/strand is used for prestressing in the manufacture of Poles. Hence PCC & PSC Poles are referred as PSCC Poles.				
	2	Cross Arms (MS & GI) as per IS-1977				
11	2.01	11 kV, Horizontal Cross Arm - Mild Steel (MS) (Dwg No. BESCO/GM/QS&S/04 Dtd 24.11.2018)	279020	No	331	372
12	2.02	11 kV, Horizontal Cross Arm - Galvanised Iron (GI)	280020	No	428	487
13	2.03	11 kV, Special 3 Pin Cross Arm - MS (Dwg No. BESCO/GM/QS&S/03 Dtd 24.11.2018)	279013	No	781	879
14	2.04	11 kV, Special 3 Pin Cross Arm - GI	280013	No	1012	1151

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
15	2.05	LT 4 Pin Cross Arm - MS (Dwg No. BESCO/GM/QS&S/32 Dtd 24.11.2018)	279014	No	257	289
16	2.06	LT 4 Pin Cross Arm - GI	280014	No	333	379
17	2.07	LT 2 Pin Cross Arm - MS (Dwg No. BESCO/GM/QS&S/32 Dtd 24.11.2018)	279012	No	117	132
18	2.08	LT 2 Pin Cross Arms - GI	280012	No	152	173
19	2.09	LT ST Support 50x6 mm Flat - MS (Dwg No. BESCO/GM/QS&S/32 Dtd 24.11.2018)	279091	No	56	63
20	2.10	LT ST Support 50x6 mm Flat - GI	280091	No	72	82
21	2.11	HT ST Support 50x8 mm Flat - MS (Dwg No. BESCO/GM/QS&S/04 Dtd 24.11.2018)	279092	No	81	91
22	2.12	HT ST Support 50x8 mm Flat - GI	280092	No	106	121
23	2.13	LT Cross Arm for vertical Configuration - MS	279017	No	820	923
24	2.14	LT Cross Arm for vertical Configuration - GI	280017	No	1027	1168
25	2.15	EG Stirrup (MS) with GI wire lacing	279130	No	243	276
26	2.16	Spiral Earth Electrode	281683	No	210	239
	3	SMC Line Materials				
27	3.01	11 kV, Cross Arm with HT Top Support (glass reinforced hot pressed SMC compound)	279090	No	632	719
	4	Anticlimbing Device				
28	4.01	Spike type GI About 3.0 Kg in weight	278910	No	162	182
29	4.02	GI Barbed wire (12 Mtr/Kg)	278911	Each	79	89
30	4.03	Guarding for Road crossing, Telephone Line Crossing, between HT & LT Line Crossing	278916	Mtr	83	93
	5	Clamps A Type (MS & GI) as per IS-1977				
31	5.01	RCC Pole Clamp - MS (Dwg No. BESCO/GM/QS&S/30 Dtd 24.11.2018)	279523	No	75	85
32	5.02	RCC Pole Clamp - GI	280523	No	97	109
33	5.03	PSCC Pole (140 Kg WL) Clamp - MS (Dwg No. BESCO/GM/QS&S/31 Dtd 24.11.2018)	279503	No	64	73
34	5.04	PSCC Pole (140 Kg WL) Clamp - GI	280503	No	84	95
35	5.05	PSCC Pole (200 Kg WL) Clamp - MS (Dwg No. BESCO/GM/QS&S/31 Dtd 24.11.2018)	279510	No	72	82
36	5.06	PSCC Pole (200 Kg WL) Clamp - GI	280510	No	93	105
37	5.07	PSCC Pole (300 Kg WL) Clamp - MS (Dwg No. BESCO/GM/QS&S/59 Dtd 24.11.2018)	279511	No	78	89
38	5.08	PSCC Pole (300 Kg WL) Clamp - GI	280511	No	102	115

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
39	5.09	Guy Clamp - MS (Dwg No. BESCO/GM/QS&S/07 Dtd 24.11.2018)	279650	No	78	89
40	5.10	Guy Clamp - GI	280650	No	102	115
41	5.11	Turn Buckle (GI) (Dwg No. BESCO/GM/QS&S/07 Dtd 24.11.2018)	279146	No	214	241
42	5.12	Anchor Rod using 12 mm rounds/Guy Rod - MS (Dwg No. BESCO/GM/QS&S/07 Dtd 24.11.2018)	279140	No	225	256
43	5.13	Anchor Rod using 12 mm rounds/Guy Rod - GI	280140	No	292	329
44	5.14	MS Fish Plate	279800	No	69	78
45	5.15	GI Fish Plate	280800	No	79	89
46	5.16	Strain Clamp, 3 Bolt type for 70/90 kN Disc Insulator	285076	No	628	707
	6	Insulator as per IS-1445 for Ceremic, IS-7935 for GI Pin, IEC-61109 for Polymeric				
47	6.01	11 kV Ceramic Pin Insulator (Shell only)	283005	No	65	83
48	6.02	11 kV GI Pin for 11 kV Ceramic Shell Insulator	283055	No	58	66
49	6.03	1.1 kV Ceramic Pin Insulator (Shell only)	283003	No	24	31
50	6.04	1.1 kV GI Pin for 1.1 kV Ceramic Shell Insulator	283053	No	31	35
51	6.05	1.1 kV Polymeric Pin Insulator		No	New Item	87
52	6.06	11 kV, 5 kN Composite/Polymeric Pin Insulator (24 mm dia FRP Rod)	283008		188	205
53	6.07	No. 8 Strain Insulator	283158	No	21	27
54	6.08	No. 15 Strain Insulator	283166	No	46	59
55	6.09	DISC Insulator 45 kN Porcelain	283040	No	398	510
56	6.10	11 kV, 45 kN Polymeric Insulator	283320	No	171	186
57	6.11	11 kV, 70 kN Composite/Polymeric Insulator	283045	No	275	299
	7	ACSR Conductor as per IS-398 (Part - 2/1996)				
58	7.01	Weasel ACSR (6/2.59 mm Al + 1/2.59 mm St), Std Wt: 128 Kg/KM	284105	KM	31371	27899
59	7.02	Rabbit ACSR (6/3.35 mm Al + 1/3.35 mm St), Std Wt: 214 Kg/KM	284108	KM	52131	46234
	8	Guy Wire & GI Wire as per IS-2141				
60	8.01	7/10 SWG Guy Wire (7/3.251 mm Dia), Std Wt: 680 Kg/KM	281110	MT	67897	77226
61	8.02	8 SWG GI Wire (4.064 mm Dia), Std Wt: 131 Kg/KM	281008	MT	65975	75040

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
62	8.03	10 SWG GI Wire (3.251 mm Dia), Std Wt: 82 Kg/KM	281010	MT	69607	79171
63	8.04	GI Barbed Wire 12 SWG	281205	MT	81914	93169
	9	PG Clamp				
64	9.01	Coyote to Coyote	285515	No	343	357
65	9.02	Rabbit to Rabbit	285508	No	98	102
66	9.03	Weasel to Rabbit	285549	No	83	86
67	9.04	Weasel to Weasel	285509	No	67	70
68	9.05	Squirrel to Weasel	285548	No	61	63
	10	PG Clamp Rabbit to Insulated Wire				
69	10.01	95 Sqmm (Dwg No. BESCO/GM/QS&S/43 Dtd 24.11.2018)	285555	No	135	140
70	10.02	120 Sqmm	285557	No	262	273
71	10.03	150 Sqmm	285559	No	309	322
72	10.04	185 Sqmm (Dwg No. BESCO/GM/QS&S/43 Dtd 24.11.2018)	285562	No	339	353
73	10.05	240 Sqmm (Dwg No. BESCO/GM/QS&S/43 Dtd 24.11.2018)	285565	No	394	410
74	10.06	T - Clamp for Rabbit conductor with hot dipped galvanized bolts, nuts and washers	285600	Set	304	316
75	10.07	T - Clamp for Coyote conductor with hot dipped galvanized bolts, nuts and washers	285605	Set	404	420
76	10.08	Pad Clamp for Rabbit ACSR	285723	No	482	583
77	10.09	Pad Clamp for Coyote ACSR	285724	No	599	725
	11	C - Type Wedge Connector				
78	11.01	Rabbit to Rabbit ACSR	285670	No	157	163
79	11.02	Rabbit to Coyote ACSR	285671	No	815	848
80	11.03	Coyote to Coyote ACSR	285676	No	815	848
81	11.04	Rabbit to 240 Sqmm Lead Wire	285694	No	815	848
82	11.05	Coyote to 240 Sqmm Lead Wire	285695	No	815	848
83	11.06	C wedge connector for connecting main wire of size 2.5/4/6/10 Sqmm from OH Squirrel/Weasel line to AFB/Cutout	285691	No	86	89
84	11.07	C wedge connector for connecting main wire of size 16/25 Sqmm from OH Rabbit line to AFB/Cutouts	285692	No	111	116

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
	12	Distribution Transformer - 3 Phase, 11kV/433V - Stacked CRGO Core with Oil as per IS-1180 (Part-1): 2014				
		A. OPEN BUSHING TYPE				
85	12.01	25 kVA, Aluminum Wdg, Star 1 (4 Star)	321437	No	74534	91088
86	12.02	25 kVA, Aluminum Wdg, Star 2 (5 Star)	321465	No	86731	105994
87	12.03	63 kVA, Aluminum Wdg, Star 1 (4 Star)	321438	No	135593	165708
88	12.04	63 kVA, Aluminum Wdg, Star 2 (5 Star)	321466	No	149370	182545
89	12.05	100 kVA, Aluminium Wdg, Star 1 (4 Star)	321439	No	173153	211610
90	12.06	100 kVA, Aluminium Wdg, Star 2 (5 Star)	321467	No	181615	221952
91	12.07	250 kVA, Aluminium Wdg, Star 1 (4 Star)	321440	No	361441	441717
92	12.08	250 kVA, Aluminium Wdg, Star 2 (5 Star)	321468	No	441102	539071
93	12.09	500 kVA, Aluminium Wdg, Star 1 (4 Star)	321449	No	616525	753455
94	12.10	500 kVA, Aluminium Wdg, Star 2 (5 Star)	321469	No	744746	910154
		B. CABLE ENTRY TYPE				
95	12.11	25 kVA, Aluminum Wdg, Star 1 (4 Star)	321446	No	77500	94713
96	12.12	25 kVA, Aluminum Wdg, Star 2 (5 Star)	321470	No	89697	109619
97	12.13	63 kVA, Aluminum Wdg, Star 1 (4 Star)	321447	No	138559	169333
98	12.14	63 kVA, Aluminum Wdg, Star 2 (5 Star)	321471	No	152336	186170
99	12.15	100 kVA, Aluminium Wdg, Star 1 (4 Star)	321448	No	176119	215235
100	12.16	100 kVA, Aluminium Wdg, Star 2 (5 Star)	321472	No	184581	225576
101	12.17	250 kVA, Aluminium Wdg, Star 1 (4 Star)	321451	No	364407	445342
102	12.18	250 kVA, Aluminium Wdg, Star 2 (5 Star)	321473	No	444068	542696
103	12.19	500 kVA, Aluminium Wdg, Star 1 (4 Star)	321452	No	619492	757081
104	12.20	500 kVA, Aluminium Wdg, Star 2 (5 Star)	321474	No	747712	913779
	13	Distribution Transformer - 3 Phase, 11kV/433V - Amorphous Core with Oil as per IS-1180 (Part-1): 2014				
		A. OPEN BUSHING TYPE				
105	13.01	25 kVA, Aluminium Wdg, Star 2 (5 Star)	321383	No	87373	106779
106	13.02	63 kVA, Aluminium Wdg, Star 2 (5 Star)	321384	No	136356	166641
107	13.03	100 kVA, Aluminium Wdg, Star 2 (5 Star)	321385	No	180169	220185
108	13.04	250 kVA, Aluminium Wdg, Star 2 (5 Star)	321386	No	415424	507690
109	13.05	500 kVA, Aluminium Wdg, Star 2 (5 Star)	321387	No	797288	974366

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
		B. CABLE ENTRY TYPE				
110	13.06	25 kVA, Aluminium Wdg, Star 2 (5 Star)	321460	No	90339	110403
111	13.07	63 kVA, Aluminium Wdg, Star 2 (5 Star)	321461	No	139322	170265
112	13.08	100 kVA, Aluminium Wdg, Star 2 (5 Star)	321462	No	183136	223811
113	13.09	250 kVA, Aluminium Wdg, Star 2 (5 Star)	321463	No	418390	511314
114	13.10	500 kVA, Aluminium Wdg, Star 2 (5 Star)	321464	No	800254	977990
	14	11kV/433V, 3 Phase, Dry Type Transformer (CRGO) losses confirming to 5 Star rating as per IS-11171				
115	14.01	25 kVA	321483	No	253045	318432
116	14.02	63 kVA	321484	No	313650	394697
117	14.03	100 kVA	321485	No	411617	517979
118	14.04	250 kVA	321486	No	701999	883396
119	14.05	500 kVA	321487	No	1018956	1282254
	15	Transformer Oil as per IS-335:1993				
120	15.01	EHV Grade Transformer Oil - New	601400	KL	74026	105545
121	15.02	Reclaimed Oil	601410	KL	44416	63327
122	15.03	Contaminated Oil	601420	KL	22208	31663
	16	Transformer Repairs Scope: Repairs and Reconditioning of 11KV class single coil/multi coil Conventional (Aluminium wound) and 3/4/5 Star Rated failed Distribution Transformers of various Capacities and Conversion of CSP to Conventional bolt & nut type on lumpsum percentage (%) basis (Material, Labour & Salvage) at Transformer repair center Note: 1. The rates are exclusive of Transformer Oil 2. The rates are for repair of 3 Coils 3. Released Oil has to be returned to the stored by concerned ESCOM officers 4. The released winding will be retained by the repair agency. (The salvage value is added in the rates)				
123	16.01	25 kVA, Aluminium Wdg, Conventional	321501	Lumpsum	15986	19343
124	16.02	63 kVA, Aluminium Wdg, Conventional	321502	Lumpsum	20723	25075
125	16.03	100 kVA, Aluminium Wdg, Conventional	321503	Lumpsum	25287	30597
126	16.04	200/250 kVA, Aluminium Wdg, Conventional	321504	Lumpsum	45266	54772
127	16.05	500 kVA, Aluminium Wdg, Conventional	321505	Lumpsum	57891	70048
128	16.06	25 kVA, Aluminium Wdg, 3/4/5 Star	321506	Lumpsum	23158	28021

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
129	16.07	63 kVA, Aluminium Wdg, 3/4/5 Star	321507	Lumpsum	25445	30788
130	16.08	100 kVA, Aluminium Wdg, 3/4/5 Star	321508	Lumpsum	28565	34564
131	16.09	250 kVA, Aluminium Wdg, 3/4/5 Star	321509	Lumpsum	58512	70800
132	16.10	500 kVA, Aluminium Wdg, 3/4/5 Star	321510	Lumpsum	77586	93879
	17	LT Protection				
133	17.01	LT Protection Kit (Dwg No. BESCO/GM/QS&S/10 Dtd 24.11.2018)	301107	No	1623	2023
	18	LT Distribution Box as per IS-13947 Part-1&2				
134	18.01	LT Distribution Box for 100 kVA DTC with MCCB's (Sheet Metal) (Dwg No. BESCO/GM/QS&S/58 Dtd 24.11.2018)	301055	No	19329	22686
135	18.02	LT Distribution Box for 250 kVA DTC with MCCB's (Sheet Metal) (Dwg No. BESCO/GM/QS&S/08 Dtd 24.11.2018)	301056	No	19438	22814
136	18.03	LT Distribution Box for 100/250 kVA DTC with MCCB's (SMC)	301060	No	20813	24428
	19	Lightning Arrester as per IEC-60099-4				
137	19.01	9 kV, 5 kA Lightning Arrester Metal Oxide Ceramic type with GROUND DISCONNECTOR (Dwg No. BESCO/GM/QS&S/26 Dtd 24.10.2007)	303201	Nos	826	920
138	19.02	10 kV, 5 kA Lightning Arrester Polymeric type with GROUND DISCONNECTOR	303202	Nos	1471	1584
	20	HG Fuse Unit as per IS-5350 Part-2				
139	20.01	11 kV, HG Fuse Unit with Solid Core Insulator (Dwg No. BESCO/GM/QS&S/21 Dtd 24.11.2018)	302122	Set (3 Nos)	875	1069
	21	Double Pole TC Set for erection of Transformer on RCC/PSCC 9 Mtr Long Poles as per IS-1977				
140	21.01	For 25/63/100 kVA 4/5 Star Rated Transformer on PSCC Pole - 9 Mtr Long, 300 Kg WL - MS (Dwg No. BESCO/GM/QS&S/62 Dtd 24.11.2018)	279111	Set	15608	17564
141	21.02	For 25/63/100 kVA 4/5 Star Rated Transformer on PSCC Pole - 9 Mtr Long, 300 Kg WL - GI	280111	Set	21344	24277
142	21.03	For 25/63/100 kVA 4/5 Star Rated Transformer on RCC Pole - 9 Mtr Long, 145 Kg WL - MS	279112	Set	15464	17402
143	21.04	For 25/63/100 kVA 4/5 Star Rated Transformer on RCC Pole - 9 Mtr Long, 145 Kg WL - GI	280112	Set	21157	24064
144	21.05	For 100/300 kVA 4/5 Star Rated Transformer on PSCC Pole - 9 Mtr Long, 300 Kg WL - MS (Dwg No. BESCO/GM/QS&S/65 Dtd 24.11.2018)	279120	Set	20019	22527

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
145	21.06	For 100/300 kVA 4/5 Star Rated Transformer on PSCC Pole - 9 Mtr Long, 300 Kg WL - GI	280120	Set	27355	31114
146	21.07	For 100/300 kVA 4/5 Star Rated Transformer on RCC Pole - 9 Mtr Long, 145 Kg WL - MS	279113	Set	19736	22209
147	21.08	For 100/300 kVA 4/5 Star Rated Transformer on RCC Pole - 9 Mtr Long, 145 Kg WL - GI	280113	Set	26986	30694
	22	Single Pole Mounted Transformer (SPMT) Kit for erection of Transformer on 11 Mtr Spun Pole as per IS-1977				
148	22.01	Single H Frame with Transformer Seating and Seating angle support cross arm for 11 Mtr Spun Pole for 25 kVA (OH Line) - MS (Dwg No. BESCO/GM/QS&S/66 Dtd 24.11.2018)	279127	Set	22481	25298
149	22.02	Single H Frame with Transformer Seating and Seating angle support cross arm for 11 Mtr Spun Pole for 25 kVA (OH Line) - GI	280117	Set	30391	34567
150	22.03	Three H Frame with Transformer Seating and Seating angle support cross arm for 11 Mtr Spun Pole up to and including 250 kVA (UG Cable) - MS (Dwg No. BESCO/GM/QS&S/67 Dtd 24.11.2018)	279128	Set	30602	34436
151	22.04	Three H Frame with Transformer Seating and Seating angle support cross arm for 11 Mtr Spun Pole up to and including 250 kVA (UG Cable) - GI	280128	Set	41086	46731
152	22.05	Single H Frame without Transformer Seating and Seating angle support cross arm for 11 Mtr Spun Pole for 63/100/250/500 kVA (OH Line) - MS (Dwg No. BESCO/GM/QS&S/68 Dtd 24.11.2018)	279129	Set	11559	13007
153	22.06	Single H Frame without Transformer Seating and Seating angle support cross arm for 11 Mtr Spun Pole for 63/100/250/500kVA (OH Line) - GI	280129	Set	15814	17987
154	22.07	Three H Frame without Transformer Seating and Seating angle support cross arm for 11 Mtr Spun Pole for 63/100/250/500 kVA (UG Cable) - MS (Dwg No. BESCO/GM/QS&S/69 Dtd 24.11.2018)	279131	Set	18727	21073
155	22.08	Three H Frame without Transformer Seating and Seating angle support cross arm for 11 Mtr Spun Pole for 63/100/250/500 kVA (UG Cable) - GI	280131	Set	25110	28560
156	22.09	Prefabricated Platform for erection of 250 kVA Transformer on 11 Mtr Spun Pole Structure involving Rectangular hollow Sections 96x48x4.87 Thk and 66x3x4.5 Thk, Circular hollow section of 165.6 OD x 10 Thk , MS Stiffner plate 12 mm Thk, MS plate Base Plate 16 mm Thk, J Blots 12 mm dia, Gusset Plates, Clamps, 15 mm rods 2.5 Mtr length as per drawing details. Tor Steel Rods cut of Dia 8 mm, 10 mm, 12 mm, 16 mm and 20 mm bent as per drawing & tied inclusive of labour for Reinforced foundation (Dwg No. BESCO/GM/QS&S/70 Dtd 24.11.2018)	280132	Set	47203	53118

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
157	22.10	FRP grating sheet (30 mm thickness, 1.8 Mtr x 1.5) for Prefabricated structure	280133	Set	7873	8859
	23	Single Pole Mounted Transformer (SPMT) Kit for erection of Transformer on Square Section RCC/PSCC 9 Mtr Long Pole as per IS-1977				
158	23.01	For 25/63 kVA 4/5 Star Rated Transformer on RCC Pole - 9 Mtr Long, 150 Kg WL Sq Section without H Frame - MS	279115	Set	6107	6872
159	23.02	For 25/63 kVA 4/5 Star Rated Transformer on RCC Pole - 9 Mtr Long, 150 Kg WL Sq Section without H Frame - GI	280115	Set	8497	9664
160	23.03	For 25/63 kVA 4/5 Star Rated Transformer on RCC Pole - 9 Mtr Long, 150 Kg WL Sq Section with H Frame - MS (Dwg No. BESCO/GM/QS&S/37 Dtd 24.11.2018)	279116	Set	10409	11713
161	23.04	For 25/63 kVA 4/5 Star Rated Transformer on RCC Pole - 9 Mtr Long, 150 Kg WL Sq Section with H Frame - GI	280116	Set	14324	16292
162	23.05	For 25 kVA 4/5 Star Rated Transformer on PSCC Pole - 9 Mtr Long, 300 Kg WL without H Frame - MS	279118	Set	6310	7101
163	23.06	For 25 kVA 4/5 Star Rated Transformer on PSCC Pole - 9 Mtr Long, 300 Kg WL without H Frame - GI	280118	Set	8761	9965
164	23.07	For 25 kVA 4/5 Star Rated Transformer on PSCC Pole - 9 Mtr Long, 300 Kg WL with H Frame - MS (Dwg No. BESCO/GM/QS&S/64 Dtd 24.11.2018)	279119	Set	10781	12132
165	23.08	For 25 kVA 4/5 Star Rated Transformer on PSCC Pole - 9 Mtr Long, 300 Kg WL with H Frame - GI	280119	Set	14806	16840
	24	GOS as per IS-9921, IS-1977				
166	24.01	11 kV, 200 Amps Single Break GOS (Dwg No. BESCO/GM/QS&S/23 Dtd 24.11.2018)	304212	Set	7733	9450
167	24.02	11 kV, 200 Amps Single Break Polymer Type Post Insulators GOS		Set	New Item	9404
168	24.03	11 kV, 200 Amps Single Break GOS, Vertically Operated	304213	Set	11232	13727
169	24.04	11 kV, 400 Amps Double Break GOS (Dwg No. BESCO/GM/QS&S/22 Dtd 24.11.2018)	304224	Set	17396	21260
170	24.05	11 kV, 400 Amps Single Break Polymer Type Post Insulators GOS		Set	New Item	18634
171	24.06	H - Frame Set for fixing 11 kV, 200 Amps Single Break GOS - (For DP structure for providing New GOS for sectionalisation) - MS	279149	Set	3850	4332
172	24.07	H - Frame Set for fixing 11 kV, 200 Amps Single Break GOS - (For DP structure for providing New GOS for sectionalisation) - GI	280149	Set	5338	6071

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
173	24.08	Fixed and Moving contacts with B&N for 11 kV, 200 Amps GOS (1 Fixed & 1 Moving contacts each)	503000	Each	902	1102
174	24.09	11 kV, 400 Amps Special Roaster GOS	304204	Set	12238	14956
175	24.10	Insulated GOS Operating Rods	503211	No	367	413
	25	DOLO Cutout as per IS-9385, Part-1 to 3				
176	25.01	11 kV, DOLO Cutout Conventional to Erstwhile KEB Specification	302011	Set (3 Nos)	4807	5875
177	25.02	11 kV, DOLO Cutout REC Specification (Dwg No. BESCO/GM/QS&S/20 Dtd 24.11.2018)	302021	Set (3 Nos)	3470	4241
	26	DP Set (2 Pole Structure Kit) as per IS-1977				
178	26.01	For RCC Pole - 9 Mtr Long, 145KG WL/PSCC Pole - 9 Mtr Long, 300Kg WL - MS (Dwg No. BESCO/GM/QS&S/35 & 63 Dtd 24.11.2018)	279100	Set	5688	6401
179	26.02	For RCC Pole - 9 Mtr Long, 145KG WL/PSCC Pole - 9 Mtr Long, 300Kg WL - GI	280100	Set	7792	8863
	27	3 Pole Structure Kit as per IS-1977				
180	27.01	For RCC Pole - 9 Mtr Long, 145KG WL/PSCC Pole - 9 Mtr Long, 300Kg WL - MS	279015	Set	12257	13793
181	27.02	For RCC Pole - 9 Mtr Long, 145KG WL/PSCC Pole - 9 Mtr Long, 300Kg WL - GI	280015	Set	16885	19205
	28	C - Type Wedge Connector (Fired)				
182	28.01	Rabbit to Rabbit ACSR	285570	Set	435	453
183	28.02	Coyote to Coyote ACSR	285575	Set	1073	1117
184	28.03	Rabbit to Coyote ACSR	285571	Set	1080	1124
	29	H - Clamps				
185	29.01	Rabbit to Rabbit ACSR	285585	No	88	92
186	29.02	Coyote to Coyote ACSR	285587	No	441	459
187	29.03	Rabbit to Coyote ACSR	285586	No	417	434
188	29.04	Two Hole Paddle (Rabbit ACSR)	285590	No	345	359
189	29.05	Microwedge Connector	285594	No	113	118
	30	LT Feeder Piller Box (MS & Thermoset Plastic)				
190	30.01	8 Way with Poreclain Rewireable Cutout and & 1 No of 630 Amps Load Break Switch with Copper Busbar as per IS-13947 Part-1&2 (Refer Dwg No. BESCO/GM/QS&S/41 Dtd 24.11.2018)	300308	No	44406	52119

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
191	30.02	12 Way with Poreclain Rewireable Cutout and & 1 No of 630 Amps Load Break Switch with Copper Busbar as per IS-13947 Part-1&2 (Dwg No. BESCO/GM/QS&S/41 Dtd 24.11.2018)	300312	No	53287	62543
192	30.03	8 Way HRC Fuse Based Thermoset Plastic LT Feeder Piller Box	300308	No	New Item	80268
193	30.04	12 Way HRC Fuse Based Thermoset Plastic LT Feeder Piller Box	300312	No	New Item	88876
	31	LT Line Spacer				
194	31.01	For 4 Wire	284502	No	59	71
195	31.02	For 2 Wire	281504	No	36	44
196	30.03	For TC Wiring (Dwg No. BESCO/GM/QS&S/38 Dtd 24.11.2018)	284503	No	35	42
	32	1.1 kV, XLPE or Heat resistant PVC insulated, PVC extruded Inner Seath Armoured LTUG Cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness and resistivity as per IS-3975				
197	32.01	6 Sqmm, 2 Core, (24 GI Wire - 1.4 mm)	287054	KM	68731	63406
198	32.02	10 Sqmm, 2 Core, (9 GI Strips - 4 x 0.8 mm)	287055	KM	85689	79232
199	32.03	10 Sqmm, 4 Core, (10 GI Strips - 4 x 0.8 mm)	287205	KM	125942	118004
200	32.04	16 Sqmm, 2 Core, (9 GI Strips - 4 x 0.8 mm)	287056	KM	97189	88418
201	32.05	16 Sqmm, 4 Core, (11 GI Strips - 4 x 0.8 mm)	287206	KM	155459	141842
202	32.06	25 Sqmm, 2 Core, (12 GI Strips - 4 x 0.8 mm)	287057	KM	136811	124117
203	32.07	25 Sqmm, 3.5 Core, (12 GI Strips - 4 x 0.8 mm)	287058	KM	153773	139549
204	32.08	25 Sqmm, 4 Core, (13 GI Strips - 4 x 0.8 mm)	287207	KM	204078	179844
205	32.09	35 Sqmm, 3.5 Core, (14 GI Strips - 4 x 0.8 mm)	287059	KM	176839	154062
206	32.10	35 Sqmm, 4 Core, (15 GI Strips - 4 x 0.8 mm)	287060	KM	202101	176070
207	32.11	50 Sqmm, 3.5 Core, (16 GI Strips - 4 x 0.8 mm)	287208	KM	205433	178973
208	32.12	50 Sqmm, 4 Core, (17 GI Strips - 4 x 0.8 mm)	287209	KM	251453	207194
209	32.13	70 Sqmm, 3.5 Core, (18 GI Strips - 4 x 0.8 mm)	287210	KM	359044	317912
210	32.14	95 Sqmm, 3.5 Core, (21 GI Strips - 4 x 0.8 mm)	287211	KM	435627	373215
211	32.15	120 Sqmm, 3.5 Core, (23 GI Strips - 4 x 0.8 mm)	287212	KM	536281	456889
212	32.16	150 Sqmm, 3.5 Core, (25 GI Strips - 4 x 0.8 mm)	287213	KM	648052	554655
213	32.17	185 Sqmm, 3.5 Core, (28 GI Strips - 4 x 0.8 mm)	287214	KM	805758	691218
214	32.18	240 Sqmm, 3.5 Core, (30 GI Strips - 4 x 0.8 mm)	287216	KM	1005145	862666

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
215	32.19	300 Sqmm, 3.5 Core, (32 GI Strips - 4 x 0.8 mm)	287217	KM	1258576	1066014
216	32.20	400 Sqmm, 3.5 Core, (39 GI Strips - 4 x 0.8 mm)	287218	KM	1662974	1453469
	33	Compression type Aluminium Tubular in Line Connector for Aluminum Conductor				
217	33.01	10 Sqmm	288605	No	3	3
218	33.02	16 Sqmm	288606	No	3	3
219	33.03	25 Sqmm	288607	No	4	4
220	33.04	35 Sqmm	288608	No	4	4
221	33.05	50 Sqmm	288609	No	7	7
222	33.06	70 Sqmm	288610	No	11	11
223	33.07	95 Sqmm	288611	No	12	12
224	33.08	120 Sqmm	288612	No	17	17
225	33.09	150 Sqmm	288613	No	26	26
226	33.10	185 Sqmm	288614	No	31	32
227	33.11	240 Sqmm	288616	No	52	53
228	33.12	400 Sqmm	288617	No	108	110
	34	Straight Through Jointing Kit Suitable for 1.1 kV Class LTUG Cable as per IS-13573				
		Epoxy Type				
229	34.01	10 Sqmm, 2 Core	288170	Set	577	698
230	34.02	10 Sqmm, 4 Core	288174	Set	577	698
231	34.03	16 Sqmm, 2 Core	288171	Set	577	698
232	34.04	16 Sqmm, 4 Core	288175	Set	577	698
233	34.05	25 Sqmm, 2 Core	288172	Set	577	698
234	34.06	25 Sqmm, 4 Core	288176	Set	620	750
235	34.07	50 Sqmm, 4 Core	288178	Set	707	855
236	34.08	70 Sqmm, 3.5/4 Core	288179	Set	872	1055
237	34.09	95 Sqmm, 3.5/4 Core	288180	Set	872	1055
238	34.10	120 Sqmm, 3.5/4 Core	288181	Set	1375	1664
239	34.11	185 Sqmm, 3.5/4 Core	288183	Set	1419	1717
240	34.12	240 Sqmm, 3.5/4 Core	288185	Set	1810	2190
241	34.13	400 Sqmm, 3.5/4 Core	288187	Set	2682	3245

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
		HS Type				
242	34.14	up to 6 Sqmm	288190	Set	521	630
243	34.15	10 to 16 Sqmm	288191	Set	521	630
244	34.16	25 to 35 Sqmm	288192	Set	678	820
245	34.17	50 to 95 Sqmm	288193	Set	1042	1261
246	34.18	120 to 225 Sqmm	288194	Set	1250	1513
247	34.19	240 to 300 Sqmm	288195	Set	1459	1765
248	34.20	400 Sqmm	288196	Set	2084	2522
	35	Epoxy Terminating Kit (Pothead) suitable for 1.1 kV, LTUG Cable				
249	35.01	Up to 4C x 50 Sqmm	288150	Set	268	324
250	35.02	3.5 x 70/95/120 Sqmm	288159	Set	316	382
251	35.03	3.5 x 150/185 Sqmm	288163	Set	397	480
252	35.04	3.5 x 225/240/300 Sqmm	288165	Set	486	588
253	35.05	3.5 x 400/500 Sqmm	288166	Set	592	716
	36	11 kV, 3 Core, XPLE HTUG Cable with pressure extruded inner sheath, ROUND WIRE ARMOURED as per IS-7098 (Part-2) Armouring wires dia and Resistivity as per IS-3975				
254	36.01	95 Sqmm, (54 GI Wires - 2.5 mm Dia)	287400	KM	945436	889666
255	36.02	120 Sqmm, (57 GI Wires - 2.5 mm Dia)	287402	KM	1169705	1124004
256	36.03	150 Sqmm, (59 GI Wires - 2.5 mm Dia)	287403	KM	1344359	1285073
257	36.04	185 Sqmm, (51 GI Wires - 3.15 mm Dia)	287404	KM	1405495	1343513
258	36.05	240 Sqmm, (55 GI Wires - 3.15 mm Dia)	287405	KM	1753646	1656048
259	36.06	300 Sqmm, (58 GI Wires - 3.15 mm Dia)	287406	KM	1978869	1891601
260	36.07	400 Sqmm, (51 GI Wires - 4 mm Dia)	287410	KM	2623841	2496468
261	36.08	11 kV, Cables Fault Locating Equipment	440300	Set	3859433	4669914
	37	11 kV, Auto Reclosures and Sectionalizers with Remote Communication Facility as per IEC-62271				
262	37.01	11 kV, 630 Amps, 12.5 KA Auto reclosures with control pannel including necessary hardware structure protection system etc., as per specification	302510	Set	493220	578892
263	37.02	11 kV, 12.5 KA Sectionalizer with control box having control logic with necessary hardware etc., as per specification	312550	Set	320339	375982

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
264	37.03	11 kV, 230 V, 2 Phase, 300 VA control transformer for providing auxillary power	312551	Set	10920	13345
265	37.04	11kV/ $\sqrt{3}$ /110V/ $\sqrt{3}$, 1 Phase metering PT class - 1, 100 VA per Phase for measurement of voltage	312552	Set	30010	36675
266	37.05	GSM modem with connecting cable for remote communicating capabilities	312553	Set	11913	14415
267	37.06	Fabrication & supply of structrual steel including painting etc.,	312554	Set	6601	7428
268	37.07	9.6 kV, 200 Amps long duration porcelain housed Surge arrestors	312555	Each	1324	1506
	38	Conventional RMU (VCB Type) with Copper Busbar, 350 MVA, 630 Amps as per IEC-62271/IS-3427				
269	38.01	3 Way RMU, 2OD + 1VL (One Incomer + One Breakers + One Outgoing)	302480	Unit	1202116	1410924
270	38.02	4 Way RMU, 2OD + 2VL (One Incomer + Two Breakers + One Outgoing)	302481	Unit	1599119	1876886
271	38.03	5 Way RMU, 2OD + 3VL (One Incomer + Three Breakers + One Outgoing)	302482	Unit	1996121	2342847
272	38.04	6 Way RMU, 2OD + 4VL (One Incomer + Four Breakers + One Outgoing)	302483	Unit	2393125	2808811
273	38.05	One Breaker (VL) Panel with Copper Busbar	302315	Unit	397003	465962
274	38.06	One Breaker (OD) Panel with Copper Busbar	302316	Unit	601058	705462
275	38.07	11 kV, Fault Passage Indicator for Overhead Line	302580	Unit	12551	15187
	39	Compact RMU (VCB/SF6 Type) with Copper Busbar, 350 MVA, 630 Amps as per IEC-62271/IS-3427				
276	39.01	3 Way RMU, 2 OD + 1 VL (One Incomer + One Breaker + One Outgoing)	302340	Unit	468220	549550
277	39.02	4 Way RMU, 2 OD + 2 VL (One Incomer + Two Breakers + One Outgoing)	302345	Unit	661017	775836
278	39.03	5 Way RMU, 2 OD + 3 VL (One Incomer + Three Breakers + One Outgoing)	302350	Unit	826271	969794
279	39.04	6 Way RMU, 2 OD + 4 VL (One Incomer + Four Breakers + One Outgoing)	302355	Unit	991525	1163753
280	39.05	1 OD for RMU 630 Amps	302335	Unit	165254	193959
281	39.06	1 VL for RMU, 630 Amps	302358	Unit	165254	193959

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
	40	<p>DAS Specification Compact RMU (VCB/SF6 Type) as per IEC-62271 The DAS RMUs shall have the following in addition to the Standards:</p> <ul style="list-style-type: none"> • DC motors, Numerical Relays, Multi-functional meters, fault passage indicator (FPI), Metering CTs, Protection CTs, Auxiliary transformers, Potential transformer, Batteries, Battery chargers (12 V & 24 V), AC power socket and light for illumination of Control panel. • Control cable from each panel shall be wired and terminated to suitable 24 pin connector in the control panel. • Suitable space for fixing the Remote Terminal Unit (RTU) and Radio Modem in Control panel. • Suitable Clamps for fixing Antenna Pipe 				
282	40.01	3 Way RMU, 2OD + 1VL (One Incomer + One Breakers + One Outgoing) 630 Amps with Copper Busbar	302490	Unit	671593	788249
283	40.02	4 Way RMU, 2OD + 2VL (One Incomer + Two Breakers + One Outgoing) 630 Amps with Copper Busbar	302491	Unit	919475	1079188
284	40.03	5 Way RMU, 2OD + 3VL (One Incomer + Three Breakers + One Outgoing) 630 Amps with Copper Busbar	302492	Unit	1045068	1226596
285	40.04	1 VL for RMU, 630 Amps Copper Busbar	302493	Unit	247881	290938
286	40.05	<p>RTU (Remote Terminal Unit) Input Voltage: 16V DC to 32V DC Type: Isolated Un-Grounded type-Input ground and output ground are isolated from each other Output Voltage: 24V DC Fixed Output Current: 2.5 Amp's Fixed RTU Software/Firmware: RTU have configuration and maintenance software tool. Compatible for existing DAS System)</p>	302494	Unit	282902	237920
287	40.05	<p>24-Pin Male RMU-RTU Connector: RMU-RTU Interface connectors used to interconnect each RTU with its associated RMU. Cabling between RMU status and control points will be brought out by the RMU supplier to a set of hooded 24-Pin Female connectors fixed within the RMU enclosure that will house the RTU. Corresponding set of hooded 24-Pin Male connectors wired back to the RTU via suitable cable.</p>	302495	Unit	5618	6798
288	40.06	Control Cable 24 Core (1.5 Mtr) suitable for RTU	302496	Set	1214	1469
	41	Load Break Switch				
289	41.01	Load Break Switch with Panel	506492	Unit	62400	73239

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
	42	Aerial Bunched Cable (ABC)				0
	A	11 kV [6.35/11 kV(E)], HT Aerial Bunched Cable XLPE insulation confirming to IS-14255: 1995				
290	42.01	3x95 + 1x70 Sqmm (Insulated Messenger Wire)	284791	KM	907223	959730
291	42.02	3x120 + 1x95 Sqmm (Insulated Messenger Wire)	284792	KM	1084277	1147714
	B	1.1 kV, LT Aerial Bunched Cable, XLPE insulation confirming to IS-14255: 1995				
292	42.03	3x95 + 1x70 + 1x16 Sqmm Street light (Insulated Messenger cum Neutral)	284819	KM	507121	494091
293	42.04	3x95 + 1x70 + 1x25 Sqmm Street light (Insulated Messenger cum Neutral)	284811	KM	519748	506358
294	42.05	3x95 + 1x70 + 1x35 Sqmm Street light (Insulated Messenger cum Neutral)	284812	KM	540731	528639
295	42.06	3x70 + 1x50 + 1x16 Sqmm Street light (Insulated Messenger cum Neutral)	284813	KM	383835	376197
296	42.07	3x25 + 1x25 + 1x16 Sqmm Street light (Insulated Messenger cum Neutral)	284814	KM	168178	164831
297	42.08	3x16 + 1x25 + 1x16 Sqmm Street light (Insulated Messenger cum Neutral)	284816	KM	110975	108767
298	42.09	2x16 + 1x25 Sqmm (Insulated Messenger cum Neutral)	284817	KM	86949	85219
	43	Accessories for ABC Cables as per NF-33, as per IS-13573 for Joints & Terminations				
299	43.01	Suspension Clamp suitable for insulated Messsenger wire of size 25 to 95 Sqmm	284847	No	312	355
300	43.02	11 kV, AB Cable Straight thru' joint kit suitable for 95 Sqmm	284848	Set (3 Nos)	6351	7685
301	43.03	11 kV, AB Cable Straight thru' joint kit suitable for 120 Sqmm	284849	Set (3 Nos)	6744	8160
302	43.04	11 kV, ABC Termination kit 95 - 120 Sqmm	284873	Set (3 Nos)	2360	2856
303	43.05	Surge Arrester (for AB Cable)	303100	No	570	690
304	43.06	Ground Connection for Messenger Wire	284880	No	11	13
305	43.07	Single Phase Distribution Box for 20 Connection	284820	No	1984	2401
306	43.08	Single Phase Distribution Box for 10 Connection	284818	No	1874	2268
307	43.09	Three Phase Distribution Box for 5 Connection	284815	No	1984	2401
308	43.10	Three Phase Distribution Box for 6 Connection	284821	No	1984	2401
309	43.11	Piercing Connector Suitable for 16 Sqmm - 95 Sqmm AB Cable - Service Connection	284822	No	219	265

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
310	43.12	Piercing Connector Suitable for 16 Sqmm - 95 Sqmm AB Cable - Street Light Connection	284223	No	154	186
311	43.13	Piercing Connector Suitable for 25 Sqmm - 95 Sqmm AB Cable - Main to Main Connection	284855	No	256	310
312	43.14	Piercing Connector Suitable for 50 Sqmm - 150 Sqmm AB Cable - Main to Main Connection	284865	No	288	348
313	43.15	Universal Hook and Bolt & Nut	284824	No	293	333
314	43.16	Dead End Clamp/Anchor Clamp Assembly 25 to 95 Sqmm Bare Messenger(Exclusive of Pole Clamp and Eye Hook)	284825	No	126	152
315	43.17	Dead End Clamp/Anchor Clamp Assembly 16 to 70 Sqmm Bare Messenger (Exclusive of Pole Clamp and Eye Hook)	284843	No	192	232
316	43.18	Dead End Clamp/Anchor Clamp Assembly 70 to 210 Sqmm Bare Messenger (Exclusive of Pole Clamp and Eye Hook)	284844	No	288	348
317	43.19	Suspension Clamp Assembly 16 to 70 Sqmm Bare Messenger (Exclusive of Pole Clamp and Eye Hook)	284845	No	183	221
318	43.20	Suspension Clamp Assembly 70 to 210 Sqmm Bare Messenger (Exclusive of Pole Clamp and Eye Hook)	284846	No	293	355
319	43.21	Pre - Insulated Lug - CPTAU for 120 Sqmm	284836	No	370	448
320	43.22	Pre - Insulated Lug - CPTAU for 95 Sqmm	284837	No	324	392
321	43.23	Pre - Insulated Lug - CPTAU for 70 Sqmm	284827	No	283	342
322	43.24	Pre - Insulated Lug - CPTAU for 50 Sqmm	284828	No	252	305
323	43.25	Pre - Insulated Lug - CPTAU for 25 Sqmm	284834	No	237	287
324	43.26	Pre - Insulated Lug - CPTAU for 16 Sqmm	284835	No	117	142
325	43.27	Tee - Connector - KZ3 95	284829	No	324	392
326	43.28	Straight Joint Suitable for 95 Sqmm, LT ABC - MJPT Type	284832	No (1 Core)	348	421
327	43.29	Straight Joint Suitable for 70 Sqmm, LT ABC - MJPT Type	284830	No (1 Core)	325	393
328	43.30	Straight Joint Suitable for 50 Sqmm, LT ABC - MJPT Type	284831	No (1 Core)	304	368
329	43.31	Straight Joints Suitable for 25 Sqmm, LT ABC - MJPT Type	284838	No (1 Core)	282	341
330	43.32	Straight Joint Suitable for 16 Sqmm, LT ABC - MJPT Type	284840	No (1 Core)	204	247
331	43.33	End Cap for 50/70 Sqmm	284833	No	19	23
332	43.34	Nylon Cable Tie (100 Nos)	284839	Set	384	465
333	43.35	Pole Clamp for HT/LT AB cable	284841	No	96	109

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
334	43.36	Eye Hook (Flat Type) for fixing Clamp	284842	No	84	102
	44	Covered Conductors & Accessories				
335	44.01	70 Sq.mm AAAC (AL-7), 11 KV Covered Conductor	284901	KM	462712	453504
336	44.02	Alignment Tie	284902	No	592	716
337	44.03	Dead End (Anchoring Clamp)	284903	No	2705	3273
338	44.04	Insulation Piercing Connector Covered to Covered – IPC – TTDC 284014 FA	284904	No	4750	5748
339	44.05	Insulation Piercing Connector Bare to Covered – IPC – NTDC 284014 FA	284905	No	4750	5748
340	44.06	Mid Span Joint MJPT 75 G 28	284906	No	2500	3025
341	44.07	Outdoor Termination Kit	284907	No	1403	1698
342	44.08	End Cap	284908	No	60	73
	45	11 kV, Jointing & Cable Termination Kit as per IS-13573				
		Heat Shrinkable Type Transition Jointing Kit for XLPE Cable				
343	45.01	3x95 Sqmm	288312	Set	8468	10246
344	45.02	3x240 Sqmm	288314	Set	10466	12664
345	45.03	3x400 Sqmm	288315	Set	10659	12897
		Heat Shrinkable Indoor Type Cable Termination Kit for XLPE Cable				
346	45.04	3x95 Sqmm	288332	Set	3094	3744
347	45.05	3x240 Sqmm	288334	Set	3877	4691
348	45.06	3x400 Sqmm	288336	Set	3979	4815
		Heat Shrinkable Outdoor Type Cable Termination Kit for XLPE Cable				
349	45.07	3x95 Sqmm	288302	Set	3361	4067
350	45.08	3x240 Sqmm	288304	Set	4395	5318
351	45.09	3x400 Sqmm	288305	Set	4428	5358
		Heat Shrinkable Indoor Type Cable Termination Kit for PILC Cable				
352	45.10	3x95 Sqmm	288462	Set	2593	3138
353	45.11	3x240 Sqmm	288464	Set	2785	3370
354	45.12	3x400 Sqmm	288465	Set	2843	3440

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
		Heat Shrinkable Outdoor Type Cable Termination Kit for PILC Cable				
355	45.13	3x95 Sqmm	288456	Set	3286	3976
356	45.14	3x240 Sqmm	288458	Set	4124	4990
357	45.15	3x400 Sqmm	288460	Set	4143	5013
		Heat Shrinkable Straight Through Jointing Kit for XLPE Cable with Copper Lug & Al Ferrule				
358	45.16	3x95 Sqmm	288322	Set	6042	7311
359	45.17	3x240 Sqmm	288324	Set	7367	8914
360	45.18	3x400 Sqmm	288329	Set	9048	10948
		Heat Shrinkable Straight Through Jointing Kit for PILC Cable with Copper Lug & Al Ferrule				
361	45.19	3x95 Sqmm	288450	Set	6445	7798
362	45.20	3x240 Sqmm	288452	Set	7282	8811
363	45.21	3x400 Sqmm	288453	Set	8798	10646
	46	Service Connection Accessories				
364	46.01	Pole Mounted Fibre Glass Reinforced Aerial Fuse Board 60 Amps - 3 Way (Dwg No. BESCO/GM/QS&S/24 Dtd 24.11.2018)	612614	No	793	960
365	46.02	Pole Mounted Fibre Glass Reinforced Aerial Fuse Board 30 Amps - 3 Way	612615	No	567	686
366	46.03	FGRP Aerial Fuse Board 30 Amps - 4 Way	612617	No	739	894
367	46.04	FGRP Aerial Fuse Board 30 Amps - 5 Way	612618	No	836	1012
368	46.05	FGRP Aerial Fuse Board 30 Amps - 6 Way	612616	No	916	1108
	47	LT Service Connector				
369	47.01	For Weasel	285502	No	24	29
370	47.02	For Rabbit	285503	No	24	29
	48	1.1 kV Class HR (Heat Resistant) PVC Insulated & Sheathed Aluminium Single Core Lead wires as per IS-694: 2010				
371	48.01	PVC Wire - 2.5 Sqmm Weight per 100 Mtr Coil: 1.8 Kg	289022	Coil	1361	1484
372	48.02	PVC Wire - 4 Sqmm Weight per 100 Mtr Coil: 2.4 Kg	289023	Coil	1664	1791
373	48.03	PVC Wire - 6 Sqmm Weight per 100 Mtr Coil: 3.5 Kg	289024	Coil	1968	2085
374	48.04	PVC Wire - 10 Sqmm Weight per 100 Mtr Coil: 5.3 Kg	289025	Coil	2578	2678

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
	49	1.1 KV Class HR (Heat Resistant) PVC Insulated & UnSheathed Aluminium Wires Multistrand Single Core Lead wires as per IS-694: 2010				
375	49.01	PVC Wire - 16 Sqmm Al Wt: 4.2 Kg, Total Wt: 7.5 Kg/100 Mtr Coil	289026	Coil	3471	3542
376	49.02	PVC Wire - 25 Sqmm Al Wt: 6.7 Kg, Total Wt: 11.5 Kg/100 Mtr Coil	289027	Coil	4726	4733
377	49.03	PVC Wire - 35 Sqmm Al Wt: 9.3 Kg, Total Wt: 14.5 Kg/100 Mtr Coil	289028	Coil	5482	5322
378	49.04	PVC Wire - 50 Sqmm Al Wt: 13.8 Kg, Total Wt: 22 Kg/100 Mtr Coil	289029	Coil	6734	6419
379	49.05	PVC Wire - 70 Sqmm Al Wt: 18.7 Kg, Total Wt: 28.5 Kg/100 Mtr Coil	289030	Coil	9492	9066
380	49.06	PVC Wire - 95 Sqmm Al Wt: 25 Kg, Total Wt: 36 Kg/100 Mtr Coil	289031	Coil	11932	11129
381	49.07	PVC Wire - 120 Sqmm Al Wt: 32 Kg, Total Wt: 45.5Kg/100 Mtr Coil	289032	Coil	15269	14319
382	49.08	PVC Wire - 150 Sqmm Al Wt: 41.4 Kg, Total Wt: 57 Kg/100 Mtr Coil	289033	Coil	18588	17416
383	49.09	PVC Wire - 185 Sqmm Al Wt: 49 Kg, Total Wt: 68 Kg/100 Mtr Coil	289034	Coil	21941	20224
384	49.10	PVC Wire - 240 Sqmm Al Wt: 63.5 Kg, Total Wt: 87 Kg/100 Mtr Coil	289036	Coil	28359	26037
	50	Fuse Wire				
385	50.01	Tinned Copper Fuse Wire, 5 Amps	625020	Kg	992	1128
386	50.02	Tinned Copper Fuse Wire, 10 Amps	625230	Kg	992	1128
387	50.03	Tinned Copper Fuse Wire, 20 Amps	625250	Kg	992	1128
388	50.04	Tinned Copper Fuse Wire, 100 Amps	625075	Kg	992	1128
	51	Grounding Material				
		Pipe Grounding				
389	51.01	GI Grounding pipe, B - Class, 42 mm dia, 2.5 Mtr long, 3.2 mm thick with bolt, nut, GI Strips and washer complete Minimum Weight of GI Pipe: 7.3 Kg	281674	No	653	743
390	51.02	Good Quality well burnt Charcoal for grounding purposes packed in non returnable gunny bag of 30 Kg each	600095	No	559	676
391	51.03	Good Quality Salt for grounding purposes packed in 50 Kg gunny bag	607054	Bag	256	310

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
		Rod Earthing				
392	51.04	Rod type of earthing using 40 mm Dia, 3 Mtr long MS rod as ground rod, in earth pit of 300 mm width and 3300 mm depth and using 50x6 mm flat welded to ground rod as terminal & connected to equipment ground terminal using PVC Al wire as specified	281685	No	1910	2172
393	51.05	Bentonite clay slurry for earthing in 50 Kg Bag	607220	Bag	304	368
	52	Alkathine tube				
394	52.01	Transparent Alkathine tube 19 mm dia, 2 mm thick in coils of 30 Mtr	821900	Coil	427	517
	53	Measuring Equipment				
395	53.01	CT PT Operated ETV Meter 0.2s Accuracy Class with ABT feature and DLMS protocol with ToD with RS 232 Port UNIDIRECTIONAL (Used for HT Installation, LT Metering Cubicle (50-150 KW))	357325	No	16211	19615
396	53.02	CT PT Operated ETV Meter 0.2s Accuracy Class with ABT feature and DLMS protocol with ToD with RS 232 Port BIDIRECTIONAL (Used for Boundary Metering)	357326	No	16500	19965
397	53.03	LT Single Phase 5-30 Amps, DLMS Complaint Static Energy Meter, 1.0 Accuracy Class (Used for LT-2, LT-3 & LT-5 Installations)	357006	No	792	958
398	53.04	LT AC 3 Phase 4 Wire, 5-30 Amps DLMS Complaint Energy Meter, 1.0 Accuracy Class (Used for LT-2, LT-3 & LT-5 Installations up to 25HP/18KW)	357531	No	1967	2380
399	53.05	LT 3 Phase, 4 Wire, CT Operated DLMS Complaint ETV Meter-5A, class 0.5s Accuracy (Used for 25 HP/18KW & Above Installations, DTC Metering)	357519	No	2807	3396
400	53.06	Pre - Paid Energy Meter Single Phase, 5-30 Amps, 1.0 Accuracy Class with Key Pad Technology consumer interface unit along with pillfer proof box	357580	No	5926	7170
401	53.07	Pre - Paid Energy Meter Single Phase, 5-30 Amps, 1.0 Accuracy Class with Card Technology	357581	No	9095	11005
402	53.08	Pre - Paid Energy Meter 3 Phase, 5-30 Amps, 1.0 Accuracy Class with Key Pad Technology consumer interface unit along with pillfer proof box	357585	No	8541	10335
403	53.09	Pre - Paid Energy Meter 3 Phase, 5-30 Amps, 1.0 Accuracy Class with Card Technology	357586	No	10171	12307
404	53.10	HT 3 Phase 4 Wire Static Meter (CT, PT Operated) 3 x 63.5 V, 1 Amps 0.2s Accuracy Class with RS-485 & ABT features	357514	No	11447	13851
405	53.11	LT 3 Phase 4 Wire 5-30 Amps Thread Through Type composite Meter Housing Box consisting of ETV Meter with AMR comply and LTCT with built in GSM/GPRS Modem (as per technical specification) upto 100 kVA Distribution Transformer.	357515	No	14855	17975

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
406	53.12	Numerical Over Current & Earth Fault Protection Relay with Accessories for NJY Works	357517	No	9000	10890
407	53.13	GPRS Modem with Accessories	357521	Set	3800	4598
		Smart Meters IS - 16444 Complaint				
408	53.14	LT AC Single Phase 2 Wire, 5-30 Amps Smart Energy Meter, Class 1.0 Accuracy with GPRS Communication Module	357525	No	2034	2461
409	53.15	LT AC Single Phase 2 Wire, 5-30 Amps Smart Energy Meter, Class 1.0 Accuracy with RF Communication Module	357526	No	2034	2461
410	53.16	LT AC 3 Phase 4 Wire, 10-60 Amps Smart Energy Meter, Class 1.0 Accuracy with GPRS Communication Module	357527	No	2712	3282
411	53.17	LT AC 3 Phase 4 Wire, 10-60 Amps Smart Energy Meter, Class 1.0 Accuracy with RF Communication Module	357528	No	2712	3282
412	53.18	LT AC 3 Phase 4 Wire CT Operated, 5 Amps Smart Energy Meter, Class 0.5s Accuracy with GPRS Communication Module	357529	No	3390	4102
413	53.19	LT AC 3 Phase 4 Wire CT Operated, 5 Amps Smart Energy Meter, Class 0.5s Accuracy with RF Communication Module	357530	No	3390	4102
414	53.20	3 Phase CT/PT operated alternating current Smart Meter of Accuracy Class 0.2s DLMS with GPRS Communication Module	357531	No	24788	29993
415	53.21	3 Phase CT/PT operated alternating current Smart Meter of Accuracy Class 0.2s DLMS with RF Communication Module	357532	No	24788	29993
	54	Electric Vehicles				
	A	Electric Vehicle Supply Equipment (EVSE) - Bharath DC-001 having GB/T connector(s) compliant with OCPP 1.6 or above and certified by ARAI (or by NABL accredited testing centres) of power rating				
416	54.01	15 kW - One Connector	357533	Set	169492	205085
417	54.02	20 kW - Two Connectors	357534	Set	245763	297373
418	54.03	30 kW - Two Connectors	357535	Set	272698	329965
	B	Electric Vehicle Supply Equipment (EVSE) -Bharath AC-001 having IEC60309 industrial connector(s) compliant with OCPP 1.6 or above and certified by ARAI (or by NABL accredited testing centres) of power rating				
419	54.04	3.3 kW - One connector	357536	Set	15254	18457
420	54.05	10 kW - Three connector 3.3 kW each	357537	Set	38811	46961

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	C	Electric Vehicle Supply Equipment (EVSE) - IS17017/IEC61851 compliant Pedestal/Ground Mounted with CCS (Combo-2) Connector(s) compliant with OCPP 1.6 or above and certified by ARAI (or by NABL accredited testing centres) of Power rating				
421	54.06	25/30 kW - One/Two connector	357538	Set	550847	666525
422	54.07	50/60kW - Two Connectors	357539	Set	776217	939223
423	54.08	100/120 kW - Two Connectors	357540	Set	1059322	1281780
424	54.09	240 kW - Two Connectors	357541	Set	1694915	2050847
	55	Meter Protection/Tamper Proof Box (MS) for LT Installations 25 HP and above				
425	55.01	Meter Protection/Tamper Proof box with busbar for LT 3 Ph with CT Ratio 50/5A, 1.0 Accuracy Class	358040	Unit	5217	6123
426	55.02	Meter Protection/Tamper Proof box with busbar for LT 3 Ph with CT Ratio 75/5A, 1.0 Accuracy Class	358023	Unit	4844	5685
427	55.03	Meter Protection/Tamper Proof box with busbar for LT 3 Ph with CT Ratio 100/5A, 1.0 Accuracy Class	358030	Unit	4621	5424
428	55.04	LT Metering Box for housing the ETV Meter without CT's busbar wiring etc	358050	Unit	3105	3644
429	55.05	Pillfer proof box for below 25 HP Installation	612655	Unit	250	293
430	55.06	SMC Single Phase Meter protection box	358005	Unit	407	478
431	55.07	Single Phase Deep Drawn Meter Protection box		Unit	New Item	770
432	55.08	Sheet Metal/Deep Drawn LT Metering box with wiring arrangement for Modem and DLMS meter without CTs	358076	Unit	3105	3644
433	55.09	Sheet Metal/Deep Drawn Street Lighting Metering Box with Automatic Control Swith, Contactors with Single Phase 5-30 Amps meter & 50/5A CT	358078	Unit	5046	5984
434	55.1	Numerical Poly Carbonate Seal	626234	No	8	10
435	55.11	Meter Sealing Wire	626500	Kg	153	185
436	55.12	High Security Label Seal	357590	No	4	5
437	55.13	Poly Carbonate sealing bits without number	626233	No	5	6
	56	LT Current Transformer, 3.75 VA, Ring type as per IS-2705 Part-1&2				
438	56.01	CT Ratio - 25/5A, 1.0 Accuracy Class	336005	No	738	902
439	56.02	CT Ratio - 30/5A, 1.0 Accuracy Class	336006	No	738	902
440	56.03	CT Ratio - 50/5A, 1.0 Accuracy Class	336010	No	733	896
441	56.04	CT Ratio - 75/5A, 1.0 Accuracy Class	336015	No	610	745
442	56.05	CT Ratio - 50/5A, 0.5 Accuracy Class	336016	No	729	891

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
443	56.06	CT Ratio - 75/5A, 0.5 Accuracy Class	336017	No	464	567
444	56.07	CT Ratio - 100/5A, 0.5 Accuracy Class	336020	No	540	660
445	56.08	CT Ratio - 150/5A, 0.5 Accuracy Class	336025	No	404	494
446	56.09	CT Ratio - 200/5A, 0.5 Accuracy Class	336030	No	477	583
447	56.10	CT Ratio - 300/5A, 0.5 Accuracy Class	336035	No	477	583
448	56.11	CT Ratio - 400/5A, 0.5 Accuracy Class	336040	No	477	583
449	56.12	CT Ratio - 600/5A, 0.5 Accuracy Class	336046	No	536	655
450	56.13	CT Ratio - 800/5A, 0.5 Accuracy Class	336050	No	536	655
	57	Instrument Transformer (PT & CT) as per IS-2705 Part-1&2				
		11KV CT (Secondary - 1A) for 3 Phase 4 Wire Metering, Burden: 2.5 VA, 0.2 Accuracy Class				
451	57.01	Ratio: 1.25/1A to 2.5/1A	336336	No	10821	13224
452	57.02	Ratio: 5/1A to 100/1A	336337	No	9275	11335
453	57.03	Ratio: 125/1A to 200/1A	336338	No	9928	12133
454	57.04	Ratio: 225/1A to 400/1A	336339	No	10821	13224
	58	HT & LT Metering Equipment				
455	58.01	11 kV HT Metering cubicle of different CT Ratio, Both side cable entry type with 3 CT & 3 PT, With Transparent Cover TTb, with 30x8 mm Copper Busbar, Modem & 2 No of Meters for 3 Phase 4 Wire Metering without Load Break Switch (HT Metering Box Fabricated out of 3 mm MS Sheet duly epoxy powder coated) as per revised Specification (Dwg No. BESCO/GM/QS&S/-- Dtd 24.11.2018)	358351	Unit	207440	243472
456	58.02	LT Metering Cubicle at Low Tension for 50 KW to 150 KW having specification & design as per the prototype approval (Excluding Meter Cost & Modem Cost)	358352	Unit	68060	79882
	59	Heavy Duty Copper Terminal Long Barrel				
457	59.01	25 Sqmm Copper Terminal, Apprx Wt: 11 Gm	288527	No	24	27
458	59.02	35 Sqmm Copper Terminal, Apprx Wt: 17 Gm	288528	No	35	40
459	59.03	50 Sqmm Copper Terminal, Apprx Wt: 26 Gm	288529	No	51	58
460	59.04	70 Sqmm Copper Terminal, Apprx Wt: 38 Gm	288530	No	78	89
461	59.05	95 Sqmm Copper Terminal, Apprx Wt: 58 Gm	288531	No	113	129
462	59.06	120 Sqmm Copper Terminal, Apprx Wt: 64 Gm	288532	No	123	140
463	59.07	150 Sqmm Copper Terminal, Apprx Wt: 98 Gm	288533	No	161	183
464	59.08	185 Sqmm Copper Terminal, Apprx Wt: 158 Gm	288534	No	241	274

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465	59.09	225 Sqmm Copper Terminal	288535	No	307	349
466	59.10	240 Sqmm Copper Terminal, Apprx Wt: 218 Gm	288536	No	312	355
467	59.11	300 Sqmm Copper Terminal	288537	No	453	515
468	59.12	400 Sqmm Copper Terminal, Apprx Wt: 395 Gm	288538	No	759	863
	60	Aluminium End Terminal (Lug)				
469	60.01	10 Sqmm	288630	No	2	2
470	60.02	16 Sqmm	288631	No	2	2
471	60.03	25 Sqmm	288632	No	3	3
472	60.04	32 Sqmm	288633	No	4	4
473	60.05	50 Sqmm	288634	No	9	9
474	60.06	70 Sqmm	288635	No	13	13
475	60.07	95 Sqmm	288636	No	15	15
476	60.08	120 Sqmm	288637	No	20	20
477	60.09	150 Sqmm	288638	No	24	24
478	60.10	185 Sqmm	288639	No	38	39
479	60.11	225 Sqmm	288640	No	41	42
480	60.12	240 Sqmm	288641	No	60	61
481	60.13	300 Sqmm	288642	No	71	72
482	60.14	400 Sqmm	288643	No	92	94
	61	Full Threaded Bolt & Nut as per IS-1367				
		MS				
483	61.01	16x40 mm	733612	MT	86943	97836
484	61.02	16x50 mm	733613	MT	86943	97836
485	61.03	16x65 mm	733616	MT	86943	97836
486	61.04	16x75 mm	733618	MT	86943	97836
487	61.05	16x85 mm	733620	MT	86943	97836
488	61.06	16x100 mm	733623	MT	86943	97836
489	61.07	16x125 mm	733625	MT	86943	97836
490	61.08	16x150 mm	733628	MT	86943	97836
491	61.09	16x175 mm	733630	MT	86943	97836
492	61.10	16x200 mm	733633	MT	86943	97836
493	61.11	16x225 mm	733634	MT	86943	97836

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
		GI				
494	61.12	16x40 mm	280612	MT	116557	132571
495	61.13	16x50 mm	280613	MT	116557	132571
496	61.14	16x65 mm	280616	MT	116557	132571
497	61.15	16x75 mm	280618	MT	116557	132571
498	61.16	16x85 mm	280620	MT	116557	132571
499	61.17	16x100 mm	280623	MT	116557	132571
500	61.18	16x125 mm	280625	MT	116557	132571
501	61.19	16x150 mm	280628	MT	116557	132571
502	61.20	16x175 mm	280630	MT	116557	132571
503	61.21	16x200 mm	280633	MT	116557	132571
504	61.22	16x225 mm	280634	MT	116557	132571
	62	LT Brass Terminal Connector for Transformer (630 Amps, Approx. Weight 0.790 Kg)				
505	62.01	250 kVA	542180	No	856	1036
506	62.02	500 kVA	542185	No	856	1036
	63	Brass Cable Gland				
507	63.01	25 mm	542190	No	65	79
508	63.02	32 mm	542192	No	79	95
509	63.03	40 mm	542194	No	122	148
510	63.04	45 mm	542196	No	163	197
	64	For Distribution Transformer Centre (DTC) MS Box for housing the ETV Meter 3 Phase 4 Wire 5 Amps, with associated LT CT 0.5 Accuracy Class, ring type, with wiring Clamps, B&N and all other accessories required. (EXCLUDING ETV METER)				
511	64.01	With CT Ratio 50/5 for 15/25 kVA DTC	358055	Set	5825	6836
512	64.02	With CT Ratio 100/5 for 50/63 kVA DTC	358060	Set	5362	6293
513	64.03	With CT Ratio 150/5 for 100 kVA DTC	358065	Set	5028	5902
514	64.04	With CT Ratio 400/5 for 250 kVA DTC	358070	Set	5207	6111
515	64.05	With CT Ratio 800/5 for 500 kVA DTC	358075	Set	5352	6282

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
		SMC metering box as above				
516	64.06	With CT Ratio 50/5 for 15/25 kVA DTC	358056	Set	5825	6836
517	64.07	With CT Ratio 100/5 for 50/63 kVA DTC	358061	Set	5362	6293
518	64.08	With CT Ratio 150/5 for 100 kVA DTC	358066	Set	5028	5902
519	64.09	With CT Ratio 400/5 for 250 kVA DTC	358071	Set	5207	6111
520	64.10	With CT Ratio 800/5 for 500 kVA DTC	358077	Set	5352	6282
	65	Compact Pre - Fabricated Packaged Sub - Station (as per IEC-60694/IS-3427) 11kV/433V consisting of 3 way SF6/VCB insulated compact RMU, oil cooled CRGO/Amoprhous Core Star - 2 Rated (5 - Star) Transformer and LT section with one MCCB/ACB as incoming and following outgoing MCCB feeders and with enclosure made of electronically galvanized steel sheet (min 2 mm Thickness) with powder coated finish, Copper busbar with LT Metering facility				
521	65.01	100 kVA Al. Wound Transformer, 250 Amps MCCB 50 kA 4 pole fixed type micro processor based for LT incomer and 2 Nos. 100 Amps MCCB 4 pole 36 kA TM Based for out going	276530	Set	1424492	1671926
522	65.02	250 kVA Al. Wound Transformer, 400 Amps MCCB 50 kA 4 pole fixed type micro processor based for LT incomer and 3 Nos. 250 Amps MCCB 4 pole 36 kA TM Based for out going	276540	Set	1823305	2140013
523	65.03	500 kVA Al. Wound Transformer, 800 Amps ACB 50 kA 4 pole fixed type micro processor based for LT incomer and 4 Nos. 250 Amps MCCB 4 pole 36 kA TM Based for out going	276550	Set	2397288	2813697
524	65.04	800 kVA Copper Wound Transformer, 1250 Amps ACB 50 kA 4 pole fixed type micro processor based for LT incomer and 6 Nos. 250 Amps MCCB 4 pole 36 kA TM Based for LT out going	276576	Set	2974576	3491260
525	65.05	1000 kVA Copper Wound Transformer, 1600 Amps ACB 50 kA 4 pole fixed type micro processor based for LT incomer and 2 Nos. 400 Amps MCCB + 4 No. 250 Amps MCCB 4 pole 36 kA TM Based for LT out going.	276599	Set	3665339	4302008
526	65.06	800 kVA	321475	No	932203	1139246
527	65.07	1000 kVA	321490	No	1398305	1708869
528	65.08	LT ACB 800 Amps	310521	No	178814	209873
529	65.09	LT ACB 1250 Amps	310522	No	203390	238719
530	65.10	LT ACB 1600 Amps	310523	No	254237	298398

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
531	65.11	MCCB 250 Amps	358093	No	21949	25762
532	65.12	MCCB 400 Amps	358095	No	28729	33719
	66	Optical Fibre Cable (OFC) and its Accessories				
533	66.01	288 Fibre OFC	286000	KM	228995	277084
534	66.02	96 Fibre OFC	286001	KM	85661	103650
535	66.03	48 Fibre OFC	286002	KM	63369	76676
536	66.04	HDPE/PLB Pipe 50/42 mm	286003	KM	70259	85014
537	66.05	HDPE/PLB Pipe 40/33 mm	286004	KM	51517	62336
538	66.06	Chambers at every 150 Mtr including pit	286005	No	5085	6153
539	66.07	Joint for 288 Fibre	286006	No	11640	14084
540	66.08	Joint for 96 Fibre	286007	No	4996	6045
541	66.09	Joint for 48 Fibre	286008	No	3335	4035
542	66.10	Blowing of cable above 24 Fibre	286009	KM	16288	19709
543	66.11	End Plug for HDPE/PLB	286010	No	17	21
	67	Tools & Plant				
544	67.01	Multimeter Electronic Type	359215	No	853	1032
545	67.02	Multimeter Electromechanical Type	359210	No	1535	1857
546	67.03	Rubber Hand gloves 15 kV, SEAMLESS Confirming to ISS (Sample to be verified for seamless before approval) for electrical purpose	427252	Pair	934	1130
547	67.04	Silica Gel	607056	Kg	161	195
548	67.05	Telescopic Earthing Rod	427215	No	1295	1567
549	67.06	FRP Telescopic Discharge Rod 10 ft (Comprising of 2 Sticks, Closed Height of 6 Ft and extended Height of 10 Ft. Outer Dia of the stick as follows Top Section: 25 mm Bottom Section: 30 mm Wall Thickness: 2.25 mm Total Weight: 2.8 Kgs (Rod: 1.5 Kgs + Earth Cable & Clamp: 1.3 Kgs Tolerannce for Weight/Length/Dia: +/- 5%)		No	New Item	5808

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
550	67.07	FRP Telescopic Discharge Rod 16 ft (Comprising of 3 Sticks, Closed Height of 7 Ft and extended Height of 16 Ft. Outer Dia of the stick as follows Top Section: 25 mm Middle Section: 32 mm Bottom Section: 40 mm Wall Thickness: 3 mm Total Weight: 4 Kgs (Rod: 2,7 Kgs + Earth Cable & Clamp: 1.3 Kgs Tolerannce for Weight/Length/Dia: +/- 5%)		No	New Item	6413
551	67.08	LT Line Tester	440005	No	42	51
552	67.09	High Voltage Detector	440008	No	15036	18194
553	67.10	Screw Ddriver 8"	425518	No	76	92
554	67.11	Adjustabale Screw Spanner 8"	424364	No	153	185
555	67.12	Adjustabale Screw Spanner 12"	424365	No	254	308
556	67.13	Polypropyline Rope of 26 mm Dia	406351	Kg	190	230
557	67.14	Safety Belt with Accessories	427321	Set	3085	3751
558	67.15	Electrical Safety Helmet attached with Electronic Induction Tester	427311	Set	1477	1787
559	67.16	Hand Operated Crimping Tool 25 Sqmm to 400 Sqmm	425320	No	7459	9026
560	67.17	Common Meter Reading Instrument	358361	No	24574	29734
561	67.18	Thermal Imaging Camera	440661	No	338389	409451
562	67.19	Hydraulic Crimping Tool with suitable Dies for crimping lugs of size upto 400 Sqmm	425360	Set	9005	10896
563	67.20	Hi Visibility Reflective Jacket	407301	No	585	708
564	67.21	Hi Visibility Reflective Rain Wear	407302	No	2350	2844
565	67.22	Protective Eye Wear for Safety with integral hands free LED Lighting	407303	No	878	1062
566	67.23	Safety shoes with Two Pair of socks	427322	Pair	1465	2880
567	67.24	Chain saw (Motorised), extremely robust and long lasting chain saw. Highly suitably for cutting firewood, thinning shrubs and bushes and shaping trees.	414371	Set	23501	28436
568	67.25	Tubular Telescopic Tree Pruner (Comprising of 2 Sticks) Weight: Less than 3 Kgs Blade: Length: 15" to 16", Thickness: 1.0 to 1.5 mm Length of the Blade & Rod: 6.5 Mtr Circumference of the Rod: 110mm to 120mm (Rod Material: FRP or Aluminum. Insulation shall be provided if Aluminium material is used for rod)		Set	New Item	22216

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
569	67.26	Bolt Cutter - 24" (Rubber Grip Handle, Hardened Alloy Steel Jaws & Center Cut Jaw Configuration with Max Cutting Capacity: 12 mm)		No	New Item	2046
570	67.27	FRP wall Extension ladder	427075	Set	11000	13310
571	67.28	LDPE Safety Cone with ESCOM's Logo	407370	No	1525	1846
572	67.29	HM HDPE Flexible Poly Film Barricade Tape of 50 Microns with ESCOM's Logo, Caution, Danger & Men At Work	407375	Mtr	2.4	3
573	67.30	Men at work Sign Board	407380	No	1695	2051
574	67.31	Insulated Crowbar	404065	No	636	769
575	67.32	Head Torch	427447	No	339	410
576	67.33	Insulated GOS Operating Handle/Rod for Redesigned & Modified GOS	503215	No	1801	2026
	68	Miscellaneous Materials				
577	68.01	RCC Hume Pipe 2000 mm long 150 mm Dia	820672	No	254	307
578	68.02	RCC Hume Pipe 2000 mm long 200 mm Dia	820673	No	322	390
579	68.03	Collars for RCC Hume Pipe 150 mm Dia	820703	No	68	82
580	68.04	Collars for RCC Hume Pipe 200 mm Dia	820704	No	85	103
581	68.05	MS Pipe 200 mm Dia with collar	765050	Mtr	794	961
582	68.06	Cable Covering Tile 125x250x40 mm	801035	Per 1000	8475	10255
583	68.07	Cable Covering Tile 125x125x40 mm	801034	Per 1000	4237	5127
584	68.08	Route & Joint indicating slab with MS Anchor rod	802460	No	110	133
585	68.09	Black Cambric tape 25 mm wide 10 mil thick and in rolls of 50 Mtr	622675	Roll	108	131
586	68.10	Yellow Cambric tape 25 mm wide 7 mil thick and in rolls of 50 Mtr	622620	Roll	99	120
587	68.11	PVC Insulation Tapes 19 mm wide and in rolls of 10 Mtr	622720	Roll	12	15
588	68.12	Cotton Tapes 19 mm wide and in rolls of 50 Mtr	622124	Roll	31	38
589	68.13	Cotton Waste	627520	Kg	42	51
590	68.14	Hack Saw Blade 300x12.5 mm	418185	No	7	8
591	68.15	Monoplast	506559	100 Gm	53	64
592	68.16	Automatic Switch for Street Light	612645	No	1903	2303
593	68.17	Caution/Danger Board	613050	No	124	150
594	68.18	Street light metering box made of MS sheet steel with Clamp	358012	No	1271	1538

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
595	68.19	Street light metering box made of SMC	358013	No	1611	1949
	69	SCRAP MATERIAL Note: The rates are indicative and the respective zones are authorized to fix the floor price suitably as approved in the Common SR 2012-13 meeting held on 09.11.2012 and confirmed vide proceedings CEE/T&P/KPTCL-6998-7013 Dt: 15.11.2012			Excluding GST	Excluding GST
596	69.01	Released Copper Conductor	791210	Kg	655.02	616
597	69.02	Copper winding released from failed distribution transformer	731211	Kg	655.02	616
598	69.03	Copper Cable with Lead	791207	Kg	655.02	616
599	69.04	Aluminium Busbar/Wire Pieces	791010	Kg	161.68	136
600	69.05	Aluminium winding released from failed distribution transformer	791175	Kg	161.68	136
601	69.06	Released ACSR Conductor	791101	Kg	104.3	88
602	69.07	Released Aluminium cable	791531	Kg	161.68	136
		Iron Items				
603	69.08	SM Rail Pole, I Beam	790100	Kg	31.91	30
604	69.09	Ladder Pole, Tower Parts, Tubular Pole	790101	Kg	31.91	30
605	69.10	Cross Arm, Clamp etc	790104	Kg	31.91	30
606	69.11	Released Steel from RCC Pole (Skeleton Rods)	790103	Kg	31.91	30
607	69.12	Barbed/Ground wire/Zinc sheet etc.,	790102	Kg	31.91	30
608	69.13	Transformer Empty Tank of different capacity	790300	Kg	31.91	30
609	69.14	Scrap GOS with Insulator	790401	Kg	31.91	30
610	69.15	Broken Steel Furniture	790402	Kg	31.91	30
611	69.16	Brass	791300	Kg	195	181
612	69.17	Baliga Pole	793510	Rmtr	80	80
613	69.18	Scrap Wooden Furniture	793501	Kg	18	18
614	69.19	Empty Barrel of 210 Ltr Capacity - Good	442120	No	504	469
615	69.20	Empty Barrel of 210 Ltr Capacity - Scrap	795030	No	320	298
616	69.21	Lead	791400	Kg	31.91	32
617	69.22	Released HT Metering Cubicle, Distribution Box, Feeder Piller Box etc.,	795240	Kg	31.91	30
618	69.23	Released Energy Meter	795910	Kg	31.91	30
619	69.24	Released CT & PT	795500	Kg	31.91	30

SL No	Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates in Rs (Ex Works)
		Scrap Wooden Reel				
620	69.25	In good condition	793504	Kg	16	16
621	69.26	Empty Wooden Reel Deteriorated and with Iron Rod	793550	No	85	85
622	69.27	Scrap RMU with/without breaker (rusted & borken panel) MEI Make	795210	MT	47801	44455
623	69.28	Scrap Transformer Oil	795211	Ltr	29	34
Note: In the above Ex-works Price includes 10% overhead charges % 10% Contractors Profit. For departmental procurement 10% Overhead Charges 10% Contractor's Profit shud be deloaded i.e., 21% on the above materials						

**Deleted Standard Stock
Materials in Common SR 2023-
24
(11 kV System)**

**Deleted Standard Stock Materials in Common SR 2023-24
(11 kV System)**

SL No	Old Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates
	6	Insulator as per IS-1445 for Ceremic, IS-7935 for GI Pin, IEC-61109 for Polymeric				
1	6.09	DISC Insulator 70 kN, Ball & Socket type porcelain	283017	No	391	Refer KPTCL SR
2	6.1	DISC Insulator 90 kN, Ball & Socket type porcelain	283018	No	448	Refer KPTCL SR
3	6.11	DISC Insulator 120 kN, Ball & Socket type porcelain	283021	No	550	Refer KPTCL SR
	7	ACSR Conductor as per IS-398 (Part - 2/1996)				
4	7.03	Coyote ACSR (26/2.54 mm Al + 7/1.90 mm St), Std Wt: 521 Kg/KM	284116	KM	129610	Refer KPTCL SR
5	7.04	Lynx ACSR (30/2.79 mm Al + 7/2.79 mm St), Std Wt: 842 Kg/KM	284120	KM	101767	Refer KPTCL SR
	9	PG Clamp				
6	9.01	Lynx ACSR	285518	No	335	Refer KPTCL SR
	10	PG Clamp Rabbit to Insulated Wire				
7	10.08	T - Clamp for Lynx to Lynx with hot dipped galvanized bolts, nuts and washers	285610	Set	355	Refer KPTCL SR
8	10.09	Single Tension Clamp Suitable for Rabbit	285068	No	780	Refer KPTCL SR
9	10.10	Single Tension Clamp Suitable for Coyote	285079	No	993	Refer KPTCL SR
10	10.12	Pad Clamp for Lynx ACSR	285726	No	738	Refer KPTCL SR
11	10.14	C - Type wedge connector + 2 hole padle for Rabbit ACSR	285661	No	1546	Refer KPTCL SR
12	10.15	C - Type wedge connector + 2 hole padle for Coyote ACSR	285662	No	1546	Refer KPTCL SR
13	10.16	C - Type wedge connector + 4 hole padle for Coyote ACSR	285663	No	1642	Refer KPTCL SR
14	10.17	C - Type wedge connector + 2 hole padle for Lynx ACSR	285664	No	2683	Refer KPTCL SR
15	10.18	C - Type wedge connector + 4 hole padle for Lynx ACSR	285665	No	3050	Refer KPTCL SR
	11	C - Type Wedge Connector				
16	11.03	Rabbit to Lynx ACSR	285673	No	1491	Refer KPTCL SR

SL No	Old Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates
17	11.07	Coyote to Lynx ACSR	285678	No	1639	Refer KPTCL SR
18	11.08	Lynx to Lynx ACSR	285680	No	1111	Refer KPTCL SR
	15	Transformer Oil as per IS-335:1993				
19	15.04	Biodegradable Natural Ester Dielectric Fluid	601401	KL	227000	Refer KPTCL SR
	48	PVC Pipe as per IS-2509				
		A. Pipe				
20	48.01	PVC Pipe - 20 mm Dia	778020	Mtr	68	Refer KPWD Ele SR
21	48.02	PVC Pipe - 25 mm Dia	778025	Mtr	80	Refer KPWD Ele SR
22	48.03	PVC Pipe - 32 mm Dia	778032	Mtr	100	Refer KPWD Ele SR
23	48.04	PVC Pipe - 40 mm Dia	778040	Mtr	113	Refer KPWD Ele SR
24	48.05	PVC Pipe - 50 mm Dia	778050	Mtr	88	Refer KPWD Ele SR
25	48.06	PVC Pipe - 63 mm Dia	778063	Mtr	115	Refer KPWD Ele SR
26	48.07	PVC Pipe - 75 mm Dia	778075	Mtr	136	Refer KPWD Ele SR
27	48.08	PVC Pipe - 80 mm Dia	778080	Mtr	190	Refer KPWD Ele SR
28	48.09	PVC Pipe - 100 mm Dia	778100	Mtr	217	Refer KPWD Ele SR
29	48.10	PVC Pipe - 150 mm Dia	778105	Mtr	453	Refer KPWD Ele SR
30	48.11	PVC Pipe - 200 mm Dia	778110	Mtr	683	Refer KPWD Ele SR
		B. Bend				
31	48.12	PVC Bend - 20 mm Dia	778000	No	5	Refer KPWD Ele SR
32	48.13	PVC Bend - 25 mm Dia	778001	No	8	Refer KPWD Ele SR
33	48.14	PVC Bend - 32 mm Dia	778002	No	17	Refer KPWD Ele SR
34	48.15	PVC Bend - 40 mm Dia	778003	No	27	Refer KPWD Ele SR
35	48.16	PVC Bend - 50 mm Dia	778004	No	42	Refer KPWD Ele SR
36	48.17	PVC Bend - 63 mm Dia	778005	No	51	Refer KPWD Ele SR
37	48.18	PVC Bend - 75 mm Dia	778006	No	55	Refer KPWD Ele SR
38	48.19	PVC Bend - 80 mm Dia	778007	No	78	Refer KPWD Ele SR
39	48.20	PVC Bend - 100 mm Dia	778008	No	117	Refer KPWD Ele SR
40	48.21	PVC Bend - 150 mm Dia	778009	No	155	Refer KPWD Ele SR

SL No	Old Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates
41	48.22	PVC Bend - 200 mm Dia	778010	No	197	Refer KPWD Ele SR
	48	GI Pipe B - Class as per IS-1239				
42	48.01	GI Pipe - 20 mm Dia	768040	Mtr	125	Refer WRDO SR
43	48.02	GI Pipe - 25 mm Dia	768042	Mtr	175	Refer WRDO SR
44	48.03	GI Pipe - 32 mm Dia	768043	Mtr	236	Refer WRDO SR
45	48.04	GI Pipe - 40 mm Dia	768044	Mtr	250	Refer WRDO SR
46	48.05	GI Pipe - 50 mm Dia	768046	Mtr	324	Refer WRDO SR
47	48.06	GI Pipe - 63 mm Dia	768047	Mtr	351	Refer WRDO SR
48	48.07	GI Pipe - 65 mm Dia	768048	Mtr	464	Refer WRDO SR
49	48.08	GI Pipe - 100 mm Dia	768052	Mtr	1295	Refer WRDO SR
50	48.09	GI Pipe - 150 mm Dia	768058	Mtr	1296	Refer WRDO SR
	53	Porcelain Cutout (500 Volt)				
51	53.01	15/16 Amps	300003	No	125	Refer KPWD Ele SR
52	53.02	30/32 Amps	300005	No	200	Refer KPWD Ele SR
53	53.03	60/63 Amps	300007	No	372	Refer KPWD Ele SR
54	53.04	100 Amps	300010	No	650	Refer KPWD Ele SR
55	53.05	200 Amps	300020	No	1260	Refer KPWD Ele SR
56	53.06	300 Amps	300030	No	1842	Refer KPWD Ele SR
	60	UPS on Line				
57	60.01	1 kVA with required Tubular Batteries	344901	Set		Refer KPWD Ele SR
58	60.02	5 kVA with required Tubular Batteries	344905	Set		Refer KPWD Ele SR
	60	Instrument Transformer (PT & CT) as per IS-2705 Part-1&2				
		11KV PT				
59	60.01	PT 11 kV/110V, 50 VA, Single Phase Insulation level 15/35/95 kV as per IS 3156, 0.5 Accuracy Class	335230	No		Refer KPTCL SR
60	60.02	PT 11 kV/ $\sqrt{3}$ /110V/ $\sqrt{3}$, 25 VA, Single phase Insulation level 15/35/95 kV as per IS 3156, 0.2 Accuracy Class	335232	No		Refer KPTCL SR
61	60.03	PT 11 kV Station Type Three phase	335220	No		Refer KPTCL SR

SL No	Old Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates
	65	Tools & Plant				
62	65.01	Battery Hydrometer with syring suitable for vent holes	429810	No		Refer KPTCL SR
63	65.05	Thermometer (Wall Mounted)	430395	No	1786	Refer KPTCL SR
64	65.06	Portable Drilling Machine	410020	No	28279	Refer KPTCL SR
65	65.07	Megger 500 V	359400	No	11648	Refer KPTCL SR
66	65.08	Megger 2.5 kV - 5 kV (Digital Type)	359450	No	50605	Refer KPTCL SR
67	65.11	Panel Indication Lamp	611972	No		Refer KPTCL SR
68	65.12	Ring Spanner	424000	Set	582	Refer KPTCL SR
69	65.13	Tube Spanner	424150	Set	950	Refer KPTCL SR
70	65.14	Pipe Wrench 24"	424410	No	1028	Refer KPTCL SR
71	65.15	Pipe Wrench 18"	424408	No	597	Refer KPTCL SR
72	65.16	Double End Spanner	424300	Set	549	Refer KPTCL SR
73	65.17	Hack Saw Frame + B185	418170	No	240	Refer KPTCL SR
74	65.20	Rechargeable LED Hand Torch	427408	No	1500	Refer KPTCL SR
75	65.21	Insulated Cutting Plier 12"	425040	No	260	Refer KPTCL SR
76	65.22	Insulated Cutting Plier 8"	425041	No	183	Refer KPTCL SR
77	65.23	Live Line Tester (HT)	440000	No	205	Refer KPTCL SR
78	65.26	Screw Driver 18"	425522	No	192	Refer KPTCL SR
79	65.27	Screw Driver 12"	425521	No	50	Refer KPTCL SR
80	65.29	Hammer 8 Lbs	418141	No	329	Refer KPTCL SR
81	65.30	Hammer 2 Lbs	418100	No	165	Refer KPTCL SR
82	65.31	Allen Key	424260	No	316	Refer KPTCL SR
83	65.34	Box Spanner	424120	Set	3272	Refer KPTCL SR
84	65.35	Transil Oil Dielectric Breakdown Test Kit	440060	No	96745	Refer KPTCL SR
85	65.36	SF6 Gas Leak Detector	440830	No	43163	Refer KPTCL SR
86	65.37	DC Volt Meter Range - 3V to + 5V	359180	No	1786	Refer KPTCL SR
87	65.38	Specific Gravity Correction Chart	620172	No	595	Refer KPTCL SR

SL No	Old Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates
88	65.39	Wall Mounting Type Holder for Hydrometer	430311	No	1786	Refer KPTCL SR
89	65.40	Earth Resistance Tester	359481	No	18605	Refer KPTCL SR
90	65.41	Rubber Apron	427341	No	1265	Refer KPTCL SR
91	65.42	Pippette	430140	No	521	Refer KPTCL SR
92	65.43	Protective Goggle	427330	No	595	Refer KPTCL SR
93	65.44	Acid Resisting Jar (4 Pint capacity)	429814	No	595	Refer KPTCL SR
94	65.45	Rubber Shoes Knee Height	427360	No	1414	Refer KPTCL SR
95	65.46	Glass Funnel	430200	No	447	Refer KPTCL SR
96	65.47	Hickery Rod	427120	No	3572	Refer KPTCL SR
97	65.48	Manilla Rope 1" Dia	406226	100 Mtr	14438	Refer KPTCL SR
98	65.49	Manilla Rope 3/4" Dia	406220	100 Mtr	14438	Refer KPTCL SR
99	65.51	Files of sizes (1 Set of 6 Nos)	426000	Set	5730	Refer KPTCL SR
100	65.52	Safety Belt	427320	No	803	Refer KPTCL SR
	66	Miscellaneous Materials				
101	66.08	Burnt Brick (Class 35 Modular)	802005	No	8	Refer KPWD SR
102	66.09	Wire Cut Brick (Class 75 Modular)	802006	No	19	Refer KPWD SR
103	66.10	Pre - Cast Hollow Block (40x20x20 cm) Grade 30	802007	No	55	Refer KPWD SR
104	66.11	River Sand	800650	Cmt	1764	Refer KPWD SR
105	66.12	Artificial Sand/Manufacture Sand	800651	Cmt	1488	Refer KPWD SR
106	66.13	Cement in 50 Kg Bag	800030	Bag	447	Refer KPWD SR
107	66.14	Ready Mix Concrete M20 (1:1.5:3)	800660	Cmt	6161	Refer KPWD SR
108	66.15	Ready Mix Concrete M25 (1:1:2)	800661	Cmt	6285	Refer KPWD SR
109	66.16	Spall (Jelly used for packing)	800662	Cmt	360	Refer KPWD SR
110	66.17	Stone Spall	800663	Cmt	284	Refer KPWD SR
111	66.18	Stone Boulder	800664	Cmt		Refer KPWD SR
112	66.23	ACB Paint	632030	Ltr	136	Refer KPWD SR
113	66.24	Aluminium Paint	632013	Ltr	203	Refer KPWD SR
114	66.25	Grey Enamel Paint smoke/battle ship	632050	Ltr	257	Refer KPWD SR

SL No	Old Item No	Name of the Material	Material Code	UoM	CSR 2021-22 Rates in Rs (Ex-Works)	CSR 2023-24 Rates
115	66.26	Red Oxide Paint	632020	Ltr	102	Refer KPWD SR
116	66.30	TW Plate 300x300x25 mm with 20 mm Dia holes at the corners and coated with two coats of varnish on one side/SMC board	612621	No	218	Refer KPWD Ele SR
117	66.31	TW Meter Board, 300x300x75 mm, coated with varnish/SMC board	612623	No	104	Refer KPWD Ele SR
118	66.33	Bitumen Compound	604060	Kg	62	Refer KPWD SR
	67	1.1 kV, Class HR (Heat Resistant) PVC Insulated, Copper Control Cable as per IS-554 (Part-1)				
119	67.01	2 Core, 2.5 Sqmm, 18 No GI Wires (1.4 mm)	289352	KM	62336	Refer KPTCL SR
120	67.02	4 Core, 2.5 Sqmm, 21 No GI Wires (1.4 mm)	289354	KM	93587	Refer KPTCL SR
121	67.03	6 Core, 2.5 Sqmm, -- No GI Wires (1.4 mm)	289355	KM		Refer KPTCL SR
122	67.04	8 Core, 2.5 Sqmm, -- No GI Wires (1.4 mm)	289356	KM		Refer KPTCL SR
123	67.05	10 Core, 2.5 Sqmm, 28 No GI Wires (1.6 mm)	289360	KM	189164	Refer KPTCL SR
124	67.06	14 Core, 2.5 Sqmm, 32 No GI Wires (1.6 mm)	289364	KM	275833	Refer KPTCL SR
125	67.07	19 Core, 2.5 Sqmm, 36 No GI Wires (1.6 mm)	289369	KM	347047	Refer KPTCL SR
126	67.08	2 Core, 4 Sqmm, 21 No GI Wires (1.4 mm)	289370	KM		Refer KPTCL SR
127	67.09	2 Core, 6 Sqmm, 24 No GI Wires (1.4 mm)	289452	KM	101970	Refer KPTCL SR
128	67.10	2 Core, 10 Sqmm, 26 No GI Wires (1.6 mm)	289472	KM	133870	Refer KPTCL SR
129	67.11	4 Core, 4 Sqmm, 24 No GI Wires (1.4 mm)	289404	KM	116820	Refer KPTCL SR
130	67.12	4 Core, 6 Sqmm, 25 No GI Wires (1.6 mm)	289454	KM	163350	Refer KPTCL SR
131	67.13	4 Core, 10 Sqmm, 28 No GI Wires (1.6 mm)	289474	KM	267250	Refer KPTCL SR
132	67.14	4 Core, 16 Sqmm, 30 No GI Wires (1.6 mm)	289484	KM	371000	Refer KPTCL SR
133	67.15	4 Core, 25 Sqmm, 36 No GI Wires (1.6 mm)	289485	KM	615025	Refer KPTCL SR
134	67.16	LED Bulb	446068	No	160	Refer KPWD Ele SR
135	67.17	LED Tube Light	446069	No	243	Refer KPWD Ele SR
136	67.18	LED Tube Light Fitting with Tube	446070	No	1197	Refer KPWD Ele SR

**Labour Charges in Common SR
2023-24
(11 kV System)**

Labour Charges in Common SR 2023-24 (11 kV System)					
Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
	1	Digging of Pit			
	1.1	Digging of Pit 1.8 Mtr depth for erection of 9 to 10 Mtr Long Steel/RCC/PSCC supports as per approved Drawing.			
1	1.1.1	Ordinary Soil	Per Pit	478	629
2	1.1.2	Hard Soil	Per Pit	1638	1132
3	1.1.3	Hard latterite Soil	Per Pit	1815	1709
4	1.1.4	Hard Rock (By Chizling and/Or Wedging)	Per Pit	3104	1851
	1.2	Digging of Pit 1.6 Mtr depth for erection of 7.5/8 Mtr Long Steel/RCC/PSCC supports as per approved Drawing.			
5	1.2.1	Ordinary Soil	Per Pit	384	503
6	1.2.2	Hard Soil	Per Pit	1324	1006
7	1.2.3	Hard latterite Soil	Per Pit	1465	1566
8	1.2.4	Hard Rock	Per Pit	2504	1709
	1.3	Digging of Pit 2.0 Mtr depth for erection of 9.5 Mtr Long RCC supports (350 Kg Working load for 33KV) as per approved Drawing.			
9	1.3.1	Ordinary Soil	Per Pit	522	692
10	1.3.2	Hard Soil	Per Pit	1657	1258
11	1.3.3	Hard latterite Soil	Per Pit	1971	1851
12	1.3.4	Hard Rock	Per Pit	3401	1994
	1.4	Digging of Pit 2.2 Mtr depth for erection of 11 Mtr Long RCC/PSCC supports as per approved Drawing.			
13	1.4.1	Ordinary Soil	Per Pit	587	755
14	1.4.2	Hard Soil	Per Pit	2222	1384
15	1.4.3	Hard latterite Soil	Per Pit	2222	1994
16	1.4.4	Hard Rock	Per Pit	3815	2136
	1.5	Digging of Pit 2.5 Mtr depth for erection of 11 Mtr long Tubular Spun Pole as per approved Drawing.			
17	1.5.1	Ordinary Soil	Per Pit	1439	1905
18	1.5.2	Hard Soil	Per Pit	2878	3877
19	1.5.3	Hard latterite Soil	Per Pit	2878	3877
20	1.5.4	Hard Rock	Per Pit	9352	12642
	1.6	Digging of Pit for providing GI Pipe type Earthing			
21	1.6.1	Ordinary Soil	Per Pit	578	759
22	1.6.2	Hard Soil	Per Pit	2267	2990
23	1.6.3	Hard latterite Soil	Per Pit	2513	3339
24	1.6.4	Hard Rock	Per Pit	3755	5088

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
	1.7	Digging of Pit for GUY SET			
25	1.7.1	Ordinary Soil	Per Pit	247	327
26	1.7.2	Hard Soil	Per Pit	631	629
27	1.7.3	Hard latterite Soil	Per Pit	696	854
28	1.7.4	Hard Rock	Per Pit	1607	997
		Note: For Hard Latterite Soil and Hard Rock Soil works have to be classified and certified by Executive Engineer, where ever these types of soil is encountered.			
	2	Erection of Poles			
29	2.01	Erection of RCC/PSCC Pole of 7.5 to 8 Mtr long in a pit of 1.5 Mtr depth	No	688	922
30	2.02	Erection of RCC/PSCC Pole of 9 to 10 Mtr long in a pit of 1.8 Mtr depth	No	863	1113
31	2.03	Erection of RCC Pole 9.5 Mtr long 350 Kg WL in a pit of 2.0 Mtr depth for 33KV line	No	1214	1590
32	2.04	Erection of PSCC Pole 11 Mtr Long 365 Kg WL in a pit of 2.2 Mtr depth	No	1377	1828
33	2.05	Erection of 11 Mtr long Concrete Spun Pole in a pit of 2.5 Mtr depth (Mechnised Labour)	No	1898	2544
34	2.06	Erection of 2 Pole Structure using RCC/PSCC Pole 9 to 10 Mtr long	Per Structure	3158	4134
35	2.07	Erection of 2 Pole Structure using RCC/PSCC Pole 7.5/8 Mtr long	Per Structure	3158	4134
36	2.08	Providing Spiral Earth Electrode type earthing (without charcoal, salt etc.,)	No	70	93
37	2.09	Erection of H-Frame.	No	242	323
	3	Erection of Double Pole Transformer Structure using 9 Mtr Long RCC (145 Kg WL)/PSCC (300 Kg WL) Pole including fixing of Structure Materials, Erection of Poles etc., complete for mounting of Transformer as per approved drawing			
38	3.01	For 25/63/100 kVA	Per Structure	4249	5725
39	3.02	For 100 to 250 kVA	Per Structure	4405	5963
40	3.03	Above 250 kVA	Per Structure	4868	6520
	4	Erection of Single Pole Mounted Transformer Structure			
41	4.01	For Single H Frame with Transformer Seating and Seating angle support cross arm for 11 Mtr Spun Pole for 25 kVA (OH Line) (excluding erection of Pole)	Per Structure	New Item	3021
42	4.02	For Three H Frame with Transformer Seating and Seating angle support cross arm for 11 Mtr Spun Pole up to and including 250 kVA (UG Cable) (excluding erection of Pole)	Per Structure	2571	3339
43	4.03	For Single H Frame without Transformer Seating and Seating angle support cross arm for 11 Mtr Spun Pole for 25 kVA (OH Line) (excluding erection of Pole)	Per Structure	New Item	2703

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
44	4.04	For Three H Frame without Transformer Seating and Seating angle support cross arm for 11 Mtr Spun Pole up to and including 250 kVA (UG Cable) (excluding erection of Pole)	Per Structure	New Item	2862
45	4.05	For 100 kVA on the existing 9 Mtr RCC Pole (Square Section) (excluding erection of Pole)	Per Structure	1286	1709
46	4.06	For 25/63 kVA on the existing 9 Mtr RCC Pole (Square Section) (excluding erection of Pole)	Per Structure	1286	1709
47	4.07	For 25KVA Transformer on the existing 9 Mtr PSCC Pole of 300 KG WL (excluding erection of Pole)	Per Structure	1993	2706
48	4.05	3 Pole Structure: Erection of 3 Pole Structure formed with 3 Nos of 9 Mtr RCC/PSCC Pole with platform for mounting 100 to 500 kVA Transformer as per approved Drawing including fixing of Structure materials, erection of Poles etc., complete. (excluding excavation charges)	Per Structure	6499	8622
	5	Fixing of Cross Arm, Single Top Support, EG Stirrup, Anticlimbing Device, Guy Set, Guarding etc.,			
49	5.01	Fixing of 2 Pin cross arm with Insulator and Braces fixing	Each	122	160
50	5.02	Fixing of 4 Pin cross arm with Insulator and Braces fixing	Each	122	160
51	5.03	Fixing of V-Shape/Horizontal cross arm including Single Top Support Brace and Insulator fixing	Each	122	257
52	5.04	Fixing of V-Shape/Horizontal cross arm for DC Line including Brace and Insulator fixing. (Without Single Top Support)	Each	102	160
53	5.05	Fixing of 4 Pin double cross arm including Brace and Insulator	Set	213	288
54	5.06	Fixing of HT/LT Single Top Support	Each	81	112
55	5.07	Fixing of Earth Guard Stirrup	Set (2 Nos)	125	160
56	5.08	Spike Type	Per Set	29	39
57	5.09	GI Barbed Wire (12 Mtr)	No	32	42
58	5.10	Fixing of GUY Set with break insulator making use of 7/3.15 mm (7/10 SWG) galvanised steel wire with turn buckle and anchoring arrangement as per approved drawing. (Excluding excavation of PIT)	Per Set	201	266
59	5.11	Same as above but using 2 nos of No. 15 Strain Insulator	Per Set	227	309
60	5.12	Fixing guarding including fixing of necessary cross arms for existing HT and LT line at Road Crossing, Telephone Line Crossings upto span of 60 Mtr	Per Set	762	1034
61	5.13	Fixing guarding including fixing of necessary cross arms between HT and LT line upto a span of 40 Mtr	Per Set	762	1034
62	5.14	Above 40 Mtr Span	Per Set	1340	1804
63	5.15	Fixing Danger Board	Unit	61	80
	6	Stringing of Conductor			

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
64	6.01	Stringing of conductor Squirrel, Weasel , binding of conductor on each insulator and dead ending on strain or disc/strain insulator by means of clamps.	Per KM/Wire	2420	3180
65	6.02	do - for Rabbit ACSR	Per KM/Wire	3299	4361
	7	LT Reconductoring Work			
		Stringing of Conductor (including pin binding, providing jumps, dead ending, etc.,)			
66	7.01	Weasel	Per KM/Wire	2905	3975
67	7.02	Rabbit	Per KM/Wire	3959	5233
		Releasing of Conductor			
68	7.03	Weasel	Per KM/Wire	2178	2862
69	7.04	Rabbit	Per KM/Wire	2969	4012
70	7.05	Releasing & Refixing of Over Head Service Mains (Single Phase/3 Phase) Per connection/Installation (While executing reconductoring works only)	Per KM/Wire	45	61
71	7.06	Releasing & Refixing of Over Head Service Mains (Single Phase/3 phase) Per connection/installation (While replacing existing Pole)	Per KM/Wire	67	90
		NOTE:			
		1. Labour charges for releasing conductor is 90% of the corresponding stringing rates for New Lines			
		2. Special Locality Allowance as applicable shall be loaded to the labour charges			
		3. For new conductor required for LT Reconductoring 3% sag is allowed			
		4. Quantity of returnable release conductor shall be as per circular No: BESCOM/GM(T)/BC-20/F-664/05-06/Cys-174 dtd:10.01.2006			
		5. HT Reconductoring Work: Reconductoring for HT is to be followed on the stringing rates for new conductor and releasing rates for old			
	8	Erection of Transformer & Structures			
72	8.01	Erection of 25 to 63 kVA Transformer on Transformer Structure	Each	863	1193
73	8.02	Erection of 100 kVA Transformer	Each	1151	1590
74	8.03	Erection of 200 - 250 kVA Transformer	Each	1727	2278
75	8.04	Erection of 300 - 500 kVA Transformer	Each	2301	3085
76	8.05	Providing GI Pipe Earthing for Lightning Arrester, Transformer Neutral and Transformer Metal parts (Excluding digging of pits)	Per Set (1 No. of Electrode)	147	190

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
77	8.06	Erection of Pre Fabricated Steel Structure Including the following a. Evacuation 1.5 Mtr and above in width in Hard Soil (0.74 Cmt) b. Filling available excavated earth in side foundation (2.6 Cmt) c. Lifting of Excess Earth up to distance of 10 KMs d. Providing & Laying in position plain CC 1:4:8 (0.27 Cmt) e. Providing & Laying in position concrete with M30 Grade (0.83 Cmt) f. Providing TMT Steel FE 550 reinforcement for RCC work (70 Kgs) g. Providing & removing centering, Shuttering, Strutting (2.6 Cmt) h. Handling Charges (fixing of structure to foundation & erection of structure) i. Transportation of debries using mini lorry/Tempo j. Specialized tools & tackles and skilled labour for fabrication the structure using CNC bending as per set radius)	Per Structure	29019	36179
	9	Erection of HT Metering Cubicle, LT Metering Cubicle, LT Feeder Piller Box, LT Distribution Box			
		HT Metering Cubicle, LT Metering Cubicle			
78	9.01	Erection of HT metering Cubicle on Platform.	No	1726	1844
79	9.02	Erection of LT metering Cubicle on Platform.		New Item	1659
		LT Feeder piller box (MS & Thermoset Plastic Enclosure) including necessary civil works like soil excavation & concreting etc. complete			
80	9.03	upto 8 Ways (MS Enclosure)	No	1251	1673
81	9.04	above 8 Ways (MS Enclosure)	No	1352	1785
82	9.05	8 Ways (Thermoset Plastic Enclosure)	No	New Item	1329
83	9.06	12 Ways (Thermoset Plastic Enclosure)	No	New Item	1329
		Distribution Box for DTC			
84	9.07	Fixing LT Distribution box for 100/250/500 kVA DTC (Excluding wiring)	Per Box	576	385
	10	Additional cost for making termination using H/Wedge Clamp			
85	10.01	Rabbit to Rabbit	No	91	119
86	10.02	Coyote to Coyote	No	122	166
87	10.03	Rabbit to Coyote	No	122	166
88	10.04	Additional cost for making termination using H - Clamps along with 2 hole Paddle/In-Line Connector/Micro wedge connector.	No	251	332
	11	Fixing Metering Box for housing the ETV Meter 3 Phase 4 Wire along with CT's, Meter & wiring for DTC			
89	11.01	25/63 kVA TC	Per Set	1449	1946
90	11.02	100 kVA TC	Per Set	1449	1946
91	11.03	250 kVA TC	Per Set	1449	1946

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
92	11.04	300/500 kVA TC	Per Set	1449	1946
	12	Erection & Commissioning of 11 kV Auto reclosures and Sectionalizers with remote communication capability			
93	12.01	Erection of fabricated steel Structure for Seating Auto reclosures and Sectionalizers	Per Set	501	662
94	12.02	Erection of 11 kV Auto reclosures with control box GSM modem, connecting cable, control transformer, wiring testing and commissioning including parameterisation	Per Set	3503	4747
95	12.03	Erection of 11 kV sectionalizers with control box GSM modem, connecting cable, PTs wiring testing and commissioning including parameterisation	Per Set	3002	3987
	13	Fixing of DOLO, GOS, LA, Fuse Board, Service Mains, Spacer, Insulator Etc.,			
96	13.01	Fixing DOLO Cutout/Horn Gap Fuse including fixing of cross arm and wiring	Each	178	237
97	13.02	Fixing of GOS including wiring (11 kV Single Break 200 Amps)	Set	805	1104
98	13.03	Fixing of GOS including wiring (11 kV Double Break 400 Amps)	Set	894	1214
99	13.04	Fixing of 11 kV GOS Single Break or Double Break including wiring on old existing Structure (were only fixing of GOS work is involved)	Set	1787	2413
100	13.05	Modification of GOS Operating System for making Foot path free for pedestrian(Work involves cutting of existing vertical GOS Pipe and fixing the cuppling plate by welding, grinding etc., for operating the GOS	Per GOS	2504	3275
101	13.06	Fixing of 3 Nos Lightning Arrestor including wiring	Set (3 Nos)	90	119
102	13.07	Fixing Pole Fuse Board	No	109	142
103	13.08	Fixing PVC pipe for taking the leads form the conductor to the Pole fuse board (including taking the lead wire inside the PVC pipe & giving connection to the overhead line & Pole fuse box/Aerial fuse Board).	Set	166	214
104	13.09	Fixing of LT Line spacer	No	52	70
105	13.10	Releasing & Refixing of Over Head Service Mains (Single Phase/Three Phase) for consumer installation and street lighting and similar work (While executing reconductoring work)	Per connection/ installation	51	70
106	13.11	Releasing & Refixing of Over Head Service Mains (Single Phase/Three Phase) for consumer installation and street lighting and similar work (While replacing existing Pole)	Per connection/ installation	75	103
107	13.12	Releasing and Refixing Insulator of 11 kV Pin Insulator	No	36	48
108	13.13	Releasing and Refixing Insulator of 11 kV Dead End Insulator Disc, Strain etc	No	43	58
	14	Supplying and fixing			
109	14.01	Fixing and Wiring of Single/3 Phase Meter on the existing meter board	Per connection	114	154
110	14.02	Releasing of Single/3 Phase Meter	Per connection	76	103

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
111	14.03	Fixing of Thread Through Meter along with wiring	No	4025	3076
112	14.04	Fixing of GPRS Modems with Accessories	Set	1018	1346
	15	Street Light and Other Works			
113	15.01	Fixing of Sheet Metal/Deep Drawn Street Lighting Metering Box with Automatic Control Swith, Contactors with Single Phase 5-30 Amps Meter & 50/5A CT including wiring	Set	715	954
114	15.02	Fixing of LT Metering Box with clamping arrangement for mounting on the Transformer structure with necessary terminal strip and CT mounting arrangement for housing the ETV Meters and connecting to the existing ground.	Set	413	557
115	15.03	Fixing of LT Protection Kit	Per Kit	260	356
116	15.04	Wiring of 1 Circuit of LT Wiring for for 25/63/100 kVA DTC to the existing LT protection Kit/Distribution Box via metering box. (includes fixing of necessary supports like 2 Pin cross arm, Spacer etc)	Set	719	949
117	15.05	Wiring of 2 Circuits of LT Wiring for for 25/63/100 kVA DTC to the existing LT protection Kit/Distribution Box via metering box. (includes fixing of necessary supports like 2 Pin cross arm, Spacer etc)	set	1151	1519
118	15.06	Fixing 1 Circuit of LT Wiring for 250/500 kVA Transformers via metering box. (includes fixing of necessary supports like 2 Pin cross arm, Spacer etc)	Per Circuit	921	1234
119	15.07	Surveying for construction of HT and LT Lines duly furnishing single line diagram indicating Pole locations	KM	715	949
120	15.08	Numbering and Scheduling of Pole	KM	542	712
121	15.09	Magpying (Excluding Cost of paint etc.)	KM	215	285
122	15.10	Dismanting of Steel/I- Beam	No	90% of the Pole erection charges.	90% of the Pole erection charges.
123	15.11	Releasing of Baliga Pole	No	85% of the 8 Mtr. RCC Pole erection charges.	85% of the 8 Mtr. RCC Pole erection charges.
	16	Releasing & Restringing of loose spans, binding, straightening of inclined Pole etc.			
124	16.01	Tightening of loose span a) Weasel/Squirrel b) Rabbit	KM	90% of the Pole erection charges.	90% of the Pole erection charges.
125	16.02	Straightening of Slant/Bent Pole	No	75% of the 8 Mtr. RCC Pole erection charges.	75% of the 8 Mtr. RCC Pole erection charges.
		Note: Above works have to be recorded in register maintained at SO/SD/Division office. Record has to be verified by the Executive Engineer (Ele) before issuing approval for work orders/awards.			
126	16.03	Dismantling of 2 B&S to I/O copper or equivalent	KM	949	1234
127	16.04	Dismantling of copper conductor above 2 B&S	KM	1530	1994
128	16.05	Any Dismantling work	No	90% of the Pole erection charges.	90% of the Pole erection charges.

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
	17	Transportation Rates:			
		Transportation by Head Load where ever there is no accessibility for transportation by vehicle			
		Poles: for Transporting one Pole (Not payable for distance less than 25 Mtr)	No		
		Conductor: For Transporting 1 KM Length Conductor (Not payable for distance less than 25 Mtr)	Per KM		
		Transformer: For Transportation 25 kVA Transformer (Not payable for distance less than 25 Mtr)	No		
		Transformer: For Transportation 63 kVA transformer (Not payable for distance less than 25 Mtr)	No		
		Transformer: For Transportation 100 kVA Transformer (Not payable for distance less than 25 Mtr)	No		
	17.01	Pole			
129	17.01.1	Upto 25 Mtr included in the Material Rates	Nil	NIL	NIL
130	17.01.2	25 to 105 Mtr	Per Pole	215	285
131	17.01.3	105 to 185 Mtr	Per Pole	235	323
132	17.01.4	Additional charges for every additional span above 185 Mtr	Per Pole	104	142
	17.02	ACSR Conductor			
133	17.02.1	Upto 25 Mtr included in the Material Rates	Nil	Nil	Nil
134	17.02.2	25 to 105 Mtr	Per KM	93	123
135	17.02.3	105 to 185 Mtr	Per KM	102	133
136	17.02.4	Additional charges for every additional 100 Mtr above 185 Mtr	Per KM	69	95
	17.03	Distribution Transformer 25 kVA			
137	17.03.1	Upto 25 Mtr included in the Material Rates	Per TFR	Nil	Nil
138	17.03.2	25 to 105 Mtr	Per TFR	424	570
139	17.03.3	105 to 185 Mtr	Per TFR	526	712
140	17.03.4	Above 185 Mtr	Per TFR	569	759
141	17.03.5	Additional charges for every additional 100 Mtr above 185 Mtr	Per TFR	345	475
	17.04	Distribution Transformer 63 kVA & 100 kVA			
142	17.04.1	Upto 25 Mtr included in the Material Rates	Per TFR	Nil	Nil
143	17.04.2	25 to 105 Mtr	Per TFR	696	949
144	17.04.3	105 to 185 Mtr	Per TFR	822	1092
145	17.04.4	Above 185 Mtr	Per TFR	949	1282
146	17.04.5	Additional charges for every additional 100 Mtr above 185 Mtr	Per TFR	575	712

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
	17.05	a) Loading and unloading of Pole (loading of Pole to vehicles at stores and unloading at workspot) NOTE:- Consolidated amount for both loading and unloading.			
147	17.05.1	8 Mtr RCC/PSCC Pole	No	79	110
148	17.05.2	9 Mtr RCC/PSCC Pole	No	106	142
149	17.05.3	8 Mtr PSCC Pole (140 Kg WL)	No	67	94
	18	Loading & Unloading of Transformer (when maintainance men for loading and unloading are not available in store)			
		Loading			
150	18.01	25 kVA	No	205	285
151	18.02	63 kVA	No	205	285
152	18.03	100 kVA	No	308	427
153	18.04	250/300 kVA	No	515	692
154	18.05	500 kVA	No	1027	1410
		Un loading			
155	18.06	25 kVA	No	205	285
156	18.07	63 kVA	No	205	285
157	18.08	100 kVA	No	308	427
158	18.09	250/300 kVA	No	515	692
159	18.10	500 kVA	No	1027	1410
	19	Fixing of energy meter to non-metered IP sets 10 HP and below: Including cost of all the materials like Meter Board, Channel cutouts and necessary wires required for the work.			
160	19.01	Fixing Single Phase Energy meter to IP Sets fixed inside Pump House	Per IP Set	990	1331
161	19.02	Fixing 3 Phase Energy Meter to IP Sets fixed in Pump House	Per IP Set	1369	1801
162	19.03	Fixing of Energy Meter to IP Set, (where there is no pumphouse) where power supply is availed directly from the Pole to the IP set and weather proof meter housing box is required (including cost of WP box).	Per IP Set	4576	4557
	20	Transporting Cable from Store to work spot including loading and unloading (including Crane and other equipment charges if any)			
		HT Cable			
163	20.01	3x95 to 150 Sqmm	Per KM of Cable	14467	19313
164	20.02	3x185 to 3x240 Sqmm	Per KM of Cable	17360	23176
165	20.03	1x300 to 1x1000 Sqmm (Single Core)	Per KM of Cable	17360	23271
166	20.04	3x300 to 3x500 Sqmm	Per KM of Cable	20252	27537

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
		LT Cable			
167	20.05	2.5 to 25 Sqmm (Single/3.5/4 Core)	Per KM of Cable	894	1187
168	20.06	35 to 95 Sqmm (3.5/4 Core)	Per KM of Cable	1787	2385
169	20.07	120 to 240 Sqmm (3.5/4 Core)	Per KM of Cable	1965	2703
170	21	Laying of cable in Existing Trench/GI pipe/Stone Ware/RCC Hume pipe using Wooden/Aluminum Rollers as directed by the departmental staff			
		HT Cable			
	21.01	3x95 to 150 Sqmm	KM	45284	61322
171	21.02	3x185 to 240 Sqmm	KM	47800	64153
172	21.03	3x300 to 3x500 Sqmm	KM	50314	66040
173	21.04	1x1000 Sqmm	KM	47800	64467
174		LT Cable			
	21.05	2.5 to 25 Sqmm	KM	16159	20886
175	21.06	35 to 95 Sqmm	KM	23647	31139
176	21.07	120 to 240 Sqmm	KM	24148	32278
177	21.08	300 to 400 Sqmm	KM	New Item	34176
178	22	Cable Joint and wiring (for HT & LT UG Cable)			
		HT UG Cable			
		Heat shrinkable Straight Through Joint			
179	22.01	3x95 to 3x150 Sqmm	Set	2145	2848
180	22.02	3x185 to 3x240 Sqmm	Set	2145	2848
181	22.03	3x300 to 3x400 Sqmm	Set	2145	2848
		Making and Fixing pot head for HT Cable only			
		Heat shrinkable Type Terminations			
182	22.04	3x95 to 3x150 Sqmm	Set	1965	2658
183	22.05	3x185 to 3x240 Sqmm	Set	1965	2658
184	22.06	3x300 to 3x400 Sqmm	Set	1965	2658
185	22.07	Releasing of HT cable after excavation refilling, consolidation Rewinding to the drum etc.,	KM	45282	59436
186	22.08	-do- for LT cable	KM	15558	21360
		LT UG Cable			
		Heat shrinkable Straight Through Joint			
187	22.09	2.5 to 25 Sqmm	Set	New Item	143
188	22.10	35 to 95 Sqmm	Set	New Item	284
189	22.11	120 to 240 Sqmm	Set	New Item	380

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
190	22.12	300 to 400 Sqmm	Set	New Item	570
		Heat shrinkable Type Terminations			
191	22.13	2.5 to 25 Sqmm	Set	New Item	94
192	22.14	35 to 95 Sqmm	Set	New Item	190
193	22.15	120 to 240 Sqmm	Set	New Item	237
194	22.16	300 to 400 Sqmm	Set	New Item	333
	23	Transporting of RMU			
		Transporting RMU (Coventional) unit from store to work spot including loading, unloading. (No separate crane charges)			
195	23.01	5 Panel	No	16206	21360
196	23.02	1 Panel	No	3241	4272
		Transporting RMU (Compact) unit from store to work spot including loading, unloading. (No separate crane charges)			
197	23.03	5 Panel	No	8577	11392
198	23.04	1 Panel	No	5718	7405
		Fixing foundation frame of channels and angle iron welding fixing in concrete aligning the RMU on foundation bed, assembly of units, connecting Bus Bars from panel to panel initial filling of oil etc., complete.			
199	23.05	5 Panel	No	17942	23354
200	23.06	1 Panel	No	3588	4842
201	23.07	Lettering the RMU with enamel paint and also writing single line diagram of each panel, caution Board, Danger Board etc., including cost of Paint, Brush etc.,	Per Panel	754	961
202	23.08	Cleaning of Bitumen type pothead bus joint (All sizes)	No	1194	1614
203	23.09	Breaking and cleaning of straight through joint (All sizes)	No	1194	1614
		Sealing of cable ends including supply of plumbing lead, plumbing materials.			
204	23.10	PILC	No	1155	1519
205	23.10	XLPE	No	215	285
	24	LABOUR for Aerial Bunched Conductor & Accessories			
		Item Description			
206	24.01	Stringing of 11 kV grade Aerial Bunched 3 Core cable of XLPE insulation of size 3x95 Sqmm + 1x70 Sqmm with Insulated Messenger Wire	KM	25839	34765
207	24.02	Stringing of 11 kV grade Aerial Bunched 3 Core cable of XLPE insulation of size 3x120 Sqmm + 1x95 Sqmm with Insulated Messenger Wire	KM	25839	34765
208	24.03	Stringing of 1.1 kV grade Aerial Bunched 3 Core cable of XLPE insulation of size (3x95) (Phase Conductor) + (1x70) (Insulated Messenger Neutral) + (1x16) (Street Light Control)	KM	25839	33109

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
209	24.04	Stringing of 1.1 kV grade Aerial Bunched 3 Core cable of XLPE insulation of size (3x95) (Phase Conductor) + (1x70) (Insulated Messenger Neutral) + (1x25) (Street Light Control)	KM	25839	33660
210	24.05	Stringing of 1.1 kV grade Aerial Bunched 3 Core cable of XLPE insulation of size (3x95) (Phase Conductor) + (1x70) (Insulated Messenger Neutral) + (1x35) (Street Light Control)	KM	25839	34212
211	24.06	Erection of Suspension Clamp - 25 to 95 Sqmm bare/Insulated messenger	No	146	96
212	24.07	Erection of Anchor Clamp - 25 to 95 Sqmm bare/Insulated messenger	No	146	144
213	24.08	Erection of Suspension Clamp - 25 to 95 Sqmm insulated messenger with bracket	No	194	192
214	24.09	Erection of Anchor Clamp - 25 to 95 Sqmm insulated messenger with bracket	No	194	192
215	24.10	Fixing of Universal Hook	No	146	192
216	24.11	Pole Clamp-145 mm x 95	No	243	160
217	24.12	Installation of Insulation piercing connector for Main to Street Light Main : 16-95 Sqmm, Tap: 1.5-10 Sqmm (EP95)	No	68	90
218	24.13	Installation of Insulation piercing connector for Main to Service Line Main : 16-95 Sqmm, Tap: 4-35 Sqmm (P2X95)	No	98	128
219	24.14	Installation of Insulation piercing connector for Main to Service Line Main: 25-95 Sqmm, Tap: 25-95 Sqmm (P3X95)	No	98	128
220	24.15	Installation of Insulation piercing connector for Main to Service Line Main: 50-150 Sqmm, Tap: 4-35 Sqmm (P4X150D)	No	98	128
221	24.16	Installation of Pre-insulated straight thru' joints-MJPT for 16 Sqmm cable	No	194	256
222	24.17	Installation of Pre-insulated straight thru' joints-MJPT for 25 Sqmm cable	No	194	256
223	24.18	Installation of Pre-insulated straight thru' joints-MJPT for 50 Sqmm cable	No	194	256
224	24.19	Installation of Pre-insulated straight thru' joints-MJPT for 70 Sqmm cable	No	194	256
225	24.20	Installation of Pre-insulated straight thru' joints-MJPT for 120 Sqmm cable	No	243	320
226	24.21	Installation of Pre-Insulated Lug - CPTAU for 16 Sqmm	No	194	160
227	24.22	Installation of Pre-Insulated Lug - CPTAU for 25 Sqmm	No	194	160
228	24.23	Installation of Pre-Insulated Lug - CPTAU for 50 Sqmm	No	194	160
229	24.24	Installation of Pre-Insulated Lug - CPTAU for 70 Sqmm	No	194	160
230	24.25	Installation of Pre-Insulated Lug - CPTAU for 95 Sqmm	No	202	160

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
231	24.26	Installation of Pre-Insulated Lug - CPTAU for 120 Sqmm	No	252	160
232	24.27	Distribution Box suitable for 20, Single Phase Connection	No	485	617
233	24.28	Distribution box suitable for 6, 3 Phase Connection	No	681	902
234	24.29	T-Connector KZ3 95	No	164	224
235	24.30	End Cap for 50/70 Sqmm	No	7	10
236	24.31	11 kV AB Cable T-Joint installation for 3 Core	No	1310	1709
237	24.32	11 kV AB Cable Straight thru' joint installation for 3 Core	No	1048	1424
238	24.33	11 kV AB Cable Termination installation for 3 Core	No	886	1139
239	24.24	Surge Arrester for ABC	No	136	180
240	24.35	Ground connection for Messenger Wire	No	33	42
241	24.36	Anchor Sleeve for Messenger Wire	No	7	10
	25	LABOUR for Covered Conductor & Accessories			
242	25.01	Stringing of Covered Conductor with all accessories like fixing of insulators & Clamps	No	13519	18099
243	25.02	Fixing of Dead End Clamp	No	291	380
244	25.03	Fixing of Insulation Piercing Connector Covered to Covered/Covered to Bare	No	291	380
245	25.04	Fixing of Mid Span Joint	No	349	475
246	25.05	Fixing of Termination Kit	No	295	380
247	25.06	Fixing of Alignment Tie	No	260	356
	26	LABOUR for Electric Vehicles			
		Electric Vehicle Supply Equipment (EVSE) - Bharath DC-001 having GB/T connector(s) compliant with OCPP 1.6 or above and certified by ARAI (or by NABL accredited testing centres) of power rating			
248	26.01	15 kW - One Connector	No	9280	12023
249	26.02	20 kW - Two Connectors	No	9280	12023
250	26.03	30 kW - Two Connectors	No	9280	12023
		Electric Vehicle Supply Equipment (EVSE) - Bharath AC-001 having IEC60309 industrial connector(s) compliant with OCPP 1.6 or above and certified by ARAI (or by NABL accredited testing centres) of power rating			
251	26.04	3.3 kW - One connector	No	3248	4372
252	26.05	10 kW - Three connector 3.3 kW each	No	3248	4372
		Electric Vehicle Supply Equipment (EVSE) - IS17017/IEC61851 compliant Pedestal/Ground Mounted with CCS (Combo-2) Connector(s) compliant with OCPP 1.6 or above and certified by ARAI (or by NABL accredited testing centres) of Power rating			
253	26.06	25/30 kW - One/Two connector	No	9280	12022
254	26.07	50/60kW - Two Connectors	No	9280	12022

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
255	26.08	100/120 kW - Two Connectors	No	15000	19462
256	26.09	240 kW - Two Connectors	No	15000	19462
	27	Laying and Jointing: Joining with mud mortar complete			
257	27.01	Covering cable with Tiles	KM	3292	4367
258	27.02	Fixing of Route Joint Indicating Slab	No	86	116
	28	Laying of UG Cables by Trenchless Technology (HDD) by adopting Horizontal Boring & Drawing of cable including preparation at site			
259	28.01	Normal soil 5/6" Bore	Rmtr	706	949
260	28.02	Rock soil 5/6" Bore	Rmtr	1229	1519
261	28.03	Normal Soil - 8" Bore (UG cable along with upto 5 Nos of 50/42 mm or 40/33 mm HDPE/PLB Pipe)	Rmtr	1300	1655
262	28.04	Rock Soil - 8" Bore (UG cable along with upto 5 Nos of 50/42 mm or 40/33 mm HDPE/PLB Pipe)	Rmtr	1700	2097
263		Laying of UG Cable of various sizes using Winch Machine			
264	28.05	Laying of UG Cable in Existing Conduit Pipes (HDPE Pipe) in Concrete Roads/Tender Sure Works	Rmtr	New Item	239
		Laying and Jointing the pipes (100-150 mm Dia) including lowering in Position: Fixing Collars etc., Joining with mud mortar complete			
265	28.06	RCC Pipe	Mtr	51	69
266	28.07	Stone Ware Pipe	Mtr	39	56
267	28.08	Laying the GI Pipe 80 mm to 150 mm dia at Drainage Water Supply Crossing including fixing collars elbows, bends, Tees and other fitting with Cuts and Threads wherever necessary complete.	Mtr	58	93
268	28.09	Spreading and forming with sand all round the cable to a depth of 75 mm and width of 500 mm. (Does not include cost of sand).	KM	11570	14810
	29	Painting of LTFP Box, Spun Pole, Repair of LTFP & LTDB			
269	29.01	LTFP box Painting (including scrubbing of old paint, supplying and applying primer and two coats of aluminium /enamel paint including minor repair to box)	LS	1849	2516
270	29.02	Spun Pole Painting (supplying and applying two coats of enamel paints to 11 Mtr Spun Pole) and painting all the metal parts of the Structure with two coats of aluminium paint over primer	Pole	7941	10315
271	29.03	Spun Pole Painting (supplying & applying two coats of enamel paints to 11 Mtr Spun Pole) and painting	Pole	3403	4557
272	29.04	Repairing the broken damaged door of RMU with necessary hinges, welding etc., with necessary paint touch up including supply of paint for touch up.	Per Door	818	1044
273	29.05	Repairing the broken damaged door of LT feeder box with necessary hinges, welding etc.with necessary paint touch up including supply of paint for touch up.	Per Box	545	712

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
274	29.06	Repairing the broken damaged door of LT distribution box fixed to DTC with necessary hinges, welding etc. with necessary paint touch up including supply of paint for touch up.	Per Box	408	570
	30	Erection of Compact Pre-fabricated Packaged Sub-station 11kV/433 V			
275	30.01	Installing & fixing the Compact Pre-Fabricated Packaged Sub-Station 100/250/500/800/1000 kVA transformer on the existing concrete plinth.(This does not include the cost of plinth, cable duct, laying & termination of cable etc. provision for the same shall be made)	Set	12104	16299
276	31	The Consolidated labour charges for 1 to 2 Pole works for Ganga kalyana & Water works. This amount includes all charges including Transportation charges, loading and un-loading charges, etc., (CDS -40)	Set	11169	15230
277	32	The Consolidated labour charges for 3 to 5 Pole works for all types of works. This amounts includes all charges including Transportation charges, loading and un-loading charges, etc., (CDS - 41)	Set	17646	23838
	33	The Consolidated labour charges for 1 to 4 Pole works for Service connection and E&I works. This amount includes all charges including Transportation charges, loading and un-loading charges, etc., (CDS- 42)			
278	33.01	For work involving 1 Pole	Set	5361	7284
279	33.02	For work involving 2 Pole	Set	7147	9602
280	33.03	For work involving 3 Pole	Set	8934	11919
281	33.04	For work involving 4 Pole	Set	10721	14568
282	33.05	For work involving 5 & above Pole work	Set	Estimates are to be prepared as per SR	Estimates are to be prepared as per SR
283	34	Consolidated Labour charges for shifting of the conductor terminations(existing cut points) in deteriorated existing Poles to new Poles erected. Work includes all works associated with shifting of the terminations, like shifting of aerial fuse boards, cut outs, service main (UG cable and over head) and any other existing fitting. (CDS - 43)	Per Pole	3795	5126
284	35	Consolidated Labour charges for shifting of the existing conductor, including all works associated with shifting of the conductor such as any fittings, aerial fuse boards, cut outs, service main (UG cable and over head) etc., on the existing deteriorated intermediate Pole to new Pole erected. (CDS - 44)	Per Pole	2783	3797

NOTE

The loading and unloading charges shall be included at the following rates in all estimates for the works which are proposed to be taken up on labour contract.

For Poles - As per the rates provided for Loading and unloading of Poles in the SR

For all other materials excluding transformers and conductors - 10% of the rates provisioned for Loading and unloading of Poles in the estimate.

For Transformers and Conductor - As per the rates provided in the S.R.

The Labour charges for erection of Poles, Guy Sets, DP Structures etc., involving excavation of soil provided in the cost sheet for general works is for ordinary soil only. Wherever other type of soil is encountered, the difference in rates for excavation in such soil provided in the Schedule of labour shall be worked out and adopted.

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24 in Rs
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Special labour charges for Ganga Kalyna and Water Works, Drinking Water Works and SC & E&I Works:
 (These rates are Applicable for works carried out under labour awards only. THESE RATES SHALL NOT BE OPERATED FOR RATE CONTRACT AWRADS AND OTHER TENDERED AWARDS).

Note:-

These labour charges are applicable for 1 to 2 Pole & 3 to 5 Poles in respect of Ganga Kalyana and Water Works

These rates are applicable only when 1 to 2 Pole & 3 to 5 Poles are involved and no other associated works.

These rates are applicable only when 1 to 4 Pole works for Service Main and E&I Works

The Labour Charges are all inclusive i.e., digging of pits, erection of Poles, fixing of cross arms, insulators, stringing of wires, providing of guy sets, fixing of spiral earthrodes, Etc.,

No other Labour Charges or any other charges towards special locality allowance, LC charges, additional labour charges, Transportation charges, etc., are payable.

Certificate has to be furnished by the section officer who prepares the estimate that the estimates are not split to claim the above labour charges.

Labour Charges for 1 to 2 Pole and 3 to 5 Pole works in respect of all types of works wherein other works such as DTC erection etc., and other works are not involved.

Note: In the above Ex-works Price includes 10% overhead charges & 10% Contractors Profit. For departmentally carried works 10% Overhead Charges & 10% Contractors Profit shud be deloaded i.e., 21% on the above

**Deleted Labour Charges in Common
SR 2023-24
(11 kV System)**

Deleted Labour Charges in Common SR 2023-24 (11 kV System)

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24
		Concrete works			
	1.8	Providing cement concrete to Poles and Guy sets with material and labour including necessary curing etc., complete (cost does not include excavation)			
		A) Base Concreting with CC 1:4: 8			
29	1.8.1	a) Pole base for 11/9.5/9/8 Mtr supports (500x650x150mm)	Each	273	Refer KPWD Civil SR
30		b) Pole base for 9 Mtr Square Pole (650x650x150mm)	Each	354	
31		c) Pole base for 11 Mtr Spun Pole (1000x1000x150mm)	Each	840	
		B) Pole Concreting with CC 1:2:4 (without coping)			
32	1.8.2	a) 9 Mtr support (650x500x1700mm)	Each	3158	Refer KPWD Civil SR
33		b) 9.5 Mtr support (650x500x1850mm)	Each	3436	
34		c) 11 Mtr PSCC support (650x500x2000mm)	Each	3349	
35		d) 9 Mtr Square Pole (650x650x1700 mm)	Each	3956	
36		e) 11 Mtr Spun Pole (1000x1000x2500mm)	Each	14004	
37		f) 8 Mtr support (400x400x1500mm)	Each	1209	
38		g) Guy concreting with Boulders, Mud & Sand As per Drawing No. BESCO/GM/CP/7/dt: 24.10.07. (with out cement)	Each	200	
		C) Providing Coping for Pole with CC 1:2:4 (As per actuals)			
39	1.8.3	a) 150 mm all around the Pole for an height of 300 mm for RCC, PSCC Pole	Each	542	Refer KPWD Civil SR
40		b) 390 mm all around the Pole for an height of 300 mm for Spun Pole	Each	2220	
		D) Guy concreting in Marshy area			
41	1.8.4	a) Providing cement concrete 1:2:4 for Anchor Rod in Marshy/Black Cotton Soil 600x600x450 mm	Each	1013	Refer KPWD Civil SR

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24
	4.06	<p>Construction of platform with size stone, cement concert for erection of 500 kVA Transformer/Metering cubicle/Heavy Equipment.</p> <p>Construction of platform (1.5x1.5x1.2) Mtr in size stone, for erection of transformers/Heavy equipment including all materials, labour.</p> <p>Excavation of (1.5x1.5x1) Mtr pit for foundation providing and laying cement concrete 1:4:8 for foundation laid in 10 cm thick layers, well compacted curing etc., complete providing and construction of stone masonry 0.9 Mtr below ground level and 1.2 Mtr above ground level neatly hammer dressed in cement mortar 1:6. Providing and Laying cement concrete slab 1.5x1.5x0.10 Mtr with cement concrete of 1:2:4 mix forming & cutting complete, providing pointing to stone masonry in cement mortar 1:3 after racking joint & nishly lining curing etc., plastering the concrete surfaces in cement mortar 1:4 including smooth randering curing etc., curing at every stages completely.</p>	Per Structure	30361	Refer KPWD Civil SR
79	5.18	Stringing of conductor Coyote ACSR , binding of conductor on each insulator and dead ending on strain or disc/strain insulator by means of clamps.	Per KM/Wire	5763	Refer KPTCL SR
	6	LT Reconductoring Work			
		Stringing of Conductor (including pin binding, providing jumps, dead ending, etc.)			
82	6.03	Coyote	Per KM/Wire	6915	Refer KPTCL SR
		Releasing of Conductor			
85	6.06	Coyote	Per KM/Wire	5186	Refer KPTCL SR
	7	Erection of Transformer & Structures			
86	7.06	Hiring of crane for erection of 250/500 kVA Transformer (applicable for maintenance works only and in case of non - availability of departmental crane)	Per TFR	3163	Refer KPWD Civil SR
87	7.07	Hiring of crane for releasing existing Transformer and erection of NEW 250 to 500kVA Transformers. (applicable for maintenance works only and in case of non - availability of departmental crane)	Per TFR	3163	
88	7.08	Hiring of crane for releasing existing Transformer and erection of NEW 250 to 500kVA Transformers. In case of failure and agumentation , (applicable for maintenance works only and in case of non - availability of departmental crane)	Per TFR	3163	
		NOTE:- When the awards are issued for erection of New Transformers under labour awards, Hire charges are not payable for cranes hired. By the agencies.			

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24
	14	Supplying and fixing conduit			
89	14.01	Supplying heavy gauge PVC pipe 25 mm Dia 2 mm thick confirming to IS-2509 with suitable size bends, junction box, adhesive paste etc and fixing using inverted wood plug in case RCC ceiling & RCC Wall stone Structure are rawal plugs in case of brick walls and cement plastering damaged portion using heavy gauge saddles at an interval of 700mm using NF Screws (2/1)	Mtr	81	Refer KPWD Electrical SR
90	14.02	Wiring for lighting/power circuit using one of FRLS PVC insulated 1.1 kV grade multi strand copper with low conductor resistance 2.5 Sqmm single core wire in open are concealed system of wiring with specified IS-694-1990 and conform into GTP of group A	Mtr	35	
91	14.03	Wiring for lighting/power circuit using one of FRLS PVC insulated 1.1 kV grade multi strand copper with low conductor resistance 4 Sqmm single core wire in open are concealed system of wiring with specified IS-694-1990 and conform into GTP of group A	Mtr	49	
92	14.04	Supplying and fixing of porcelain fuse channel with cut out 16 Amps on existing wooden/panel using necessary nuts, bolts, and washers etc complete (32/3)	No	138	
93	14.08	Fixing and Wiring of LED Light fitting with suitable clamps Brackets, lamps, Bolts and nuts	No	223	
	16	Releasing & Restraining of loose spans, binding, straightening of inclined Pole etc.			
94	16.01	Tightening of loose span c) Coyote	KM	90% of the Pole erection charges.	Refer KPTCL SR
	17	Jungle Clearing: 3 Mtr Corridor (1.5 Mtr on either side of line)			
		Trimming of trees and branches and clearing as per IE Rules.			
95	17.01	In Malnad/hilly areas if Jungle/trees/Plants/ Shrubs exists only (once in two years)	KM	3881	Refer Forest SR
	17.02	In Maidan (In accordance with necessity)	KM	1369	
	18	As above for construction of new line including Trimming of Trees, if Jungle/Tree/Plant/Shrubs Exists			
	18.01	Malnad/Hill Area	KM	6940	Refer Forest SR
	18.02	Maidan Area	KM	4147	
	19	Cutting, Clearing of Vegetation Grass/shrubs such other small plants, including removal of Roots etc., in station yard/store yard			
	19.01	Maidan Area (Twice in year)	KM	7	Refer Forest SR
	19.02	Malnad Area (Once in Three Months)	KM	7	

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24	
	25	Hire Charges (These charges have to be specifically approved by the Corporate Office in respect of repair to transformers when applicable)				
	25.01	Transportation using 7.5/10 Tons Lorry	KM	Rs. 29 per KM subjected to a minimum of Rs. 1725/- per day	Refer KPWD Civil SR Carriage of Material Chapter	
	25.02	Transportation using mini Lorry/Tempo	KM	Rs. 21 per KM subjected to a minimum of Rs. 1265/- per day		
	25.03	Loading of any type of material not covered specifically (cost includes crane charges if any).	MT	1490		
	25.04	UnLoading of any type of material not covered specifically (cost includes crane charges if any).	MT	1490		
	25.05	Loading of Power Transformer and other similar materials like Switchgear cable drums, Drake/Lynx Conductor etc., (cost includes crane charges if any).	MT	1655		
	25.06	Unloading of Power Transformer and other similar materials like Switchgear cable drums, Drake/Lynx Conductor etc., (cost includes crane charges if any).	MT	1655		
	29	UG Cable Work				
	29.01	Earth work excavation for cable trench of 0.5 to 0.75 Mtr. Width and Depth upto 1 Mtr including trial pits, depositing on bank upto a lead of 50 Mtr, Supplying and Displaying necessary Danger Boards and Lighting, Using sight Rails and Sign Boards at every 100 Mtr wherever necessary as directed.				
	29.02	In Ordinary Soil	m ³	260	Refer KPWD Civil SR	
	29.03	In Hard Soil	m ³	389		
	29.04	In Ordinary Rock without Blasting	m ³	345		
	29.05	In Ordinary Rock with Blasting	m ³	567		
	29.06	Hard Rock/Latterite Rock latterite Soil	m ³	1395		
		*Soil classification has to be certified by the concerned Executive Engineer Etc.				
	Note:	20% over & above may be given if depth is more than 1 Mtr				
	29.07	Refilling the cable trenches with selected available earth from trench excavation including watering, consolidation in layers of 15 cm. Thickness including depositing of the surplus earth with a lead of 200 Mtr	m ³	58		

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24
	29.08	Cutting of Road surface for cable trenches and disposing of the excavated earth, as directed including Barricading, Danger Lighting then Refilling the Cable Trenches.			Refer KPWD Civil SR
	29.09	Macadam Road	m ³	325	
	29.10	Tar Road	m ³	536	
	29.11	Cement Concrete Road	m ³	1078	
	29.12	Removing the Existing Stone Slabs pavement and stocking the materials for excavating the trench with a lead of 50 Mtr Refixing the stone slab after refilling the trenches as in item 2	Sqmt	144	
		Laying and Jointing the pipes (100-150 mm Dia) including lowering in Position: Fixing Collars etc., Joining with mud mortar complete			
	29.16	Removing and Refixing stone Masonary with necessary patch up and cementing drain works for Cluvert, Water Valve Crossing etc., including cost of materials.	m ³	750	Refer KPWD Civil SR
	29.19	Removing the kerb Stones and Refixing at the original place with necessary earthwork	Rmtr	10	
	33	Earth Excavation for RMU Foundation Work			
		Earth Excavation for RMU Foundation Depositing of earth on Bank up to a lead of 50 Mtr and with a lift up to 1.5 Mtr			
	33.01	Ordinary Soil	m ³	217	Refer KPWD Civil SR
	33.02	In Hard Soil	m ³	325	
	33.03	In ordinary/soft Rock without Blasting	m ³	1015	
	33.04	In ordinary/soft Rock with Blasting	m ³	590	
	33.05	Hard Rock/Lattirite Rock/Lattirite Soft (Chistling & Wedging)	m ³	1555	
		Note: Soil classifications has to be made by respective Executive Engineer			
	33.06	Refilling the RMU foundation with the approved new earth with initial lead of 50 Mtr including watering and tamping layers of 15 cm thick etc., complete.	m ³	87	Refer KPWD Civil SR
	33.07	Lifting of Excess Earth up to distance of 10 KM	m ³	294	

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24
	33	Earth Excavation for RMU Foundation Work			
	33.08	KSRB 4-1.3: Providing and Laying in position plain cement concrete of mix 1:4:8 with OPC Cement @ 180 Kgs, with 40 mm and down size graded granite metal coarse aggregates @ 0.85 CMT and fine aggregates @ 0.57 CMT machine mixed, machine mixed, concrete laid in layers not exceeding 15 cm. thick well compacted, in foundation and plinth, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. SPECIFICATION No. KBS 4.1, 4.2	m ³	5364 (KPWD SR)	Refer KPWD Civil SR
	33.09	KSRB 4-1.6: Providing and Laying in position plain cement concrete of mix 1:2:4 with Cement @ 240 Kgs, with 20 mm and down size graded granite metal coarse aggregates @ 0.878 CMT and fine aggregates @ 0.459 CMT machine mixed concrete laid in layers not exceeding 15 cm. thick well compacted, in foundation and plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. SPECIFICATION No. KBS 4.1, 4.2	m ³	6096 (KPWD SR)	
	33.10	KSRB 4.9.1: Providing mild steel reinforcement for RCC work including straightening, cutting, bending, hooking, placing in position, lapping and/or welding wherever required, and Laying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials labour, HOM of machinery complete as per specifications. SPECIFICATION No. KBS 4.6.3	m ³	6471 (KPWD SR)	
	33.11	KSRB 5.2-3: Providing and constructing granite/trap/basalt size stone masonry in foundation with cement mortar 1:6 edges of stones chistle dressed in courses not less than 15 cm high, bond stones at 2 Mtr apart in each course including cost of materials, labour curing complete as per specifications. KBS 5.1.13	m ³	5756	
	33.12	KSRB 5.2-3: Providing and constructing granite/trap/basalt size stone masonry in foundation cement mortar 1:8 stones hammered dressed in courses not less than 20 cm high, bond stones at 2 Mtr apart in each course including cost of materials, labour curing complete as per specifications. KSB 5.1.13	m ³	4643	
	33.13	KSRB 5-8.5: Providing quoin dressing to stone masonry and stone slabs, two line 5 cm wide on each face as per specifications. (measurement including mortar joints) KSB 5.1.13	Mtr	105	

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24
	33.14	KSRB 15-3.11 Plastering concrete surface in cement mortar 1:4, 20 mm thick inclusive of smooth rendering curing etc., complete. (KPWD Rate of Rs. 4842 for CMT)	Sqmt	968 (KPWD SR)	
	33.15	KSRB 6-2.2 Providing and constructing Burnt Brick Masonary with approved quality of Non-modular bricks of standard size of class designation 5.0 Newton/Sqmm (table moulded) with cement mortar 1:8 for basement and superStructure including cost of materials, labour charges, scaffolding, curing complete as per specifications. Specification No. KBS 6.2	m ³	7512	
	37	Laying of UG Cables by Trenchless Technology by adopting Horizontal Boring & Drawing of cable including preparation at site			
	37.02	Normal soil 5/6" Bore With HDPE Pipe	Rmtr	848	Deleted
	37.04	Roch soil 5/6" Bore With HDPE Pipe	Rmtr	1370	Deleted
	28	Providing chain link fencing 50 mm size of 8 guage properly stretched between rectangular Poles and fixed with suitable bolts & nuts, the free ends shall be welded to the Pole and block pipe at top and bottom as required including cost of all materials, labour, lead and lifts, cutting, bending wherever necessary, wastage and lapping etc., complete as per the direction of the engineer incharge for work including two coats of approved quality paint over one coat of primer paint.	Sqmt	987	Refer WRDO SR
		Labour Charges towards Station Works (As per Prevailing KPTCL SR with effect from 01.09.06)			
	41	11 kV Switchgear			
		Erection, alignment and fixing to the foundation, indoor/outdoor 11KV switchgear panel/unit including movement from the point of unloading to the point of erection.			
	41.01	11 kV Indoor/Outdoor Switchgear	Per Panel	Refer KPTCL SR	Refer KPTCL SR
	41.02	11 kV Kiosk	Per Panel	Refer KPTCL SR	
	42	Wiring & assisting in testing & Commissioning			
	42.01	11 kV Indoor/Outdoor Switchgear	Per Panel	Refer KPTCL SR	Refer KPTCL SR
	42.02	11 kV Kiosk	Per Panel	Refer KPTCL SR	

Sl No	Item No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023-24
	43	a) Wiring b) Testing & Commissioning			
		Identification of wires, Ferruling Crimping & Termination of wires fir annunciation, etc., Testing of Relays, CTs, PTs, & Breaker for operation.			
	43.01	For Indoor/Outdoor panel comprising of 2I+8F+1BC+1AP3	Per Set	Refer KPTCL SR	Refer KPTCL SR
	43.02	For Single 11 kV Panel Indoor/Outdoor type/Kiosk	Each	Refer KPTCL SR	
	43.03	For Additional 11 kV Panel (Indoor type)	Each	Refer KPTCL SR	
	43.04	For Single 11 kV Panel Outdoor type/Kiosk	Each	Refer KPTCL SR	

**Schedule of Rate for Standard Stock
Materials in Common SR 2023-24
(33kV System)**

Schedule of Rate for Standard Stock Materials in Common SR 2023-24 (33kV System)

Sl No	Item No	Name of the Material	UoM	Material Code	CSR 2021-22 Ford Rates in Rs Ex Works	Proposed CSR 2023-24 Ford Rates in Rs Ex Works
	1	33/11 kV Transformer with all fittings and accessories, OLTC, RTCC, First filling of oil and 10 % Spare oil				
1	1.01	5 MVA	No	322205	5245995	6284178
2	1.02	8 MVA	No		New Item	7579440
3	1.03	10 MVA	No	322210	6962994	8340970
4	1.04	12.5MVA	No		9037976	10826592
	2	Lightning Arrester				
5	2.01	30 kV 10kA Lightning Arrester Normal Duty polymeric Discharge Class -2	No	303520	13605	14816
	3	HG Fuse Unit				
6	3.01	33kV Class HG Fuse Unit	Set		New Item	2420
	4	Outdoor type meter box to house ETV meters, made of CRCA steel mounted on angle iron frame work				
7	4.01	Meter box suitable for fixing 6 ETV meters	No	358046	19662	23316
8	4.02	Meter box suitable for fixing 4 ETV meters	No	358044	12018	14252
9	4.03	Meter box suitable for fixing 3 ETV meters	No	358043	8413	9976
	5	Insulators				
10	6.01	33kV Composite Disc Insulator	No	283433	359	421
11	6.02	33kV Polymer Pin Insulator	No		579	679
12	6.03	33kV 70 KN Polymer Insulator (Ball & socket type)	No		298	350
	6	STATION STRUCTURES				
13	6.01	Double pole structure for 33kV	Set	279103	6308	7175
14	6.02	V-Shape X arm for 33 kV	No	279016	941	1071
15	6.03	Horizontal X arm for 33kV	No		New Item	2431

Sl No	Item No	Name of the Material	UoM	Material Code	CSR 2021-22 Ford Rates in Rs Ex Works	Proposed CSR 2023-24 Ford Rates in Rs Ex Works
16	6.04	HT ST Support for 33 kV	No	279093	393	447
17	6.05	Clamp 9.5M RCC Pole for 33kV	No	279526	103	117
	7	33 kV 3 Core XLPE UG Insulated Aluminium Cable (FLAT STRIP ARMOUR)				
18	7.01	33 kV 3 Core XLPE UG Cable- 95 Sq.mm	km	287451	1368008	1723337
19	7.02	33 kV 3 Core XLPE UG Cable- 150 Sq.mm	km	287453	1672606	2084956
20	7.03	33 kV 3 Core XLPE UG Cable-240Sq.mm	km	287456	2135695	2628277
21	7.04	33 kV 3 Core XLPE UG Cable-300Sq.mm	km	287457	2414002	2948286
22	7.05	33 kV 3 Core XLPE UG Cable-400Sq.mm	km	287458	2818063	3415520
		33 kV 3 Core XLPE UG Insulated Aluminium Cable (ROUND WIRE ARMOUR)				
23	7.06	33 kV 3 Core XLPE UG Cable- 95 Sq.mm	km		1637269	2107788
24	7.07	33 kV 3 Core XLPE UG Cable- 150 Sq.mm	km		2012589	2570384
25	7.08	33 kV 3 Core XLPE UG Cable-240Sq.mm	km		2562937	3238294
26	7.09	33 kV 3 Core XLPE UG Cable-300Sq.mm	km		2893326	3632666
27	7.10	33 kV 3 Core XLPE UG Cable-400Sq.mm	km		3371306	4205441
	8	33kV Jointing and Cable termination kits for XLPE cable				
		Heat Shrinkable type transition jointing kit				
28	8.01	33 kV 3 Core XLPE UG Cable- 95 Sq.mm	No	288050	22144	26794
29	8.02	33 kV 3 Core XLPE UG Cable- 150 Sq.mm	No	288052	22144	26794
30	8.03	33 kV 3 Core XLPE UG Cable-240Sq.mm	No	288054	32650	39507
31	8.04	33 kV 3 Core XLPE UG Cable-300Sq.mm	No	288055	32650	39507
32	8.05	33 kV 3 Core XLPE UG Cable-400Sq.mm	No	288056	37865	45817
		Heat Shrinkable indoor type cable termination kit				
33	8.06	33 kV 3 Core XLPE UG Cable- 95 Sq.mm	No	288060	6488	7851

Sl No	Item No	Name of the Material	UoM	Material Code	CSR 2021-22 Ford Rates in Rs Ex Works	Proposed CSR 2023-24 Ford Rates in Rs Ex Works
34	8.07	33 kV 3 Core XLPE UG Cable- 150 Sq.mm	No	288062	6488	7851
35	8.08	33 kV 3 Core XLPE UG Cable-240Sq.mm	No	288064	8725	10558
36	8.09	33 kV 3 Core XLPE UG Cable-300Sq.mm	No	288065	8725	10558
37	8.10	33 kV 3 Core XLPE UG Cable-400Sq.mm	No	288066	9803	11862
		Heat Shrinkable outdoor type cable termination kit				
38	8.10	33 kV 3 Core XLPE UG Cable- 95 Sq.mm	No	288070	7607	9204
39	8.11	33 kV 3 Core XLPE UG Cable- 150 Sq.mm	No	288072	7607	9204
40	8.12	33 kV 3 Core XLPE UG Cable-240Sq.mm	No	288074	9508	11505
41	8.13	33 kV 3 Core XLPE UG Cable-300Sq.mm	No	288075	9508	11505
42	8.14	33 kV 3 Core XLPE UG Cable-400Sq.mm	No	288076	11746	14212
		Heat Shrinkable Straight through jointing kits with Aluminum lugs& ferrules				
43	8.15	33 kV 3 Core XLPE UG Cable- 95 Sq.mm	No	288080	20136	24364
44	8.16	33 kV 3 Core XLPE UG Cable- 150 Sq.mm	No	288082	20136	24364
45	8.17	33 kV 3 Core XLPE UG Cable-240Sq.mm	No	288084	26847	32485
46	8.18	33 kV 3 Core XLPE UG Cable-300Sq.mm	No	288085	26847	32485
47	8.19	33 kV 3 Core XLPE UG Cable-400Sq.mm	No	288086	29644	35869
	9	33kV Covered Conductor & Accessories				
48	9.01	33KV Covered Conductor	km		New Item	339195
49	9.02	Straight Jointing Kit for Cover 33KV Covered Conductor	Kit		New Item	4310
50	9.03	Termination Kit for Cover 33KV Covered Conductor	Kit		New Item	3232
51	9.04	Cable Performed Ties	No		New Item	940

Note: In the above Ex-works Price includes 10% Overhead Charges % 10% Contractors Profit. For departmental procurement 10% overhead charges & 10% Contractors Profit shud be deloaded

**Deleted Standard Stock Materials in
Common SR 2023-24
(33kV System)**

Deleted Standard Stock Materials in Common SR 2023-24 (33kV System)

Sl No	Old Item No	Name of the Material	UoM	Material Code	CSR 2021-22 Ford Rates in Rs inclusive of Taxes, F&I	CSR 2023-24 Ford Rates in Rs (Ex Works)
	3	11kV Switch Gear				
5	3.1	11KV 500MVA (1600A, for two incomer & two capacitor bank and 1250A for eight feeders) MCVCB switchgear comprising 2I+10F+1BC+2AP VCB's all of 25KA rupturing capacity as per technical specification	Set		Refer KPTCL SR	Refer KPTCL SR
6	3.2	11KV 500MVA (1600A, for one incomer & one capacitor bank and 1250A for four feeders) MCVCB switchgear comprising 1I+5F+1BC+1AP VCB's all of 25KA rupturing capacity as per technical specification	Set		Refer KPTCL SR	Refer KPTCL SR
7	3.3	11 kV, 500 MVA, (1600A, for incomer & 1250 A for feeder) outdoor Switch gear, comprising of 2I+2F+1BC+1AP MCVCBs	Set	309204	Refer KPTCL SR	Refer KPTCL SR
8	3.4	11 kV, 500 MVA, (1600A, for incomer & 1250 A for feeder) outdoor Switch gear, comprising of 2I+10F+1BC+1AP VCBs	Set	309202	Refer KPTCL SR	Refer KPTCL SR
9	3.5	11 KV, 500 MVA, 1250 A, (I/C) and 800 A (feeder), outdoor Switch Gear, comprising of 2I+1BC+8F+1AP VCBs	Set	309200	Refer KPTCL SR	Refer KPTCL SR
10	3.6	11 kV Switch gear, 350 MVA, 800 Amps Outdoor MCVCB comprising of 1I+5F+1AP	Set	309206	Refer KPTCL SR	Refer KPTCL SR
11	3.7	11 KV 500 MVA 1250 Amps 25 KA feeder panel	No.	309208	Refer KPTCL SR	Refer KPTCL SR
12	3.8	11 KV 500 MVA 1250 Amps SWG 1I+5F+1AP MCVCB	Set	309210	Refer KPTCL SR	Refer KPTCL SR
13	3.9	11kV 500MVA Indoor type Switchgear with 1I+5F+1AP provided with VCBs, 1600A for Incomer 1600A for capacitor Bank, 1250A for outgoing feeders all of 25KA rupturing capacity and SCADA Compatible			Refer KPTCL SR	Refer KPTCL SR
14	3.1	11kV, 350 MVA, Indoor type Switchgear with 1I+1BC+4F+1CB+1AP provided with VCBs, 1250A for incomer, Bus Coupler & capacitor Bank, 800A for outgoing feeders all of 20 KA rupturing capacity			Refer KPTCL SR	Refer KPTCL SR

Sl No	Old Item No	Name of the Material	UoM	Material Code	CSR 2021-22 Ford Rates in Rs inclusive of Taxes, F&I	CSR 2023-24 Ford Rates in Rs (Ex Works)
15	3.11	11kV 500MVA Indoor type Switchgear with 2I+8 F+2CB+1BC+1AP provided with VCBs 1600A for Bus coupler, Incomer & capacitor Bank, 1250A for outgoing feeders all of 25KA rupturing capacity and SCADA Compatible			Refer KPTCL SR	Refer KPTCL SR
16	3.12	11kV, 500 MVA, Outdoor type Switchgear with 2I+8F+2CB+1BC+1AP provided with VCB's, 1600A for incomer & capacitor Bank, 1250 A for outgoing feeders, all of 25 KA rupturing capacity as per technical specification and SCADA compatible	sets		Refer KPTCL SR	Refer KPTCL SR
17	3.13	11kV 500MVA Indoor type Switchgear with 2C+10F+1BC+1AP provided with VCBs 1600A for 2 Incomer & 2 capacitor Bank, 1250A for 8 feeders all of 25KA rupturing capacity and SCADA Compatible			Refer KPTCL SR	Refer KPTCL SR
	3.14	Annunciator Panels				
18	3.14.1	1IC+4F			Refer KPTCL SR	Refer KPTCL SR
19	3.14.2	1IC+5F			Refer KPTCL SR	Refer KPTCL SR
20	3.14.3	1IC+6F			Refer KPTCL SR	Refer KPTCL SR
21	3.14.4	2IC+8F+1BC			Refer KPTCL SR	Refer KPTCL SR
	4	11kV Kiosk				
	4.2	11 kV, 350 MVA, 800A Outdoor type, kiosk PCVCB comprising				
22	4.2.1	1IC+4F+1AP, PCVCB	sets		Refer KPTCL SR	Refer KPTCL SR
23	4.2.2	1IC+3F+1AP, PCVCB	sets		Refer KPTCL SR	Refer KPTCL SR
24	4.2.3	2IC+6F+1AP, PCVCB	sets		Refer KPTCL SR	Refer KPTCL SR
25	4.2.4	2IC+8F+1AP PCVCB	sets		Refer KPTCL SR	Refer KPTCL SR
26	4.2.5	11 kV, 350 MVA, 800A Outdoor type, kiosk PCVCB	No.		Refer KPTCL SR	Refer KPTCL SR
	5	Instrument Transformers				
	5.1	Current Transformers				
	5.1.1	220kV CT's	No.			
27	5.1.2	220kV class 1200-800-600-400-300/1-1-1-1-1A	No.		Refer KPTCL SR	Refer KPTCL SR
		110 kV 0.2 class accuracy CTs for metering purpose				

Sl No	Old Item No	Name of the Material	UoM	Material Code	CSR 2021-22 Ford Rates in Rs inclusive of Taxes, F&I	CSR 2023-24 Ford Rates in Rs (Ex Works)
28	5.1.3	CT ratio 100-75/1A	No.		Refer KPTCL SR	Refer KPTCL SR
29	5.1.4	CT ratio 100-75-50/5A	No.		Refer KPTCL SR	Refer KPTCL SR
30	5.1.5	CT ratio 100/5A	No.		Refer KPTCL SR	Refer KPTCL SR
		33kV class CT with 0.2 accuracy class				
31	5.1.6	400 - 200/1-1A for lines	No.	336470	Refer KPTCL SR	Refer KPTCL SR
32	5.1.7	200 - 100/1-1-1A for Transformer	No.	336473	Refer KPTCL SR	Refer KPTCL SR
33	5.1.8	30/5A	No.	336400	Refer KPTCL SR	Refer KPTCL SR
34	5.1.11	33 KV Outdoor CT's 200-100/1-1A	No.		Refer KPTCL SR	Refer KPTCL SR
		11kV class CT with 0.2 accuracy class				
35	5.1.12	11 KV Outdoor CT's 800-400/1-1-1A	No.		Refer KPTCL SR	Refer KPTCL SR
36	5.1.13	11 KV Outdoor CT's 600-300/1-1-1 A	No.		Refer KPTCL SR	Refer KPTCL SR
37	5.1.14	11 KV Outdoor CT's 400-200/1-1-1 A	No.		Refer KPTCL SR	Refer KPTCL SR
38	5.1.15	11 KV Outdoor CT's 200-100/1-1 A	No.		Refer KPTCL SR	Refer KPTCL SR
39	5.1.16	11kV NCTs 800-400/1-1-1A	No.	330210	Refer KPTCL SR	Refer KPTCL SR
40	5.1.17	11kV NCTs 600-300/1-1-1A	No.	330220	Refer KPTCL SR	Refer KPTCL SR
41	5.1.18	11kV Class Out door CT 200-100/1-1-1A			Refer KPTCL SR	Refer KPTCL SR
	6	Potential Transformers				
	6.1	220kV PT's				
42	6.1.1	220kV / $\sqrt{3}$ /110V/ $\sqrt{3}$ -110V/ $\sqrt{3}$	No		Refer KPTCL SR	Refer KPTCL SR
43	6.1.2	PTs 110 KV $\sqrt{3}$ /110V/ $\sqrt{3}$ -110V/ $\sqrt{3}$ 0.2 class accuracy	Nos.		Refer KPTCL SR	Refer KPTCL SR
		33 KV Outdoor PT's				
44	6.1.3	33kV Voltage Transformer 33kV $\sqrt{3}$ 110 $\sqrt{3}$ - 110 $\sqrt{3}$	No.	335512	Refer KPTCL SR	Refer KPTCL SR
45	6.1.4	33kV / $\sqrt{3}$ /110V/ $\sqrt{3}$ -110V/ $\sqrt{3}$ -110V/ $\sqrt{3}$			Refer KPTCL SR	Refer KPTCL SR
		Single phase PT 11kV/110V				
46	6.1.5	Single phase PT 11kV/ $\sqrt{3}$ /110V/ $\sqrt{3}$	No.	335220	Refer KPTCL SR	Refer KPTCL SR
47	6.1.6	3 Ph PT 11kV/ $\sqrt{3}$ /110V/ $\sqrt{3}$ -110V/ $\sqrt{3}$ -110V/ $\sqrt{3}$	No		Refer KPTCL SR	Refer KPTCL SR

Sl No	Old Item No	Name of the Material	UoM	Material Code	CSR 2021-22 Ford Rates in Rs inclusive of Taxes, F&I	CSR 2023-24 Ford Rates in Rs (Ex Works)
	7	Lightning Arrester				
48	7.1	30 kV Lightning Arrester Normal Duty Metal oxide (Discharge Class-2)	No.	303510	Refer KPTCL SR	Refer KPTCL SR
49	7.2	30 kV Lightning Arrester Normal Duty Metal oxide (Discharge Class-3)	No.	303512	Refer KPTCL SR	Refer KPTCL SR
	8	Isolators				
51	8.1	Isolators 33kV 800A, 25kA Upright with Earth Switch complete metallic portion with insulator	Set	304536	Refer KPTCL SR	Refer KPTCL SR
52	8.2	Isolators 33kV 800A, 25kA Upright without Earth Switch complete metallic portion with insulator (live point height 3750mm)	Set	304524	Refer KPTCL SR	Refer KPTCL SR
53	8.3	Isolators 33kV 800A, 25kA Upright without Earth Switch complete metallic portion with insulator (live point height 4750mm)	Set	304525	Refer KPTCL SR	Refer KPTCL SR
	9	Battery Set/Battery Charger				
54	9.1	Battery Set (Tubular) 48 V, 100 Ah	Set	344007	Refer KPTCL SR	Refer KPTCL SR
55	9.2	Battery Set (Tubular) 110 V, 100 Ah	Set	344011	Refer KPTCL SR	Refer KPTCL SR
56	9.3	Battery Set (Maintance free VRLA) 48 V, 100 Ah	Set	344107	Refer KPTCL SR	Refer KPTCL SR
57	9.4	Battery Set (Maintance free VRLA) 110 V,100 Ah	Set	344111	Refer KPTCL SR	Refer KPTCL SR
58	9.5	Battery Charger 48 V, 100 Ah	Set	344416	Refer KPTCL SR	Refer KPTCL SR
59	9.6	Battery Charger 110V, 100 Ah (with float cum boost charger working on 230V 1ph AC supply along with integral DCDB consisting 4 nos. O/G feeders as per specifications)	Set	344426	Refer KPTCL SR	Refer KPTCL SR
60	9.7	Capacitor Bank with 0.2% Series reactor & NCT 12.1kV 2.9 MVAR star connected Capacitor Bank	Set	333424	Refer KPTCL SR	Refer KPTCL SR
	10	Panel				
61	10.1	33 kV Line Panel (Simplex)	No.	339500	Refer KPTCL SR	Refer KPTCL SR
62	10.2	33/11kV Transformer Panel (Simplex)	No.	339530	Refer KPTCL SR	Refer KPTCL SR
63	10.3	33 kV Capacitor Bank Panel	No.	339540	Refer KPTCL SR	Refer KPTCL SR
	11	Towers				

Sl No	Old Item No	Name of the Material	UoM	Material Code	CSR 2021-22 Ford Rates in Rs inclusive of Taxes, F&I	CSR 2023-24 Ford Rates in Rs (Ex Works)
64	11.1	Design, fabrication, galvanising and supply of High Tension transmission line tower materials including stubs	M.T.	201050	Refer KPTCL SR	Refer KPTCL SR
65	11.2	Fabrication, galvanization and supply of mild steel tower materials	M.T.	201055	Refer KPTCL SR	Refer KPTCL SR
66	11.3	Supply of galvanised Bolts & Nuts	M.T.	736002	Refer KPTCL SR	Refer KPTCL SR
67	11.4	Supply of stub templates	M.T.	210080	Refer KPTCL SR	Refer KPTCL SR
	13	Insulators				
71	13.4	Solid Core Insulator 33kV	No.	283125	Refer KPTCL SR	Refer KPTCL SR
72	13.2	33 kV Pin Insulator (Shell only)	No.	283006	Refer KPTCL SR	Refer KPTCL SR
73	13.3	33 kV Pin Insulator (Pin only)	No.	283056	Refer KPTCL SR	Refer KPTCL SR
	14	HARDWARE CLAMPS FOR STATION MATERIALS				
	14.1	Bolted Type Tension Clamp				
77	14.1.1	Single Lynx ACSR conductor 70/90 kN 16mm	No.	285080	Refer KPTCL SR	Refer KPTCL SR
78	14.1.2	Single Coyote ACSR conductor 70/90 kN 16mm	No.	285079	Refer KPTCL SR	Refer KPTCL SR
79	14.1.3	Single Rabbit ACSR conductor 70/90 kN 16mm	No.	285078	Refer KPTCL SR	Refer KPTCL SR
	14.2	Bolted Type Suspension Clamp				
80	14.2.1	Single Lynx ACSR conductor 70/90 kN 16mm	No.	285050	Refer KPTCL SR	Refer KPTCL SR
81	14.2.2	Single Coyote ACSR conductor 70/90 kN 16mm	No.	258046	Refer KPTCL SR	Refer KPTCL SR
82	14.2.3	Single Rabbit ACSR conductor 70/90 kN 16mm	No.	285038	Refer KPTCL SR	Refer KPTCL SR
83	14.3	Ground Wire Clamp 7/3.15mm 2 bolt	No.	281410	Refer KPTCL SR	Refer KPTCL SR
	14.4	Post Insulator Clamp				
84	14.4.1	Single Lynx ACSR conductor 127/76mm	No.	285699	Refer KPTCL SR	Refer KPTCL SR
85	14.4.2	Single Coyote ACSR conductor 127/76mm	No.	285697	Refer KPTCL SR	Refer KPTCL SR
86	14.4.3	Single Rabbit ACSR conductor 76mm	No.	285696	Refer KPTCL SR	Refer KPTCL SR
	14.4.4	DRAKE ACSR	Kms		Refer KPTCL SR	Refer KPTCL SR
87	14.4.5	Strain clamps for Drake ACSR	No.		Refer KPTCL SR	Refer KPTCL SR
88	14.4.6	Suspension Clamps for Drake ACSR	No.		Refer KPTCL SR	Refer KPTCL SR

SI No	Old Item No	Name of the Material	UoM	Material Code	CSR 2021-22 Ford Rates in Rs inclusive of Taxes, F&I	CSR 2023-24 Ford Rates in Rs (Ex Works)
		Wedge Clamps for Drake ACSR				
89	14.4.7	Rabbit to Drake	No.		Refer KPTCL SR	Refer KPTCL SR
90	14.4.8	Coyote to Drake	No.		Refer KPTCL SR	Refer KPTCL SR
91	14.4.9	Lynx to Drake	No.		Refer KPTCL SR	Refer KPTCL SR
92	14.4.10	Drake to Drake	No.		Refer KPTCL SR	Refer KPTCL SR
93	14.4.11	PG clamps for DRAKE	No.		Refer KPTCL SR	Refer KPTCL SR
94	14.4.12	Post insulatators clamps suitable for Single Drake ACSR	No.		Refer KPTCL SR	Refer KPTCL SR
95	14.4.13	Post insulatators clamps suitable for Double Drake ACSR	No.		Refer KPTCL SR	Refer KPTCL SR
96	14.4.14	Terminal connectors for Drake ACSR for connection to the Cable ends and isolator ends (Pad clamps)	No.		Refer KPTCL SR	Refer KPTCL SR
97	14.4.15	Vibration dampers for Drake	No.		Refer KPTCL SR	Refer KPTCL SR
98	14.4.16	Repair Sleeves for Drake	No.		Refer KPTCL SR	Refer KPTCL SR
99	14.4.17	Mid span compression joints for coyote	No.		Refer KPTCL SR	Refer KPTCL SR
100	14.4.18	7/3.15mm GI ground conductor	Km.		Refer KPTCL SR	Refer KPTCL SR
101	14.4.19	Number plates with pole clamps Bolt & nuts	No.		Refer KPTCL SR	Refer KPTCL SR
	14.5	"T" Clamp for ACSR Conductor				
102	14.5.1	Single Lynx to Single Lynx	No.	285610	Refer KPTCL SR	Refer KPTCL SR
103	14.5.2	Single Coyote to Single Coyote	No.	285605	Refer KPTCL SR	Refer KPTCL SR
	14.6	Terminal connector clamp for ACSR Conductor				
104	14.6.1	Single Lynx	No.	282620	Refer KPTCL SR	Refer KPTCL SR
105	14.6.2	Single Coyote	No.	282616	Refer KPTCL SR	Refer KPTCL SR
	15	STATION STRUCTURES				
106	15.1	Fabrication, galvanization and supply of Station Structures	MT	276110	Refer KPTCL SR	Refer KPTCL SR
107	15.2	Supply of galvanized Bolts & Nuts	MT		Refer KPTCL SR	Refer KPTCL SR

Sl No	Old Item No	Name of the Material	UoM	Material Code	CSR 2021-22 Ford Rates in Rs inclusive of Taxes, F&I	CSR 2023-24 Ford Rates in Rs (Ex Works)
		Cable termination Kits (Pot heads suitable for following size cables as per Technical specification)				
		1x1000 sq.mm UG cable				
113		Indoor	No.		Refer KPTCL SR	Refer KPTCL SR
114		Outdoor	No.		Refer KPTCL SR	Refer KPTCL SR
	18	Miscellaneous Station Materials				
		Fire fighting equipment (Mech) 9.00 Ltr capacity				
145	18.1	Foam type extinguisher (Mech) 9.00 Ltr Capacity	No.		Refer KPTCL SR	Refer KPTCL SR
146	18.2	Foam type extinguisher (Mech) 45 Ltr Capacity	No.		Refer KPTCL SR	Refer KPTCL SR
147	18.3	Carbon dioxide type 6 Ltrs capacity	No.		Refer KPTCL SR	Refer KPTCL SR
		Sand type			Refer KPTCL SR	Refer KPTCL SR
148	18.4	G.I Bucket 9 Ltr Capacity	No.		Refer KPTCL SR	Refer KPTCL SR
149	18.5	Steel Mounting stand for above buckets (Each stand for 3 buckets)	No.		Refer KPTCL SR	Refer KPTCL SR
150	18.6	Water type (Gas pressure type) 9 ltrs capacity	No.		Refer KPTCL SR	Refer KPTCL SR



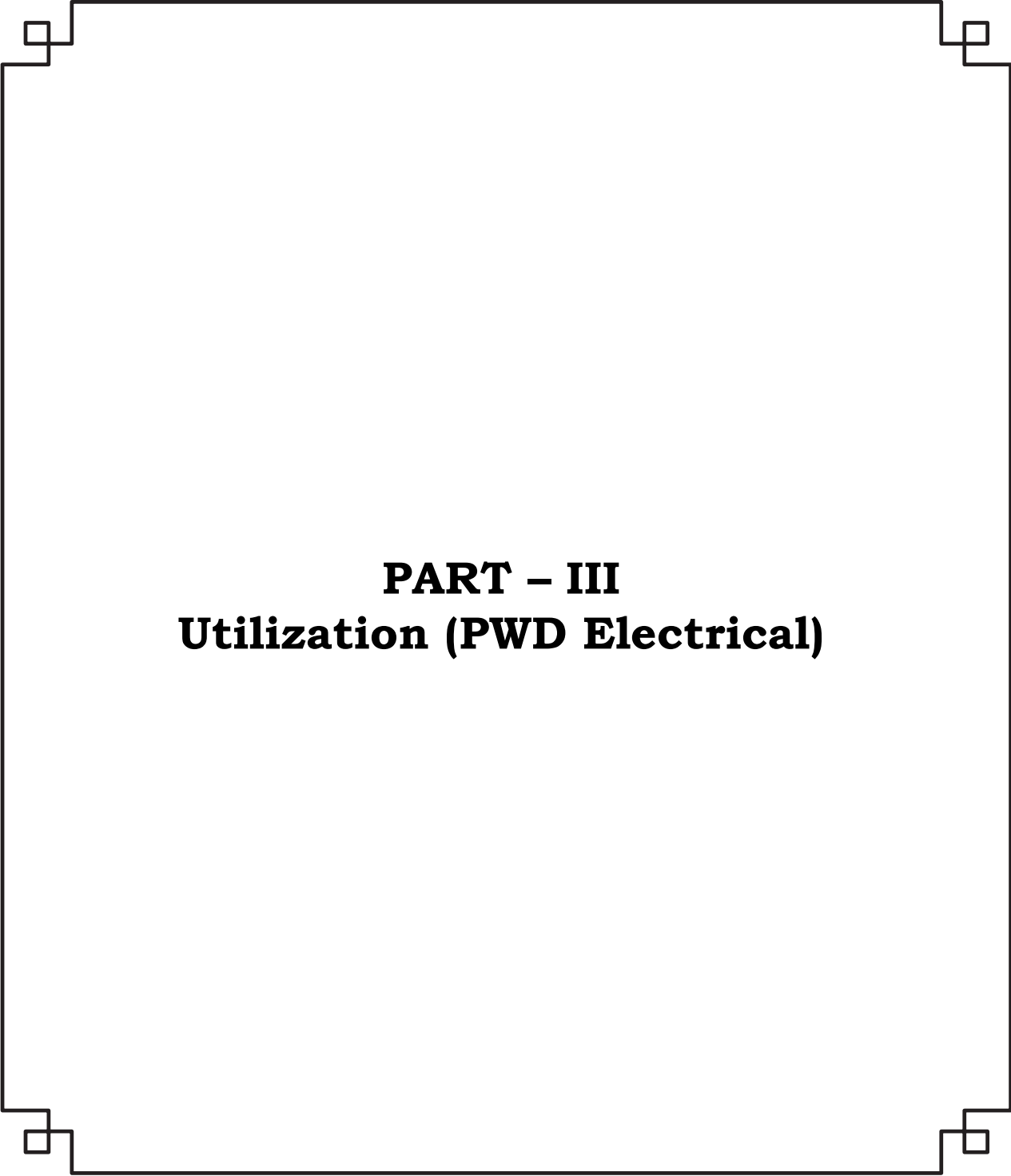
**Maintenance Works
in Common SR 2023-24**

Maintenance Works Labour Charges

Sl No	Particulars	Unit	Common SR 2021-22 in Rs	Common SR 2023- 24 in Rs
1	Earth Work Excavation of for attending cable faults upto a Depth of 3 Mtr, Length up to 3 Mtr and Width upto 1 Mtr which includes preparation at site, separation of other cables of ESCOMs/other utility Cables/Gas Pipes/Water supply Pipes, barricading, usage of Caution lights, lift upto 1.5 mtr, Refilling & levelling of excavated earth, disposing of excess earth, lifting of water from the pits using pumps (in case of water stagnant), usage of machinery & other tools required to complete the work			
a	For all kinds of Soil up to 3x3x1 Mtr	Per Work	New Item	13701
b	For all kinds of Soil for additional 1 CMT excavation (in case of Depth, Length and Width varies)	Per Work	New Item	2136

Note:

In the above Ex-works Price includes 10% overhead charges & 10% Contractors Profit. For departmentally carried works 10% Overhead Charges & 10% Contractors Profit shud be deloaded i.e., 21% on the above



PART – III
Utilization (PWD Electrical)

**Schedule of Rates for Electrical Works
2023-24**

Chapter - 1

PVC CONDUITS & ACCESSORIES

1.0	PVC CONDUIT & ITS ACCESSORIES		
1.1	Open Conduit System		2023-24
	Supplying heavy gauge PVC conduit pipe dia mm thick confirming to IS 2509 with suitable size bends, junction boxes, adhesive paste etc , and fixing using inverted wood plugs in case of RCC ceiling and RCC wall/ stone structure or rawl plugs in case of brick walls and cement plastering the damaged portion using heavy gauge saddles at an interval of 700mm using NF screws.		
1.1.1	19/20 mm dia 2 mm thick	m	69.00
1.1.2	25 mm dia 2 mm thick	m	81.00
1.1.3	32 mm dia 2.5 mm thick	m	106.00
1.1.4	40 mm dia 2.5 mm thick	m	149.00
1.2	Concealed Conduit System		
	Supplying heavy gauge PVC conduit pipe mm dia.....mm thick confirming to IS 2509 with suitable size bends, metal/PVC Junction boxes, adhesive paste etc., and running before concreting the slab. The conduit should be tied to the reinforcement rods by using binding wires and unused ways of junction boxes and pipe ends should be covered using PVC end enclosures, run with 18SWG GI fish wire wherever necessary		
1.2.1	19/20 mm dia 2 mm thick	m	66.00
1.2.2	25 mm dia 2 mm thick	m	78.00
1.2.3	32 mm dia 2.5 mm thick	m	103.00
1.2.4	40 mm dia 2.5 mm thick	m	147.00
1.3	Supplying heavy gauge PVC Conduit Pipe dia mm thick with suitable size bends, metal junction boxes adhesive paste etc., by groove cutting in the wall and fixing by bracing U or J hooks and cement plastering upto the wall surface and run with 18 SWG GI fish wire run throughout the conduit wherever necessary.		
1.3.1	19/20 mm dia 2 mm thick	m	68.00
1.3.2	25 mm dia 2 mm thick	m	79.00
1.3.3	32 mm dia 2.5 mm thick	m	99.00
1.3.4	40 mm dia 2.5 mm thick	m	139.00
1.4	Supplying and fixing sheet Metal box made out of 18 SWG sheet metal with necessary holes for cable/conduit entry as required with one coat of primer of approved make etc.		
1.4.1	75 x 75 x 65 mm	Each	106.00
1.4.2	100 x 75 x 65 mm	Each	118.00
1.4.3	135 x 75 x 65 mm	Each	139.00
1.4.4	180 x 90 x 65 mm	Each	161.00
1.4.5	200 x 90 x 65 mm	Each	179.00
1.4.6	135 x 160 x 65 mm	Each	215.00
1.4.7	200 x 200 x 65 mm	Each	348.00
1.5	Supplying and fixing PVC/metal conduit Deep junction box		
1.5.1	19/20 mm deep Junction box	Each	49.00

1.5.2	25 mm deep Junction box	Each	56.00
1.5.3	32 mm deep Junction box	Each	61.00
1.6	Supplying and flush mounting teak wooden box without front plank, made of not less than 12 mm thick wood, after due groove cutting, finishing with necessary cement plastering complete.		
1.6.1	12" x 12" x 3" (300 x 300 x 76 mm)	Each	120.00
1.6.2	12" x 9" x 3" (300 x 228 x 76 mm)	Each	115.00
1.6.3	10" x 7" x 3" (254 x 178 x 76 mm)	Each	112.00
1.6.4	8" x 6" x 3" (203 x 152 x 76 mm)	Each	86.00
1.6.6	4" x 4" x 3" (101 x 101 x 76 mm)	Each	74.00
1.6.6	1 to 2 Way	Each	43.00
1.6.7	3 to 4 Way	Each	47.00
1.6.8	5 to 6 Way	Each	51.00
1.7	Extra for Groove cutting in brick wall/CC floor to the suitable depth for concealing of Conduit/GI pipe and plastering, finishing upto wall surface complete.		
1.7.1	upto 50 mm conduit in brick wall	m	29.00
1.7.2	upto 50 mm conduit CC floor	m	69.00
1.8	Supplying and fixing of PVC casing and capping on the wall or ceiling using necessary materials like bends, junction box, elbows, screws at an interval of 300 mm as required.		
1.8.1	20 mm	m	28.00
1.8.2	25 mm	m	35.00
1.8.3	30 mm	m	43.00
1.8.4	38 mm	m	62.00
1.8.5	50 mm	m	43.00
1.9	Supplying PVC flexible conduit pipe mm dia fixing on surface over inverted tapered wooden plugs or phill plugs or rawl plugs and clamped using heavy gauge saddles at an interval of 300 mm using NF screws and on either end of the pipe terminated completely		
1.9.1	20 mm	m	19.00
1.9.2	25 mm	m	22.00
1.9.3	32 mm	m	29.00
1.9.4	40 mm	m	36.00
1.9.5	50 mm	m	47.00
1.9.6	63 mm	m	69.00
1.10	Supplying Galvanized steel flexible conduit pipe mm dia fixing on surface over inverted tapered wooden plugs or phill plugs or rawl plugs and clamped using heavy gauge saddles at an interval of 300 mm using NF screws and on either end of the pipe terminated completely		
1.10.1	20 mm	m	53.00
1.10.2	25 mm	m	72.00
1.10.3	32 mm	m	82.00
1.10.4	40 mm	m	90.00
1.10.5	50 mm	m	124.00
1.11	Supplying And Fixing "S" Hook made out of 14 mm dia M.S. Rod.	No	52.00

1.12	Supplying And Fixing M.S. Rafter Clamp Set made out of M.S. Flat & 14 mm M.S. rod.	No	160.00
1.13	Supplying And Fixing Metal Fan Box with Round Hook.	No	117.00
1.14	Supply and laying of underfloor (concealed) raceways manufactured from 1.5 mm thick cover and base (including partitions for multi-compartment raceways), zero spangle pre-galvanized sheet steel with 275 GSM (36.67 microns) coating mass, cover and base MIG welded together. the length of raceways shall be 2.5 meters per length with single accessories acting as duct connector including fastening clamps and vertical access boxes and with all required connected accessories complete and load bearing capacity in line with EN 50085-2-2.		
1.14.1	50 x 38 x 2500mm, 1 compartment	m	631.00
1.14.2	75 x 38 x 2500mm, 1 compartment	m	740.00
1.14.3	100 x 38 x 2500mm, 1 compartment	m	893.00
1.14.4	100 x 38 x 2500mm, 2 compartments	m	1066.00
1.14.5	150 x 38 x 2500mm, 1 compartment	m	1512.00
1.14.6	150 x 38 x 2500mm, 2 compartments	m	1667.00
1.14.7	200 x 38 x 2500mm, 2 compartments	m	2160.00
1.15	Supply and laying of under floor junction boxes shall be of three-piece construction – Base box, frame and load plate. Base box shall be robust in its construction manufactured from 1.5 mm thick zero spangle pre-galvanized sheet steel with 275 GSM (36.67 microns) coating mass. The load plate and frame thicknesses shall be 3 mm and 2 mm respectively to provide adequate load bearing capacity of 5 kN with deflection not greater than 6mm while loading and permanent deflection not exceeding 3 mm as per EN 50085-2-2. The trap and frame shall be Epoxy coated to protect from corrosion. The junction boxes shall be 10 mm or 20 mm recess to accommodate floor covering suitable for Tile/Carpet/marble / granite/ according to site conditions. The junction box has height of 60mm up to finished floor level. The base of junction boxes should have pre-punched sealing arrangements on all four sides to accept either 25 mm or 38 mm of metal raceways.		
1.15.1	For (50-100x38mm) duct.Dimensions:172x172x60mm. 10 mm Recess	Nos	1736.00
1.15.2	For (50-200x38mm) duct.Dimensions:272x272x60mm. 10 mm Recess	Nos	2551.00
1.15.3	For (50-300x38mm) duct.Dimensions:372x372x60mm. 10 mm Recess	Nos	3520.00
1.16	Supply and laying of of RFT raised floor trunking system-Junction, for raised Flooring		
1.16.1	For (50-100x38mm) duct.Dimensions: 170 mm x 170 mm x 56 mm	Nos	1311.00
1.16.2	For (50-200x38mm) duct.Dimensions: 240 mm x 240 mm x 56 mm	Nos	1739.00
1.16.3	For (50-300x38mm) duct.Dimensions: 340 mm x 340 mm x 56 mm	Nos	2677.00

Chapter - 2

WIRES & CABLES

2.0 WIRES & CABLES			
	Point wiring using Copper wire with switch.		
2.1	Supplying and wiring adopting loop system in existing PVC Conduit /casing capping using 2x1.5Sqmm (Phase & Neutral) & 1x1.0 sqmm (Earth wire) FRLS multi strand PVC insulated copper wire (confirming to IS-694: and latest amendments) with a 6Amps flush type SP control switch shall be fixed on the existing plastic sheet/ gang box, the other end of the wires shall be terminated with sufficient loose length in a wood/PVC round block. complete for each outlet.		
2.1.1	Short point upto 3Mtr from tapping point to out let via switch	Point	285.00
2.1.2	Medium point above 3Mtr upto 6Mtr from tapping point to out let via switch	Point	394.00
2.1.3	Long point above 6Mtr upto 10Mtr from tapping point to out let via switch	Point	570.00
2.1.4	Two outlet in a row, above 3Mtr upto 6Mtr from tapping point to out let via switches.	Point	708.00
2.1.5	Three outlet in a row, above 6Mts upto 10Mtr from tapping point to out let via switches	Point	1035.00
	Point wiring using Copper wire without switch.		
2.2	Supplying and wiring adopting loop system in existing PVC Conduit /casing capping casing capping using 2x1.5Sqmm (Phase & Neutral) & 1x1.0 sqmm (Earth wire) FRLS multi strand PVC insulated copper wire (confirming to IS-694: and latest amendments) without control switch shall be fixed on the existing plastic sheet/ gang box, the other end of the wires shall be terminated with sufficient loose length in a wood/PVC round block. complete for each outlet.		
2.2.1	Short point upto 3Mtr from tapping point to out let via switch box	Point	269.00
2.2.2	Medium point above 3Mtr upto 6Mtr from tapping point to out let via switch box	Point	379.00
2.2.3	Long point above 6Mtr upto 10Mtr from tapping point to out let via switch box	Point	555.00
2.2.4	Two outlet in a row, above 3Mtr upto 6Mtr from tapping point to out let via switches	Point	677.00
2.2.5	Three outlet in a row, above 6Mts upto 10Mtr from tapping point to out let via switches box	Point	989.00
2.3	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand copper wire with low conductor resistance single core in open or concealed system of wiring with specified IS-694:2010		
2.3.1	1 mm ²	m	19.00
2.3.2	1.5 mm ²	m	26.00
2.3.3	2.5 mm ²	m	42.00
2.3.4	4 mm ²	m	63.00
2.3.5	6 mm ²	m	92.00

2.3.6	10 mm ²	m	167.00
2.3.7	16 mm ²	m	318.00
	The following additional tests are compulsory either to be conducted at works or independent lab with witness by inspecting authority.		
	Additional Tests for FRLS-Applicable Standard		
	Oxygen Index -IS 694-2010, Clause 16.8		
	Temperature Index -IS 694-2010, Clause 16.13		
	Smoke Density -IS 694-2010, Clause 16.14		
	Test for Halogen Acid Gas evaluation -IS 694-2010, Clause 16.12		
2.4	Supplying and drawing PVC insulated flexible copper wire of approved make as per IS: 694: 2010		
2.4.1	14/0.0040"	m	21.00
2.4.2	23/0.0040"	m	22.00
2.4.3	40/0.0040"	m	29.00
2.4.4	14/0.0052"	m	22.00
2.4.5	23/0.0052"	m	23.00
2.4.6	30/0.0052"	m	31.00
2.4.7	40/0.0052"	m	27.00
2.4.8	70/0.0052"	m	30.00
2.4.9	110/0.0052"	m	45.00
2.5	Supplying and drawing Flexible Multicore Cable manufactured with electrolytic grade flexible copper with low conductor confirming to IS 8130-1984 and (Virgin) PVC insulation sheathed suitable for working voltage upto 1100 Volts as per IS-694:1990		
2.5.1	2C x 1.5 mm ²	m	53.00
2.5.2	3C x 1.5 mm ²	m	72.00
2.5.3	4C x 1.5 mm ²	m	94.00
2.5.4	6C x 1.5 mm ²	m	121.00
2.5.5	8C x 1.5 mm ²	m	158.00
2.5.6	10C x 1.5 mm ²	m	195.00
2.5.7	2C x 2.5 mm ²	m	82.00
2.5.8	3C x 2.5 mm ²	m	113.00
2.5.9	4C x 2.5 mm ²	m	148.00
2.5.10	5C x 2.5 mm ²	m	266.00
2.5.11	6C x 2.5 mm ²	m	272.00
2.5.12	8C x 2.5 mm ²	m	350.00
2.5.13	10C x 2.5 mm ²	m	429.00
2.5.14	2C x 4 mm ²	m	123.00
2.5.15	3C x 4 mm ²	m	172.00
2.5.16	4C x 4 mm ²	m	225.00
2.5.17	5C x 4 mm ²	m	280.00
2.5.18	6C x 4 mm ²	m	302.00
2.5.19	8C x 4 mm ²	m	395.00

2.5.20	10C x 4 mm ²	m	487.00
2.5.21	2C x 6 mm ²	m	196.00
2.5.22	3C x 6 mm ²	m	253.00
2.5.23	4C x 6 mm ²	m	328.00
2.6	Supplying and drawing 3 core flat PVC sheathed submersible pump cable manufactured with electrolytic grade copper with flexible copper with low resistance conductor conforming to IS:8130-1984 and virgin grade PVC insulation and powder coating extruded PVC sheathed suitable for working voltage upto 1100 Volts as per IS-694:1990.		
2.6.1	3C x 2.5 mm ²	m	117.00
2.6.2	3C x 4 mm ²	m	168.00
2.6.3	3C x 6 mm ²	m	245.00
2.6.4	3C x 10 mm ²	m	413.00

Chapter - 3

SWITCHES, SOCKETS & ACCESSORIES

3.0 SWITCHES, SOCKETS & ACCESSORIES			
3.1	Supplying 6A flush type socket and 6 A flush type SP switch either surface/flush mounting in existing gang box or in 4mm thick plastic sheet and fixing over a flush mounted wooden box and wiring using necessary capacity wires as required as per IS 1293 and IS 3854		
3.1.1	6A 2 Way	Each	128.00
3.1.2	6A 3/5 Way	Each	147.00
3.2	Supplying and mounting 2 Nos. of 2Way 6 A flush type switches either surface/flush mounted on existing gang box or in 4mm thick plastic sheet and mounted on a flush mounted wooden box and wiring as per IS 3854	Each	170.00
3.3	Supplying and fixing surface/flush mounting unbreakable PVC modular box suitable for mounting modular switch plates with due groove cutting in Brick/C.C wall, including necessary rawl plugs, Machine/NF screws etc., complete.		
3.3.1	1-2 Way	Each	103.00
3.3.2	3 Way	Each	124.00
3.3.3	4-5 Way	Each	137.00
3.3.4	6 Way	Each	173.00
3.3.5	8 Way	Each	219.00
3.3.6	10-12 Way	Each	261.00
3.3.7	16 Way	Each	294.00
3.3.8	18 Way	Each	339.00
3.4	Supplying and flush mounting powder coated / galvanized metal box suitable for mounting modular switch plates. The box should be firmly flush mounted after due groove cutting in Brick/Stone/C.C wall		
3.4.1	1-2 Way	Each	138.00
3.4.2	3 Way	Each	159.00
3.4.3	4-5 Way	Each	177.00
3.4.4	6 Way	Each	220.00
3.4.5	8 Way	Each	261.00
3.4.6	10-12 Way	Each	319.00
3.4.7	16 Way	Each	363.00
3.4.8	18 Way	Each	405.00
3.5	Supplying and fixing superior quality modular switch mounting polycarbonate plate with necessary supporting back plate with required nos. of machine screws, bolts nuts etc., complete on the existing metal/PVC box.		
3.5.1	1 to 2 Module	Each	137.00
3.5.2	3 Module	Each	161.00
3.5.3	4 Module	Each	175.00
3.5.4	6 Module	Each	234.00
3.5.5	8 Module	Each	284.00
3.5.6	10-12 Module	Each	344.00
3.5.7	16 Module	Each	397.00
3.5.8	18 Module	Each	457.00

3.6	Supplying and fixing of modular switch & connected accessories on existing modular switch plate as per IS 3854 and IS 1293.		
3.6.1	6A One Way Switch	Each	102.00
3.6.2	6A Two Way Switch	Each	166.00
3.6.3	6A Three Way socket	Each	171.00
3.6.4	Stepped Fan Regulator Two Module	Each	357.00
3.6.5	400W Dimmer	Each	276.00
3.6.6	600W Dimmer	Each	329.00
3.6.7	16A One Way Switch	Each	180.00
3.6.8	6A Bell Push	Each	177.00
3.6.9	32A DP Switch	Each	326.00
3.6.10	6/16A Universal Socket	Each	236.00
3.6.11	TV/Telephone Socket	Each	156.00
3.6.12	RJ45/I.O Outlet Cat-6	Each	337.00
3.7	Supplying and fixing 32A security and energy saving DP switch with key tag suitable to operate on 230 V, 50Hz AC supply & completely wired on existing box.	Each	646.00
3.8	Supplying 4mm thick plastic sheet with necessary niches for fixing switches, regulators etc, and fixing on existing wooden or metal box using N.F. screws.	cm ²	0.41
3.9	Supplying and fixing hylum plastic sheet 3mm thick with necessary niches for fixing switches, regulators etc., and fixing on existing wood or metal box using N. F. screws.	cm ²	0.35
3.10	Supplying 4 mm thick white plastic plate and covering for junction boxes of size mm conduit using necessary machine screws.		
3.10.1	60 mm	No	8.00
3.10.2	80/90 mm	No	15.00
3.10.3	110 mm	No	21.00
3.11	Supplying 50mm wooden plug, tapered from 50x50mm to 25x25mm and fixing by using binding wire before concreting a roof slab.	No	12.00
3.12	Supplyingway plastic gang box and fixing using necessary wooden/ rawl/phill plugs and screws.		
3.12.1	1 Way Gang Box	No	23.00
3.12.2	2 to 4 Way Gang Box	No	32.00
3.12.3	6 to 10 Way Gang Box	No	53.00
3.13	Supplying and fixing of metal clad industrial plugs and sockets.		
	2pole+earth 250V PLUG		
3.13.1	16A	Each	387.76
3.13.2	32A	Each	548.08
	3pole+earth 440V PLUG		
3.13.3	16A	Each	452.13
3.13.4	32A	Each	609.86
	2pole+earth 250V SOCKET		
3.13.5	16A	Each	530.97
3.13.6	32A	Each	667.04
	3pole+earth 440V SOCKET		
3.13.7	16A	Each	633.78

3.13.8	32A	Each	827.82
3.14	Supplying And fixing/replacing of 6/16/32A electrical accessories on existing switch board.		
3.14.1	6A SP Switch	No	55.00
3.14.2	6A Two Way Switch	No	70.00
3.14.3	6A Three Way 5 Pin Socket	No	70.00
3.14.4	6A Three Pin Top	No	87.00
3.14.5	6A Bakelite Ceiling Rose	No	78.00
3.14.6	6A Pendant Holder	No	71.00
3.14.7	6A Batten Holder	No	74.00
3.14.8	6A Bell Push	No	70.00
3.14.9	6A Bell Buzzer	No	130.00
3.14.10	16A SP Switch	No	131.00
3.14.11	16A Two Way Switch	No	146.00
3.14.12	16A Three Way 5 Pin Socket	No	115.00
3.14.13	16A Three Pin Top	No	110.00
3.14.14	32A Bakelite DP	No	232.00
3.14.15	16/6A combined plug and socket with control switch	No	218.00
3.14.16	Electronic stepped regulator.	No	281.00

Chapter - 4

POLES & HIGH MAST

4.0	POLES & HIGH MAST		
4.1	Fabricating, supplying and erecting Swaged tubular Pole of height ...m having three sections, and providing two coats of red oxide paint and finished with two coats of enamelled paint of approved quality and colour and M.S. base plate of suitable size welded at the bottom of the Pole(as per IS) and 40 mm dia GI/flexible PVC pipe of 1m length fitted to the heavy gauge polycarbonate control box including 5 Way connector of size 167 x 125 x 82 mm for 7.5M Pole/ 200 x 160 x 98 mm for remaining length of Pole with front opening cover, with locking arrangements and suitable capacity MCB/DP switch, The Pole shall be erected in cement concrete work (1:2:4) including excavation and refilling of planting depth of the Pole to the ground level and the coping CC shall be upto 0.6m above ground level as per IS2713-7.		
	Erection of heavy duty Pole on Footpath/median		
4.1.1	9m (5m Hb,165.1 mm dia 4.85 mm thick x 2m Hm, 139.7 mm dia 4.50 mm thick x 2m Ht,114.3 mm dia 3.65 mm thick) as per IS 410 SP 32	Each	15500.00
4.1.2	10m (5m Hb,165.1 mm dia 4.85 mm thick x 3m Hm, 139.7 mm dia 4.50 mm thick x 2m Ht,114.3 mm dia 3.65 mm thick) as per IS 410 SP 47	Each	19100.00
4.2	Fabricating, supplying and erection of ... ms long hot dip Galvanized Octagonal hot dip Pole with BSEN 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/s form Pole in single section and single joint welded as per IS 9595/IS10178AWS having dimensions bottom mm , top.... mm with 3 mm thick, suitable base plate and 4Nos of long J bolts along with template and the Pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc., (excluding foundation) as per drawing appended.		
4.2.1	3 m - Top 70 mm and Bottom 130 mm dia	Each	6300.00
4.2.2	4 m - Top 70 mm and Bottom 130 mm dia	Each	8200.00
4.2.3	5 m - Top 70 mm and Bottom 130 mm dia	Each	9900.00
4.2.4	6 m - Top 70 mm and Bottom 130 mm dia	Each	11800.00
4.2.5	7 m - Top 70 mm and Bottom 130 mm dia	Each	13500.00
4.2.6	8 m - Top 70 mm and Bottom 135 mm dia	Each	15500.00
4.2.7	9 m - Top 70 mm and Bottom 155 mm dia	Each	19500.00
4.2.8	10 m - Top 70 mm and Bottom 175 mm dia	Each	21500.00
4.2.9	11 m - Top 90 mm and Bottom 210 mm dia	Each	31800.00
4.2.10	12 m - Top 90 mm and Bottom 240 mm dia	Each	36100.00

4.3	Supply and erection of 14 Feet Height Street Light Pole 14 Feet Height Street Light Pole on suitable cement concrete foundation with 2.5 Feet height dia 95 mm cast iron decorative round pedestal as per design weighing not less than 37Kgs, the pedestal shall be fitted with Class 'C' G.I.Pipe 7 Feet height 75 mm outer dia and 7 feet height top piece outer dia of 65 mm fixed by measure of threading/welding/coupling complete. (excluding foundation).	Each	20600.00
4.4	Fabricating, supplying and erection of ... ms long hot dip Galvanized Conical hot dip Pole with BSEN 10025 grade S355JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/s for m Pole in single section and single joint welded as per IS 9595/IS10178AWS having dimensions bottom mm , top ... mm with 3 mm thick, suitable base plate and 4Nos of.....long J bolts along with template and the Pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc.,(excluding foundation) as per drawing appended.		
4.4.1	3 m - Top 77 mm and Bottom 105 mm dia	Each	6600.00
4.4.2	4 m - Top 75 mm and Bottom 115 mm dia	Each	8500.00
4.4.3	5 m - Top 75 mm and Bottom 125 mm dia	Each	10300.00
4.4.4	6 m - Top 75 mm and Bottom 135 mm dia	Each	12700.00
4.4.5	7 m - Top 75 mm and Bottom 145 mm dia	Each	15000.00
4.4.6	8 m - Top 75 mm and Bottom 155 mm dia	Each	17900.00
4.4.7	9 m - Top 75 mm and Bottom 165 mm dia	Each	20500.00
4.4.8	10 m - Top 75 mm and Bottom 165 mm dia	Each	24100.00
4.5	Fabrication, Supplying, Erection, Testing and Commissioning of ms long Polygon high mast with Single/Multiple telescopic sections having, (minimum overlap distance of 1.5 times of top section) thickness as per BSEN 10025 grades 355 JO/ASTM A572-50 steel sheet plate for shaft suitable to withstand a wind velocity of 47 m/s as per IS 875 part 3(as per GA Drawing). Base plate as per IS 2062/ASTM A572-50. The mast shall be Galvanized in single Hot-dip as per BSEN ISO 1461/ASTM A123 with an average 70 microns as per IS 2629, and welded as per BS 5135 Single L-Seam joint The mast shall have 2 Way head frame with die cast LM-6 pulleys, stainless steel axle, Phosphorus Bronze bearing bush press-fitted with separate guides for 2 runs of 5 mm dia, stainless steel wire rope of AISI 304grade 7/19-core, (Factor of Safety as per TR no-7). 2.5 mm ² EPR insulated PCP sheathed trailing power cable housed inside the bottom shaft of mast with door having locking arrangement The mast shall have manual/power tool (Suitable reversible geared motor operating on 230/415V, 50Hz, shall be provide above 15 Mtr mast) The mast shall have lantern of 2 segments, suitable dia with max load carrying capacity as per IS 1239. The mast shall be erected on existing RCC footing. The mast shall be supplied with 3 mm thick template, lightning arrester of 1.2m length galvanized pipe with top arrow fitted on top of the head frame cover and GLS type aviation twin I A fitting with wiring complete. (excluding foundation) as per technical data.		

4.5.1	12 m/12.5 m - Top 100 mm and Bottom 310 mm dia	Each	131000.00
4.5.2	16 m - Top 150 mm and Bottom 410 mm dia	Each	195000.00
4.5.3	20 m - Top 150 mm and Bottom 460 mm dia	Each	245000.00
4.5.4	25 m - Top 150 mm and Bottom 540 mm dia	Each	365000.00
4.5.5	30 m - Top 150 mm and Bottom 610 mm dia	Each	45000.00
4.6	Supplying, and fixing of Hot dip Galvanized M.S.Bracket suitable for out door luminaries and mounted on Octagonal pole using necessary bolts, nuts etc., complete.		
4.6.1	Single Arm Bracket with 1000 mm Standard 40/50 mm dia	Each	1700.00
4.6.2	Single Arm Bracket with 1500 mm Standard 40/50 mm dia	Each	2100.00
4.6.3	Single Arm Bracket with 2000 mm Standard 40/50 mm dia	Each	2600.00
4.6.4	Double Arm Bracket with 1000 mm Standard 40/50 mm dia	Each	2700.00
4.6.5	Double Arm Bracket with 1500 mm Standard 40/50 mm dia	Each	3300.00
4.6.6	Double Arm Bracket with 2000 mm Standard 40/50 mm dia	Each	3800.00

Chapter - 5

CONTROL SWITCH GEARS & ACCESSORIES

CONTROL SWITCH GEARS & ACCESSORIES			
5.0	CONTROL SWITCH GEARS & ACCESSORIES		
5.1	Supplying push button operated direct online starter with an antiweld silver cadmium oxide contactor with replaceable fixed and moving contacts and bimetallic thermal overload relay help in anticorrosion treated sheet steel or iron clad enclosure and fixing the same to suitable capacity wires for 230/440 V 1/3 phase motor upto 5 HP.	Each	1927.00
5.2	Supplying fully automatic star-delta starter unit push button type with suitable wires, 3 contactors, one adjustable thermal timer mounted on a common base plate held in steel enclosure for use on 400/440 V 3 phase and wired after fixing to the existing wooden board for motor.		
5.2.1	upto 12.5 HP	Each	7455.00
5.2.2	Above 12.5 HP upto 25 HP	Each	8764.00
5.2.3	Above 25 HP upto 35 HP	Each	17232.00
5.3	Supplying and fixing single phase preventer using necessary wires over an existing panel board suitable for motor upto 20 HP capacities.	Each	904.02
5.4	Fixing a shunt capacitor of ... kVAR capacity with necessary clamps, bolts, and nuts on existing wooden or metal board including banking of more than one capacitor.		
5.4.1	upto 5 kVAR	Each	154.00
5.4.2	6 to 10 kVAR	Each	214.00
5.4.3	11 to 20 kVAR	Each	344.00
5.5	Supplying of TPST with rewirable porcelain channels in SM enclosure. Made out of 14 SWG powder coated paint of approved colour.		
5.5.1	32A	Each	1701.00
5.5.2	63A	Each	4193.93
5.5.3	100A	Each	7571.10
5.6	Supply and fixing polished wood board made of not less than 15mm thick plank on both sides of not more than 2 pieces and fixing the same to the wall using tapered inverted wooden plugs screws.		
5.6.1	8" x 6" x 1.5"	Each	87.00
5.6.2	10" x 8" x 1.5"	Each	102.00
5.6.3	12" x 9" x 1.5"	Each	104.00
5.6.4	12" x 12" x 2"	Each	181.00
5.6.5	15" x 12" x 2"	Each	201.00
5.6.6	20" x 20" x 2.5"	Each	326.13
5.7	Supplying & fixing of Porcelain fuse channel with cut out on existing wooden/panel using necessary nuts, bolts and washers.		
5.7.1	16 A	Each	157.00
5.7.2	32 A	Each	241.00
5.7.3	63 A	Each	401.00
5.7.4	100 A	Each	691.00
5.7.5	200 A	Each	1429.00

5.8	Supplying of Switch disconnecter fuse unit (TPN) HRC type (but without HRC fuses). With AC-23A duty and as per IS- 13947.		
5.8.1	63 A	Each	2312.00
5.8.2	100 A	Each	4503.00
5.8.3	125 A	Each	5798.00
5.8.4	160 A	Each	6299.00
5.8.5	200 A	Each	8486.00
5.8.6	250 A	Each	9948.00
5.8.7	315 A	Each	12202.00
5.8.8	400 A	Each	14315.00
5.9	Supplying and fixing HRC fuse units base on existing switch / panel board.		
5.9.1	6 to 16 A	Each	329.00
5.9.2	32 to 63 A	Each	612.00
5.9.3	100 to 300 A	Each	919.00
5.9.4	315 to 630 A	Each	1212.00
5.10	Supplying and fixing HRC fuse link on existing switch fuse base with W loss as per IS-13703.		
5.10.1	upto 63 A	Each	291.00
5.10.2	Above 63 A to 200 A	Each	381.00
5.10.3	Above 200 A to 315 A	Each	672.00
5.10.4	Above 315 A to 425 A	Each	1043.00
5.10.5	Above 425 A to 630 A	Each	1148.00
5.11	Supplying of on load change over switches 4 poles, AC-23A Duty, 415V, 50Hz, AC Supply. (Open Execution)		
5.11.1	upto 63 A	Each	5480.00
5.11.2	100 A	Each	7090.00
5.11.3	125 A	Each	10326.00
5.11.4	200 A	Each	13230.00
5.11.5	250 A	Each	19290.00
5.11.6	400 A	Each	29105.00
5.11.7	630 A	Each	35791.00
5.11.8	800 A	Each	48680.00
5.12	Supplying of on load change over switches 4 poles, AC-23A Duty, 415V, 50Hz, AC Supply. With all accessories. (SM Enclosure Sheet Metal Execution)		
5.12.1	63 A	Each	6881.00
5.12.2	100 A	Each	8534.00
5.12.3	125 A	Each	12324.00
5.12.4	200 A	Each	15249.00
5.12.5	250 A	Each	21785.00
5.12.6	400 A	Each	32942.00
5.12.7	630 A	Each	38045.00
5.12.8	800 A	Each	58167.00
5.13	Supply and fixing of 3pole power contactor with NO/NC contacts on existing wood/panel board using necessary bolts, nuts, washers and wiring etc., complete with AC-3 Rating and as per IS-13947.		
5.13.1	25 A	Each	1290.00

5.13.2	40 A	Each	2258.00
5.13.3	60 A	Each	5950.00
5.13.4	100 A	Each	9025.00
5.13.5	125 A	Each	12099.00
5.13.6	160 A	Each	16803.00
5.13.7	200 A	Each	20012.00
5.13.8	250A	Each	25281.00
5.13.9	315 A	Each	39464.00
5.13.10	350 A	Each	42588.00
5.13.11	400 A	Each	49433.00
5.13.12	500 A	Each	61740.00
5.13.13	700 A	Each	80223.00
5.13.14	800 A	Each	95851.00
5.14	Supply and fixing of 4pole power contactor with NO/NC contacts on existing wood/panel board using necessary bolts, nuts, washers and wiring etc., complete with AC-3 Rating and as per IS-13947.		
5.14.1	22/25 A	Each	2210.00
5.14.2	32 A	Each	4090.00
5.14.3	40 A	Each	6119.00
5.14.4	50 A	Each	7885.00
5.14.5	65 A	Each	10141.00
5.14.6	95/100 A	Each	16606.00
5.14.7	115 A	Each	20263.00
5.14.8	120A	Each	22579.00
5.14.9	150 A	Each	26331.00
5.14.10	200 A	Each	39118.00
5.14.11	265 A	Each	49405.00
5.14.12	300 A	Each	46755.00
5.14.13	330 A	Each	58962.00
5.14.14	400 A	Each	58221.00
5.14.15	500 A	Each	81745.00
5.14.16	630 A	Each	122618.00
5.14.17	800 A	Each	203000.00
5.15	Supplying and fixing Moulded Case Circuit Breaker (MCCB) over the existing wood/panel board using necessary screws, bolts, nuts, necessary phase separators, handle and wiring complete. Protection of Overload and Short circuitwith adjustable thermal magnetic release, Micro processor release shall have Earth Fault as per IS/IEC 60947-2 . (Icu=100% lcs). In 4P MCCB, all Poles should have protection for Short-Cicrcuit/Over Load. For Microprocessor MCCBS Facility for segregating Priority and Non-Priority loads must be available in the MCCB. MCCB shall be provided with double insulation (insulation between front cover and internal power circuits to avoid any accidental contact with live current carrying path with the front cover open). Multi-pole breakers shall be designed to break all the poles simultaneously and they shall have a single mechanism.		
	THREE Pole		

5.15.1	100 A 25 kA	Each	6086.00
5.15.2	125 A 25 kA	Each	8598.00
5.15.3	160 A 25 kA	Each	11050.00
5.15.4	200 A 25kA	Each	14535.00
5.15.5	250 A 25 kA	Each	16973.00
5.15.6	200 A 36 kA	Each	17040.00
	250 A 36 kA	Each	19105.00
5.15.7	400 A 36 kA	Each	24626.00
5.15.8	400 A 50 kA	Each	25099.00
	FOUR Pole		
5.15.9	100 A 25 kA	Each	8487.00
5.15.10	125 A 25 kA	Each	10341.00
5.15.11	160 A 25 kA	Each	13447.00
5.15.12	200 A 25kA	Each	17301.00
5.15.13	250 A 25 kA	Each	21391.00
5.15.14	200 A 36 kA	Each	21424.00
5.15.15	250 A 36 kA	Each	23545.00
5.15.16	400 A 36 kA	Each	28216.00
5.15.17	320-400 A 50 kA	Each	30111.00
5.15.18	400-500 A 50 kA	Each	41497.00
5.15.19	500-630 A 50 kA	Each	41899.00
5.15.20	700-800 A 50 kA	Each	49900.00
5.16	Supplying and fixing of Shunt trip suitable for MCCB.CBCT	Each	1703.00
5.17	Supplying and fixing regular MCCB distribution Panel confirming to IS/IEC 61439 - 3 and IK09 tested as per IS/IEC 62262 with minimum IP43 protection provided with Polyurethane (PUR) gasket, with suitable earthing system, on wall/wood board/flush mounting using required cl A , bolts, nuts, etc., with provision for fixing of suitable type capacity MCCB's as an incomer for 3 phase Double door with necessary bus bar completely wired to use on 440V 3phase 4 wire powder coated painting etc., complete with a provision for fixing of single/three phase suitable capacity MCB's as outgoing confirming to IS/IEC 60898 - 2.		
5.17.1	4 Way	Each	10329.00
5.17.2	8 Way	Each	12605.00
5.17.3	12 Way	Each	15529.00
5.18	Supplying & fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and 'C' Type curve, indicator ON/OFF, energy cross-3 with Short circuit breaking capacity of 10K and complete wiring as required confirming to IEC 60898.		
5.18.1	6-32 A SP	Each	415.00
5.18.2	40 A SP	Each	793.00
5.18.3	50-63 A SP	Each	811.00
5.18.4	6-32 A DP	Each	739.00
5.18.5	40 A DP	Each	1060.00
5.18.6	50-63 A DP	Each	1102.00
5.18.7	6-32 A TPN	Each	1717.00
5.18.8	40 A TPN	Each	3044.00

5.18.9	50-63 A TPN	Each	3088.00
5.19	Supplying and fixing regular MCB distribution boards on wall/ood board / flush mounting using required clamps, bolts, nuts etc., with provision for fixing suitable type capacity MCB's single phase/3 phase/single door with powder coated painting Made out of 14 SWG MS enclosure.		
	I - Single Door		
5.19.1	4 Way SP & N	Each	1241.00
5.19.2	6 Way SP & N	Each	1186.00
5.19.3	8 Way SP & N	Each	1492.00
5.19.4	12 Way SP & N	Each	1863.00
5.19.5	16 Way SP & N	Each	2932.00
	II - Double Door		
5.19.6	4 Way SP & N	Each	1524.00
5.19.7	6 Way SP & N	Each	1791.00
5.19.8	8 Way SP & N	Each	1854.00
5.19.9	12 Way SP & N	Each	2329.00
5.19.10	16 Way SP & N	Each	2908.00
	III - Double Door		
5.19.11	4 Way TP & N	Each	4038.00
5.19.12	6 Way TP & N	Each	4940.00
5.19.13	8 Way TP & N	Each	6091.00
5.19.14	12 Way TP & N	Each	8735.00
5.19.15	16 Way SP & N	Each	10395.00
5.20	Supplying, fixing and wiring Residual current circuit breaker (RCCB) 240/450V upto 300mA sensitivity on existing wood/ panel board.		
5.20.1	16A-25A 2 pole	Each	4277.00
5.20.4	32-40A 2 pole	Each	4559.00
5.20.5	63 A 2 pole	Each	5258.00
5.20.6	16-25A 4 pole	Each	5066.00
5.20.8	32-40A 4 pole	Each	5147.00
5.20.10	63 A 4 pole	Each	5545.00
5.21	Supplying, fixing and wiring earth leakage relay with core balanced current transformer suitable for single phase 50 Hz AC with latest microcontroller based, digital readout of percentage leakage current, programmable delay/auto/ manual reset facility suitable to mount on DIN rail/ flush mounting on panel board.	Each	9255.00
5.22	Supplying, fixing and wiring 0 to 600V 96x96mm AC Voltmeter on existing panel/wood board.	Each	452.00
5.23	Supplying, fixing and wiring 0 to 30V Direct Reading DC Voltmeter/Ammeter.	Each	690.00
5.24	Supplying, fixing and wiring 0 to 30A Direct Reading AC analog type Ammeter	Each	465.00
5.25	Supplying, fixing and wiring 0 to 100 A Direct Reading AC analog type Ammeter	Each	524.00
5.26	Supplying, fixing and wiring 0 to 1500A CT operated AC analog type Ammeter without CT	Each	480.00

5.27	Supplying, fixing and wiring rotary selector switch suitable for Ammeter	Each	200.00
5.28	Supplying, fixing and wiring rotary selector switch suitable for Voltmeter	Each	160.00
5.29	Supplying, fixing and wiring 3 Phase Digital Ammeter / Voltmeter	Each	1425.00
5.30	Supplying, fixing and wiring Electronic Trivector Meter (ETV) 5 to 20A single phase Class-1 Accuracy with Temper Proof Energy Meter.	Each	1380.00
5.31	Supplying and fixing Electronic Trivector Meter (ETV) suitable for operation LT operation and -CT operated meter in polycarbonate body in class 0.5 accuracy as per IS 14697 and completely wired.	Each	4390.00
5.32	Supplying and fixing digital frequency meter with latest micro controller technology, ultra bright 4 digit LED display, from 30-500V AC and optional or relay output for high/low frequency and wiring complete.	Each	975.00
5.33	Supplying of multi function digital meter with three line back light LCD type display for voltage, Current, frequency, Power, power factor, kVA, kWH, kVAR suitable for 3 phase, 4 wire LT network with IP 54 degree of protection and completely wired as required with communication Port and Class 0.5s accuracy	Each	9315.00
5.34	Supplying, fixing and wiring 50/5 to 400/5A 5VA burden Current Transformer Class 0.5 accuracy with Tape Wound.	Each	562.00
5.35	Supplying, fixing and wiring Electronic Trivector Meter (ETV) 5 to 32/63 A three phase 4 wire whole current class-1 Accuracy Energy Meter.	Each	5705.00
5.36	Supplying, fixing and wiring 1000/5A to 1600/5A 15VA Burden class 1 Current Transformer	Each	840.00
5.37	Supplying, fixing and wiring heavy duty low voltage capacitors conforming to IS 2834. 3 phase, 400/440 V grade, for power factor improvement of rotating machineries like induction motor.	KVAR	480.00
5.38	Supplying and fixing of LED type panel board indicating lamp with required colour suitable for 230/440VAC. 50 Hz 12/24V D.C.	Each	515.00
5.39	Supplying, fixing and wiring Automatic Power Factor controller circuit unit fully, static units controlled by 14 stage microprocessor operation, relays LED display, self programming function for power stages and operating logic checking facility for healthy and efficient of each individual capacitor bank, measurement of network harmonics with indication when limit values are exceeded, Comprehensive displays with large, three phase LED display, Long term memory for settings, protection for over voltage, power factor correction fault and no voltage, to connect/disconnect banks, with automatic recognition or with standard programs	Each	21640.00

5.40	Supplying A rated 3phase with neutral bus bar using required capacity electrolytic aluminium strips covered with heat shrinkable coloured PVC sleeve, mounted on phenolic/FRP/DMC insulator which are mounted on powder coated 40x6mm M.S.flat frame work in existing panel board. The bus bar shall have suitable holes for termination of incoming and outgoing cables as per IS specification with necessary bolts, nuts and washers etc., complete		
5.40.1	100 A 4 x 30 x 6 mm Aluminium Strips	m	2465.00
5.40.2	250 A 4 x 30 x 10 mm Aluminium Strips	m	3435.00
5.40.3	400 A 4 x 50 x 10 mm Aluminium Strips	m	4445.00
5.40.4	600 A 4 x 75 x 10 mm Aluminium Strips	m	5625.00
5.40.5	1000 A double run of 4 x 60 x 10 mm Aluminium Strips	m	10580.00
5.41	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. Flat.....with bolts, washers etc., and painted with 2 coats of red oxide and then two coats of approved paint.		
5.41.1	40 x 40 x 6 mm	m	305.00
5.41.2	50 x 50 x 6 mm	m	395.00
5.41.3	75 x 75 x 6 mm	m	555.00
5.41.4	50 x 100 x 50 x 6 mm C channel	m	756.00
5.41.5	75 x 150 x 75 x 6 mm C channel	m	926.00
5.42	Fabricating supplying and mounting MS box made outSWG suitable for floor /wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc., complete.		
5.42.1	14 SWG	cm ²	0.50
5.42.2	16 SWG	cm ²	0.43
5.42.3	18 SWG	cm ²	0.38
5.43	Supply and Installation / Fixing / Provision of Pole box with HRC Fuse / MCB provision and suitable connector / terminal for 3 Ph/ 1 Ph connections with Loop-In & Loop- Out terminals for 10 mm ² /25 mm ² 3.5 C AI/Ar/Cu/Ar Cable and branch out 2.5 mm ² 2 core AI/Cu PVC Insulated cable, enclosed in a Thermoplastic, Polystyrene enclosure, which should be shock proof, safe, IP65(Weather Proof), rust proof, dust proof, water proof having Internally Embedded Gasket with provision for cable entry through IP65 Thermoplastic, polyamide glands and/or grommets.		
5.43.1	200 mm x 200 mm x 98 mm	Each	2300.00
5.43.2	260 mm x 210 mm x 116 mm	Each	2470.00

5.44	Supply and Installation /Fixing /Provision of Outdoor type Thermoplastic Modular Panel enclosure with transparent Polycarbonate Lid, shock proof, IP65 (Weather Proof), rust proof, dust proof, water proof, corrosion proof having internally Embedded gasket on both lid and flap suitable to fix Single Phase /Three Phase Energy Meter in suitable base plate and having a provision for Fuse / MCB cut-out with suitable transparent hinged flap opening for operating MCB along with complete tamper proof SEALING facility.		
5.44.1	300 mm x 300 mm x 214 mm	Each	4512.00
5.44.2	300 mm x 450 mm x 214 mm	Each	6163.00
5.44.3	300 mm x 600 mm x 170 mm	Each	6867.00
5.44.4	600 mm x 600 mm x 170 mm	Each	14520.00
5.45	Supplying and fixing of Metal Socket set of 2pole and earth plugs and socket for incorporating SP and TP MCB (Without MCB). The entire plug and socket shall be mounted in a thermoplastic / powder coated metal box & wired Completely.		
	SP & N		
5.45.1	10 A	Each	945.00
5.45.2	20 A	Each	971.00
	TP & N		
5.45.3	20 A	Each	1340.00
5.45.4	30 A	Each	1700.00
5.46	Supplying and fixing of Modular MCB Devices (Tripper) With Breaking capacity of 6kA.		
5.46.1	16 - 32 A SP	Each	210.00
5.46.2	40 A SP	Each	300.00
5.46.3	63 A SP	Each	376.00
5.46.4	16 - 32 A TP	Each	802.00
5.46.5	40 A TP	Each	1080.00
5.46.6	63 A TP	Each	1195.00
5.47	Supplying and fixing Microprocessor based Electronic timer (without contactor, Din Mounting using necessary bolts, nuts and washers etc.,) 3-120sec setting.	Each	2315.00
5.48	Supplying and fixing Microprocessor Based Astronomical timer Switch with using necessary bolts, nuts and washers.	Each	4843.00
5.49	Supplying and fixing of solar Lux level street light control switch single phase including suitable capacity contactor		
5.49.1	3 kW	Each	10097.00
5.49.2	5 kW	Each	10577.00
5.49.3	8 kW	Each	12020.00
5.50	Supplying and fixing of solar Lux level street light control switch three phase including suitable capacity contactor		
5.50.1	5 kW	Each	12020.00
5.50.2	8 kW	Each	13100.00
5.50.3	12 kW	Each	16635.00

5.51	Supply and fixing of fully Enclosed Automatic Transfer Switch (ATS) Pre-wired with Flexible Settings and seamless transfer between two power sources. The enclosure made of MS Power coated of necessary size. The switch comprising of EB/DG-Priority Source Selection,. Adjustable Time Delay (0.1sec to 3 hours),.Double-Break Contact System offering High Short-time Withstand (Icw),.with necessary Terminal Shrouds, Phase Barriers & Source Separator,. Protections for UV/OV, Phase Sequence, Single Phasing, Frequency variation. There should be sufficient space for cable termination. Three Phase 415 V		
5.51.1	125 A	Each	73836.00
5.51.2	160 A	Each	81258.00
5.51.3	200 A	Each	93155.00
5.51.4	250 A	Each	104840.00
5.52	Supply and fixing of 3-pole Capacitor switching contactor with NO/NC contacts and inbuilt damping resistor to protect the contactor and capacitor from highest inrush current , fixed on existing wood/panel board using necessary bolts, nuts, washers and wiring etc., complete with AC 690V Rating operational voltage, 50HZ frequency and as per IS 60947-4-1.		
5.52.1	12.5 KVAR	Each	2901.00
5.52.2	22 KVAR	Each	4578.00
5.52.3	30 KVAR	Each	5264.00
5.52.4	40 KVAR	Each	14059.00
5.52.5	50 KVAR	Each	15067.00
5.52.6	60 KVAR	Each	17328.00
5.52.7	70 KVAR	Each	18091.00
5.52.8	80 KVAR	Each	22264.00
5.53	Supply and fixing of Auxiliary contactor relay with 2 NO and 2 NC contact and operating coil voltage of 220V to 260V. fixed on existing wood/panel board using necessary bolts, nuts, washers and wiring etc.,	Each	1330.00
5.54	Supply and fixing of Multifunctional three phase monitoring relays suitable to monitor three phase mains. It monitors all phase parameters such as over/undervoltage, phase unbalance, phase failure as well as an interrupted neutral. The corresponding threshold values are adjustable. Phase sequence monitoring as well as an ON or OFF tripping delay are selectable. The tripping delay is adjustable over a range of instantaneous to 30 s (0, 0.1-30 s). voltage rating 180V - 280V AC	Each	17265.00
5.55	Rotary handle for MCCB	Each	3748.00

5.56	Supply and fixing of Surge Protection devices (SPD)of type-2 at the power source to the sensitive Electronic and Electrical Equipment. Detail Specification is as follow: - In Conformance with standards IEC 61643-11/2011 T2 and EN 61643-11type 2. - For protection against indirect lightning surge and switching surge. - Inbuilt health indicator. - I _{max} (8/20s): 65/40/15/8kA - Maximum Operating Voltage [U _c]: 340V - Level of Protection , Up: 1.0 - 2.0kv	Each	23400.00
5.57	Supply, Installation, Testing & Commissioning of ACCL- Automatic Changeover and Current Limiter is DIN-Rail mounted in Polycarbonate housing. When the main supply fails and stand by Generator supply is on, it automatically connects the DG power and monitor the load. When ever the load current exceeds preset limit, power must be automatically switched off for 8/10/12 seconds, and then automatically restore when the load current receds. It is Micro-processor based, pre-trip LED indication. Operating range 190V-270V, 50Hz single phase power supply, Conforming to IEC 60947-6, IEC 60947-3. Extremely energy efficient by consuming negligible power without heating. Minimum time delay setting for mains transfer as added safety.		
5.57.1	ACCL SPN upto 20A DG Supply	Each	3200.00
5.57.2	ACCL SPN 25 upto 63A DG Supply	Each	5200.00
5.58	Supply, Installation, Testing & Commissioning of ACCL- Automatic Changeover and Current Limiter is DIN-Rail mounted in Polycarbonate housing. When the main supply fails and stand by Generator supply is on, it automatically connects the DG power and monitor the load. When ever the load current exceeds preset limit, power must be automatically switched off for 8/10/12 seconds, and then automatically restore when the load current receds. It is Micro-processor based, pre-trip LED indication. Operating range 320V-415V, 50Hz Three phase power supply, Conforming to IEC 60947-6, IEC 60947-3. Extremely energy efficient by consuming negligible power without heating. Minimum time delay setting for mains transfer as added safety. Must Automatically connect the loads on three DG Phases and allows unbalanced load upto specified load limits.		
5.58.1	ACCL 40 A DG Supply TPN.	Each	10500.00
5.58.2	ACCL 40 A upto 63 A DG Supply TPN.	Each	18500.00

<p>5.59</p>	<p>Supply, installation & Commissioning of lighting control automation - Single switch plate with built in wireless communication ..</p> <p>Product Features</p> <ul style="list-style-type: none"> • Smart switches will be available to fit into standard 2 modular back boxes • Should have capacitive based touch to operate each switch with LED indication. Touch switches will work with wet hands (water tolerance) and will have a Polycarbonate/Glass facade. • Load bearing capacity of each switch will be min 0W and max 500 W • Infra Red compatible switchboard to enable operation and control of lights and fans. • Should be completely retro-fit-able & compatible with the existing standard modular back box of any make without any additional Wiring • Should be compatible for existing wiring (neutral, ground and phased switched) • Integrated power supply (90 to 250V), optional separate power supply if required. • On board Microcontroller with built in intelligence. • On board wireless module with built-in capability for 2- way (bidirectional) communication with the gateway server. • On board memory to recall the previous state of the switch board even in the case of power failure • On board buzzer for audible indication • On board Relays for ON & OFF operation 		
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	<ul style="list-style-type: none"> •Should have Android and IOS custom App compatible. switch board On board 'C' firmware •Self-learning remote keys to fix which remote key to operate which lights. •App control for controlling lights and fan (ON/OFF & speed control) •Switch shall be Timed to switch ON /OFF at any given time. Further, this configuration shall be made to repeat on particular day or cyclical. All this shall be done through the mobile app and powered by the Gateway. •Switches shall be part of Mood/Scene setting configured through the mobile app. (Mood / Scene setting example can be explained as switching on the Light, closing the Curtain, switching on the Fan, etc simultaneously at the press of one button on the app) •Communication features •RF @ 2.4GHz Zigbee based (with min. 1 Meter & Max of 50-meter range in line of sight), 2-way Bi-directional protocol based system for operating & controlling Lights & Fans and communicating on encrypted protocol •Capability to communicate with the gateway server wirelessly. •IR based hand remote control for operating & controlling lights and fan (available in colour combinations of white with gold, orange LEDs and black with colour combinations of black with gold, blue LEDs) 		
5.59.1	2 module back box	Each	8914.00
5.59.2	3 module back box	Each	10313.00
5.59.3	4 module back box	Each	11186.00
5.59.4	Two switch+ One fan plate with built in wireless communication (4 module back box)	Each	13633.00
5.59.5	8 module back box	Each	16081.00
5.59.6	Five switch + One fan plate with built in wireless communication (8 module back box)	Each	18178.00
5.59.7	Six Switch + One Socket with control plate built-in Wireless communication (8 Module Back box)	Each	15381.00
5.59.8	One Switch+ One Socket with control plate built-inWireless communication (4 Module Back box)	Each	10488.00
5.59.9	Four Switch + One Fan+ One Socket with control plate built-in Wireless communication (8 Module Back box)	Each	18877.00
5.60	Supply, Installation & Commissioning of lighting control automation -Wireless PIR Motion Sensor Wireless PIR .Motion Sensor (Product no -) PIR sensors shall be deployed for on demand lighting / electric requirement- for example restroom operation with maximum load of 200 W, outdoor monitoring during night activating Light, Siren, etc	Each	7341.00

	<ul style="list-style-type: none"> • Wireless PIR motion sensors- This is a Wireless PIR where number of devices that shall be configured for action upon trigger of an event powered by the gateway server (max of 4 devices). • On/off time adjustable (mobile time setting) • Wireless PIR Configuration which shall include pairing end devices and their action shall be done easily using the Mobile App. • LUX setting option to avoid switch on when sufficient light present (optional). • On board proprietary firmware developed using 'C' language. • Wireless communication using the safe RF @ 2.4GHz Zigbee module communicating on encrypted protocol • Should also control Air Conditioner / Geyser ON & OFF operation 		
5.61	<p>Supply, Installation & Commissioning of lighting control automation -Wired PIR Motion Sensor</p> <ul style="list-style-type: none"> • PIR sensors shall be deployed for on demand lighting/ electric requirement • PIR sensor directly activates/ deactivates the end devices which are all wired together 	Each	5244.00
5.62	<p>Supply, Installation & Commissioning of lighting control automation - Air-conditioning drivers upto 4 ton AC Product Features</p> <ul style="list-style-type: none"> • Load bearing capacity will be min 0.8 ton to max 4 ton AC. • Infrared compatible switchboard to enable operation and control • Should be completely retro-fit-able & compatible with the existing standard 2 modular back box of any make without any additional Wiring • Should be compatible for existing wiring (neutral, ground and phased switched) • On board Microcontroller with built in intelligence • On board wireless module with built-in capability for 2- way (bidirectional) communication with the gateway server. • On board memory to recall the previous state of the switch board even in the case of power failure • On board buzzer for audible indication • On board Relays for ON & OFF operation. Software features • Should have Android and iOS custom App compatible switch board • On board 'C' firmware • Self-learning remote keys to fix which remote key to operate which lights. • App control for controlling lights and fan 	Each	9788.00

	<ul style="list-style-type: none"> • Switch shall be Timed to switch ON / OFF at any given time. Further, this configuration shall be made to repeat on particular day or cyclical or any pattern the user wishes. All this shall be done through the mobile app and powered by the Gateway. • Switches shall be part of Mood / Scene setting configured through the mobile app. (Mood / Scene setting example can be explained as switching on the Light, closing the Curtain, switching on the Fan, etc) <p>Communication features</p> <ul style="list-style-type: none"> • RF @ 2.4GHz Zigbee based (with min. 1 Meter & Max of 100-meter range in line of sight), 2-way Bi-directional protocol based system for operating & controlling Lights & Fans and communicating on 128 bit encrypted protocol • Capability to communicate with the gateway server wirelessly. • IR based hand remote control for operating & controlling lights and fan Communication shall be purely 'wireless' without any additional wiring (LAN, CAT5, CAT6, 2Wire etc ...) 		
5.63	<p>Supply, installation & Commissioning of lighting control automation -Motorized Curtain Controller with fitting upto 15ft width of the window Product Features</p> <ul style="list-style-type: none"> • Plug and play module • Easy to Install and compact design • Should be integrated with the motor • Should support- Roller Curtain and normal sideways moving curtains • Curtains shall be operable manually in case of power failure • Curtain Operations should be controlled through App (IOS and Android). They shall also be configured to open/ close at particular time of day and repeat the same on chosen days as per user choice. • Should be able to set schedules for automated operation of single/dual shades or curtains from the App • Should operate as a group or individual • Curtain operations shall be a part of Mood / Scene setting For example every morning you shall Open the Curtain, Switch on the Geyser, etc <p>Tech features</p> <ul style="list-style-type: none"> • Wireless Operation through 2.4GHz Zigbee Low RF radiation for Home / Office use and communicating on 128 bit encrypted protocol • Relay driven for On/Off • Power consumption of 3mA • No need of additional dedicated power supply • In built encryption in communication. • Low energy consumption as it works on power supply of 	Each	32861.00

5.64	<p>Supply, Installation & Commissioning of lighting control automation -I R Remote for Automation</p> <ul style="list-style-type: none"> • Their remote shall control with 5-meter range • Should operate on 2 AAA or AA batteries • Total number of keys shall be maximum of 32 keys • Common remote for all switch boards, with a maximum of 6 switch board controls in one place • Maximum number of 2 fans shall be controlled • All on and all off keys optional • Infrared Communication which will work upto 15 ms Distance 	Each	525.00
5.65	<p>Supply, Installation & Commissioning of lighting control automation - Gateway Server Product Features</p> <ul style="list-style-type: none"> • Brain of the Home Automation Network communicating on secured encrypted protocol • Separate power supply for easy service • Will support maximum of 30 switch boards • Runs 24/7 on Linux / Android Operating System • On board Gateway Software to support min. 10 clients connections • Inbuilt My SQL Database Management System for Logging each and every activity for meaningful interpretation when required • 3G/4G internet connection for remote access (optional) Technical Specification • Single RF@ 2.4GHz Zigbee RF communication with all other Home Automation Devices • On board LAN port • On board diagnostic LED for LAN, Battery, Serial Communication, etc • Linux based RAM and ROM 	Each	52436.00

<p>5.66</p>	<p>Supply, Installation & Commissioning of lighting control automation - Android / IOS App • App should be compatible with android 4.0 above</p> <ul style="list-style-type: none"> • Option to provide /configure only the required switch board access per person • Option to delete users, at the time of termination of the service • Options to enable / disable, the hardware switchboard features from mobile software <p>a. Touch switch (child lock) b. Buzzer c. On board LED's d. IR remote</p> <ul style="list-style-type: none"> • Option to control the switch board form wifi or 3g connection • Option to configure the app on the fly, from anywhere in the world. • App shall be able to Add more HA devices. •App shall be able to configure Timers with repeat in cycles as desired by the user •App shall be able to let user set Moods/Scene •Analytics - Give Demographics, User Activity on App (Time spent, Screens, etc), OS Version, in the form of Pie / Bar Charts. • Inbuilt Wifi / 3G-4G connection for the Smart phone. 	<p>Each</p>	<p>525.00</p>

Chapter - 6

FANS & AIR CONDITIONERS

FANS & AIR CONDITIONERS			
6.0	FANS & AIR CONDITIONERS		
6.1	Supplying exhaust fan of 1440 RPM of 300 mm (12") size with bracket blades complete for light duty suitable to operate on 230V 50Hz, AC Supply.	Each	1492.00
6.2	Supplying of 1440rpm heavy duty exhaust fan with bracket blades suitable to operate on 230V 50Hz, AC Supply complete.		
6.2.1	12" Sweep (300 mm)	Each	2969.00
6.2.2	15" Sweep (450 mm)	Each	4446.00
6.3	Supplying capacitor type ceiling fan complete with down rod blades, shackle, canopies etc, for operation on 230 V, 50 cycles. Single phase AC supply conforming to ISS-374- 1979 and with double ball bearing system.		
6.3.1	48" Sweep (1200 mm) Regular model	Each	2984.00
6.3.2	56" Sweep (1400 mm) Regular model	Each	3031.00
6.4	Supplying of Ceiling Fan with Capacitor rating As per guideline of BEE 5 star rating and IS:374/19 and also comply with IS: 1709/1984 with latest amendment, Rated voltage 220 V/50 Hz, Rated power upto 35 W +/- 10 %, Rated current As per IS:374/19, Rated power factor 0.9 lagging(min), Rated speed 350 +/- 10% RPM, Rated air delivery 210 +/- 10% Cubic Meter Minimum, Rated service value 6.2 CMM / W, Three Blades of blade leaf 1.05 mm thick Aluminium Alloy sheet, Class B motor insulation, Bearing Two ball bearings, Top 6202, Bottom 6201, as per IS specification, Motor winding. Temp rise Shall not exceed 75 deg C over and ambient of 40 0C by resistance method at 245 V, Insulation resistance Shall not be less than Two Mega Ohms (2M Ohms), Leakage current Should not exceed 210 Micro Amp, Power input, W& current, Air Delivery & Fan Speed as per IS:374/2019 with latest amendment, 2year manufacturer Warranty. (BLDC fans)		
6.4.1	48" Sweep 5 Star (1200 mm)	Each	2677.00
6.4.2	56" Sweep 5 Star (1400 mm)	Each	3754.00
6.5	Supplying wall mounting fan suitable to operate at single- phase 230v AC. supply.		
6.5.1	300 mm Sweep	Each	2492.00
6.5.2	400 mm Sweep	Each	3212.00
6.6	Supplying of capacity window type air conditioner confirming to IS specification suitable for operation on 230 V, 50 Hz single phase, AC. supply with all accessories.		
6.6.1	1 Ton capacity 5 Star	Each	29933.00
6.6.2	1.5 Ton capacity 5 Star	Each	31840.00
6.6.3	2 ton capacity 5 Star	Each	34978.00

6.7	SupplyingTR split Air conditioners suitable for operation on A/C supply single phase 50 Hz 230 V with hermetically sealed compressor with air cooled condenser, motor capacitor and start run capacitors, relay and over load protector internal unit, with one indoor and one outdoor unit The condenser unit will be placed outside the room on the terrace to avoid noise including standard length of suitable size copper tubing covered with insulation tube. (High wall chorded/cordless) suitable capacity 3 core sheathed/ PVC copper cable and a battery operated wireless remote unit		
	5star		
6.7.1	1 Ton capacity	Each	41706.00
6.7.2	1.5 Ton capacity	Each	47683.00
6.7.3	2 Ton capacity	Each	54048.00
6.8	Supplying of .. TR Inverter type split Air conditioners suitable for operation on A/C supply single phase 50 Hz 230 V with hermetically sealed inverter compressor with air cooled condenser, latest R410A / R-32 refrigerant fan motor, start & run capacitors, relay & over load protector internal unit, with one indoor & one outdoor unit The condenser unit will be placed outside the room avoid noise including standard length of suitable size copper tubing covered with nitrile rubber insulation tube. suitable capacity 3 core sheathed/ PVC copper cable and a battery operated wireless remote unit.		
	3 star		
6.8.1	1 Ton capacity	Each	38324.00
6.8.2	1.5 Ton capacity	Each	45284.00
6.8.3	2 Ton capacity	Each	53496.00
	5 star		
6.8.4	1 Ton capacity	Each	47557.00
6.8.5	1.5 Ton capacity	Each	56355.00
6.8.6	2 Ton capacity	Each	67399.00
6.9	Supply erection, testing, commissioning of Cassette type split Air conditioners suitable for operation on single/three phase AC supply, hermetically sealed compressor with air cooled condenser motor capacitor start, capacitors run relay and over load protection, one ceiling mounted indoor unit and one outdoor condenser unit including standard accessories covered with insulation tube including battery operated cordless unit		
6.9.1	2 TR Cassette 1 Ph	No	78815.00
6.9.2	3 TR Cassette 3 Ph	No	105117.00
6.9.3	4 TR Cassette 3 Ph	No	120221.00
6.10	Supplying, Erecting, Testing, commissioning package type Duct able type split Air-Conditioner with microprocessor control, fitted with twin scroll Compressor with R22/Latest Refrigerant The unit shall be pre-wired to operate on 415V, 50Hz AC Supply. The unit shall comprise, Evaporated condenser unit, Indoor-Outdoor Motor Fans, suitable over vent fins made up of Aluminium, Copper Refrigerant coil, Etc..., complete and corded control unit		
6.10.1	3TR	No	85806.00

6.10.2	5.5TR	No	113109.00
6.10.3	8.5TR	No	162583.00
6.10.4	11TR	No	212116.00
6.10.5	17TR	No	315091.00
6.10.6	22TR	No	398685.00
6.11	Installation charges for 1 to 2 Ton capacity window type Air Conditioner with 50 x 75mm thick teak wood frame of suitable size and allied works complete.	Each	2681.00
6.12	Installation charges for split type air conditioner with allied works for one indoor and one outdoor unit is to be mounted on suitable Angle Iron support upto 3.0 Ton split/cassette type A/C.	Each	3175.00
6.13	Supplying and installation of insulated refrigerant copper tubing of 5/8" and 3/8" with polythene foam insulation 3 core 80 stand copper wiring between indoor and outdoor unit Leak testing oil and gas charging for additional piping length of tube.		
6.13.1	Split	m	1549.00
6.13.2	Cassette	m	1639.00
6.14	Supplying installation testing and commissioning of heavy duty compressor suitable for window/split type A/C.		
6.14.1	1 Ton	Each	14331.00
6.14.2	1.5Ton	Each	14793.00
6.14.3	2 Ton	Each	18023.00
6.15	Supply and fixing of condensing coil for Split Air Conditioners.		
6.15.1	1 Ton	Each	8960.00
6.15.2	1.5 Ton	Each	10100.00
6.15.3	2 Ton	Each	11598.00
6.16	Supplying and fixing capacitor's (of approved make) for window /split air conditioners.		
6.16.1	25 to 45mfd running capacitor.	Each	805.00
6.16.2	80 to 200mfd starting capacitor.	Each	948.00
6.17	Supplying & fixing relay for over load protection for window and split air conditioners.	Each	658.00
6.18	Supplying and fixing the fan motor for blowers and condenser of 1/5 HP, single shaft/double shaft suitable for split /window air conditioners.	Each	6116.00
6.19	Supplying & filling refrigerant (F-22/F12) for air conditioning equipment's. Which includes the labour & Nitrogen gas for pressure and leak testing.	Per kg	605.00
6.20	Supplying & fixing of thermostat for window type air conditioner. Multi range 30 to 60 degree Centigrade (without probe), adjustable universal type	Each	1136.00
6.21	Supplying and fixing electro mechanical / Pneumatic time switches.	Each	1462.00
6.22	Extra for Fabrication supply and fixing of Stand fabricated using slotted angle /L angle of size 6mm x 50mm for mounting out door/indoor A.C. unit/ Batteries.	Each	4807.00
6.23	Supply and fixing of out door condensing unit complete with condensing coil, blower, fan etc., complete suitable for Split Air Conditioners.		

6.23.1	1 Ton	Each	23919.00
6.23.2	1.5 Ton	Each	28072.00
6.23.3	2 Ton	Each	31661.00
6.24	Supply, installation of 5/8" and 7/8" Hard drawn refrigerant pipe and insulation suitable for 11TR duct able split Air- Conditioner.	m	2234.00
6.25	Supply, fabrication and installation of GI Ducting Along with flanges, supports & all fixing materials.		
6.25.1	24Gauge	m ²	1811.00
6.25.2	22Gauge	m ²	2121.00
6.26	Supply and installation of Thermal insulation using 13mm nitrile rubber for return air ducts.	m ²	1191.00
6.27	Supply and installation of Tarpaulin canvas between the AC duct and AC evaporator unit including accessories.	No	4564.00
6.28	Supply and installation of Acoustic insulation using 50mm thick with 24Kg Density glass wool with 24G aluminium perforated sheet complete.	m ²	1361.00
6.29	Supply and installation of Powder coated aluminium diffusers of size 595x595mm for supply & return air.		
6.29.1	Aluminium Diffusers	No	5078.00
6.29.2	Collar Dampers	No	2624.00
6.29.3	GI Mixing Box	No	6275.00
6.29.4	Flexible Duct Per Mtr	No	1692.00
6.30	Supply and fixing of powder coated extruded aluminium grill suitable for supply/return air including all fixing hardware etc.,. Complete.		
6.30.1	4" extruded aluminium grill with 15 deg to 30 deg louvers	m	1472.00
6.30.2	6" extruded aluminium grill with 15 deg to 30 deg louvers	m	1702.00
6.31	Supplying & filling refrigerant latest R-410 / R-32 for air conditioning equipment's. Which includes the labour & Nitrogen gas for pressure and leak testing.	Per kg	579.00
6.32	Supply and fixing of In door Unit complete with condensing coil, blower, fan etc., complete suitable for Split Air Conditioners.		
6.32.1	1 ton	No	15613.00
6.32.2	1.5 ton	No	21355.00
6.32.3	2 ton	No	27149.00
6.33	Supplying and commisioning of AC Remote	No	2051.00
6.34	Supplying and fixing of fan blade	No	4453.00

Chapter - 7

GEYSERS & SOLAR WATER HEATERS

7.0 GEYSERS, HEATERS & SOLAR WATER HEATERS			
7.1	Supplying.....litres capacity vertical/horizontal type wall mounting Electrical water heater with 22 SWG copper/SS sheet metal inner Container tinned inside and anticorrosive paint outside and 20 SWG M.S. sheet metal outer cover filled with glass wool between inner and outer container for thermal insulation complete. The inlet and outlet pipes so arranged that water flow inside results in water to flow out from the inner container without turbulence. The Inner container shall have direct immersion type copper tube nickel plate. 2kW capacity element with a neon indicator fitted with 20A capacity 25 to 85 degree Centigrade range thermostat. The water heater shall completely be wired with 40/0.0076 inch 3 core copper flexible wire of 1.5 meters length and the outer container provided with heavy gauge brackets for wall mounting.		
7.1.1	10 L	Each	7564.00
7.1.2	15 L	Each	8765.00
7.1.3	25 L	Each	10242.00
7.1.4	35 L	Each	13740.00
7.1.5	50 L	Each	17328.00
7.2	Supplying ...litres capacity vertical/horizontal type wall mounting Electrical water heater with 22 SWG copper/SS sheet metal inner Container tinned inside Fiber body outside, filled with glass wool between inner and outer container for thermal insulation complete. The inlet and outlet pipes so arranged that water flow inside results in water to flow out from the inner container without turbulence. The Inner container shall have direct immersion type copper tube nickel plate. 2kW capacity element with a neon indicator fitted with 20A capacity 25 to 85 degree Centigrade range thermostat. The water heater shall completely be wired with 40/0.0076 inch 3 core copper flexible wire of 1.5 meters length and the outer container provided with heavy gauge brackets for wall mounting.		
	5 Star With Fibre body		
7.2.1	25 L	Each	11929.00
7.2.2	35 L	Each	15540.00
7.2.3	50 L	Each	18573.00
7.3	Supplying, installation, testing and commissioning of solar hot water heater comprising of solar Flat Plate Collector (FPC) of size 2120x1040x100mm and stainless steel hot water storage tank with stainless steel heat exchanger absorber made of copper sheet and copper tube of following capacity aluminium box collector with appropriate capacity electrical back up arrangement excluding inlet and out let pipes. SS Model with 100mm thick of 48Kg/M ³ de Rock wool insulation with 22SWG Aluminium cladding.		
7.3.1	100 L	Each	31778.00
7.3.2	200 L	Each	46914.00
7.3.3	300 L	Each	69986.00

7.4	Supplying, installation, testing and commissioning of solar hot water heater comprising of high quality Evacuated Glass Tube (EGT) with absorber coating collector of size 58 x 1800 mm. Inner tank Material- Stainless steel 304-L Grade with Aluminium Stucco cladding made of High quality PUF insulation to minimizes heat loss and hold water Temperature upto 72 Hrs...with appropriate capacity electrical back up arrangement excluding inlet and out let pipes. Fitted with Sacrificial Anode		
7.4.1	100 L - 10 nos Tubes	Each	23934.00
7.4.2	200 L- 20 nos Tubes	Each	43222.00
7.4.3	300 L - 29 nos Tubes	Each	51528.00

Chapter - 8

NETWORKING & TELECOMMUNICATIONS

8.0 NETWORKING & TELECOMUNICATION			
8.1	Supplying and drawing UTP-CAT 6E LAN cable.	m	38.00
8.2	Supplying and drawing PVC flexible one pair telephone unarmoured tinned copper cable.		
8.2.1	1Pair	m	15.00
8.2.2	2Pair	m	21.00
8.2.3	3Pair	m	28.00
8.2.4	4Pair	m	35.00
8.2.5	5Pair	m	46.00
8.2.6	10pair	m	81.00
8.2.7	20pair	m	150.00
8.2.8	50pair	m	406.00
8.3	Supplying and drawing PVC insulated gas injected physical foam jelly flooded co-axial TV cable.RG-6.	m	44.00
8.4	Supplying & Fixing of switch mounting rack with power manager & Cable manager.		
8.4.1	4U with 450mm depth	Each	4892.00
8.4.2	6U with 450mm depth	Each	6977.00
8.4.3	9U with 450mm depth	Each	8476.00
8.4.4	12U with 450mm depth	Each	8835.00
8.4.5	18U with 650mm depth	Each	28396.00
8.4.6	24U with 650mm depth	Each	31386.00
8.4.7	27U with 650mm depth	Each	32148.00
8.4.8	32U with 650mm depth	Each	36212.00
8.4.9	36U with 650mm depth	Each	40837.00
8.4.10	42U with 650mm depth	Each	43168.00
8.4.11	42U with 800mm depth	Each	45201.00
8.5	Supplying & Fixing of Power strip	Each	1457.00
8.6	Supplying of shelf	Each	827.00
8.7	Supplying & fixing of Castor wheels to the Shelf (set of 4)	Each	1582.00
8.8	Supplying & Fixing of Fan	Each	1209.00
8.9	Supplying fixing of Network Switches		
8.9.1	48 Port Gigabyte (manageable)	Each	48890.00
8.9.2	24 Port Gigabyte (manageable)	Each	41450.00
8.9.3	10Port Gigabyte (manageable)	Each	20200.00
8.9.4	48 port 10/100 Switch	Each	15000.00
8.9.5	24 port 10/100 Switch	Each	4700.00
8.9.6	16 port 10/100 Switch	Each	2450.00
8.9.7	8 port 10/100 Switch	Each	1050.00
8.9.8	5 port 10/100 Switch	Each	810.00
8.9.9	48 port 10/100/1000 Switch	Each	20300.00
8.9.10	24 port 10/100/1000 Switch	Each	7415.00
8.9.11	16 port 10/100/1000 Switch	Each	6440.00
8.9.12	8 port 10/100/1000 Switch	Each	3100.00
8.10	Supplying & fixing of I/O socket with back box		
8.10.1	Single I/O	Each	490.00

8.10.2	Double I/O	Each	550.00
8.11	Supplying & Fixing of ... ms Cat 6 Patch Cable		
8.11.1	1 m	Each	224.00
8.11.2	2 m	Each	257.00
8.11.3	3 m	Each	331.00
8.12	Supplying & Fixing of Patch panel for LAN cabling		
8.12.1	48 Port 10/100 patch panel	Each	14120.00
8.12.2	24 Port 10/100 patch panel	Each	4100.00
8.12.3	16 Port 10/100 patch panel	Each	3050.00
8.12.4	48 Port 10/100/1000 patch panel	Each	24000.00
8.12.5	24 Port 10/100/1000 patch panel	Each	7900.00
8.12.6	16 Port 10/100/1000 patch panel	Each	7750.00
8.13	Supplying and fixing of MDF krone junction box with KRONE Module / Telephone cable termination.		
8.13.1	10 Pair	m	345.00
8.13.2	20 Pair	m	383.00
8.13.3	30 Pair	m	568.00
8.13.4	50 pair	m	631.00

Chapter - 9

UPS, VOLTAGE STABILIZERS, BATTERIES & ACCESSORIES

9.0	UPS, VOLTAGE STABILIZERS, BATTERIES & ACCESSORIES		
9.1	Supplying, erecting, testing and commissioning of voltage stabilizer suitable for 170 to 270 v input and load variation from no load to full load, with over load protection, spike suppression, operating at 00 C to 400 C. Range etc., complete.		
9.1.1	3kVA Capacity	Each	3995.00
9.1.2	4kVA Capacity	Each	4792.00
9.1.3	5kVA Capacity	Each	9666.00
9.2	Supplying, erecting, testing & commissioning of OFF- LINE UPS system suitable for operation on 230V, 50Hz, A/C supply, with all accessories complete and Excluding batteries and wiring complete.		
9.2.1	1 kVA OFF LINE UPS	Each	15087.00
9.2.2	1.5 kVA OFF LINE UPS	Each	20133.00
9.2.3	2 kVA OFF LINE UPS	Each	21293.00
9.2.4	3 kVA OFF LINE UPS	Each	29142.00
9.2.5	5 kVA OFF LINE UPS	Each	39898.00
	Note: For item 10.2 batteries are required for backup power supply- 1) 1 kVA off line UPS one hour backup : 2 x 40 AH batteries. 2) 2 kVA off line UPS one hour backup : 3 x 80 AH batteries. 3) 5 kVA off line UPS one hour backup : 6 x 80 AH batteries.		
9.3	Supplying, erecting, testing & commissioning of ON-LINE UPS system suitable for operation on 230V, 50Hz, A/C supply, with isolation transformer all accessories complete and Excluding batteries and wiring complete.		
9.3.1	1 kVA ON LINE UPS	Each	23648.00
9.3.2	3 kVA ON LINE UPS	Each	38719.00
9.3.3	5 kVA ON LINE UPS	Each	68383.00
9.3.4	7.5 kVA ON LINE UPS	Each	59787.00
9.3.5	10 kVA ON LINE UPS	Each	103570.00
9.4	Supplying, installation, testing & commissioning of 12V ..AH batteries in poly propylene container for D.G. sets. Low maintenance batteries, plate type.		
9.4.1	40 AH capacity	Each	11961.00
9.4.2	60 AH capacity	Each	16580.00
9.4.3	75 AH capacity	Each	17409.00
9.4.4	100 AH capacity	Each	20133.00
9.4.5	120 AH capacity	Each	23331.00
9.4.6	150 AH capacity	Each	28187.00
9.4.7	200 AH capacity	Each	34701.00
9.5	Supplying, installation, testing & commissioning of 12V DC, AH batteries in poly propylene container for U.P.S. Sealed maintenance free batteries.		
9.5.1	7 AH capacity	Each	3261.00
9.5.2	18 AH capacity	Each	5210.00
9.5.3	26 AH capacity	Each	3611.00

9.5.4	42 AH capacity	Each	5092.00
9.5.5	60 /65 AH capacity	Each	6413.00
9.5.6	75/80 AH capacity	Each	10172.00
9.5.7	100 AH capacity	Each	12430.00
9.5.8	120 AH capacity	Each	15514.00
9.5.9	150 AH capacity	Each	15895.00
9.5.10	200AH capacity	Each	20668.00

DIESEL GENERATOR SETS

10.0	DIESEL GENERATOR SET		
10. 1	Supplying, installing, testing and commissioning of Diesel Generator set with following specifications. Power rating as per standard reference condition as per-BS 5514/ISO 3046/ ISO 8528 & IS 1002/ISO 3046 Generator set specifications.		
	Engine: Diesel generating set are rated at 1500RPM and conform to ISO 8528 specifications. The engines are radiator cooled, four stroke and multi cylinder, conforming to ISO 3046. The scope of supply includes: Electrical starter motor 12V DC Battery charging alternator, Bosch fuel system with mechanical governor, A1 Class. Spin-on lube oil filter, Spin-on dual fuel filter with water separator, Turbocharger, Charge air cooler, Silencer (Hospital grade), Dry type air cleaner, Shutoff coil, Flywheel and flywheel housing, First fill of lube oil and coolant, Safety for low lube oil pressure, Safety for high water temperature, Permissible overload of 10% for one hour in 12 hours of operation		
	Capacity of Fuel Tank: Fuel tank suitable for 8 hours of operation		
	Alternator: Alternator is suitable for operation at 1500 RPM, 415 V, 0.8 pf (lag) suitable for 50 Hz, 3 phase, 4 wire systems, conforming to IS/IEC 60034-1. The Alternator is brush less type, screen protected, revolving field, self excited, self regulated through an AVR. The alternator shall have $\pm 1.0\%$ Voltage regulation (max) in static conditions- IP: 23 protections with insulation class F&H.		
	Mounting arrangement: Engine and alternator are mounted on a common MS fabricated base frame with AVM pads.		
	Control Panel: The control panel is manufactured with 14/16 gauge CRCA sheet and is powder coated for weather-proof and long lasting finish. The control panel consists of the following parts:- PS0500 Controller, Aluminium bus bars with suitable capacity within/outgoing terminals, Indicating IA for 'Load On' and 'Set Running', Instrument fuses duly wired and ferruled, MCCB of suitable rating with overload and short circuit protections.		
	Genset Controller: microprocessor based generator set monitoring and control system. The control provides a simple operator interface to the generator set, manual and remote start/ stop control, shutdown fault indication, and an LCD hour counter. The integration of all functions into a single control system provides enhanced reliability and performance compared to conventional generator set control systems. This control has been designed and tested to meet harsh environment in which gensets are typically applied. Features, Functions, protections 16 character x 2 line alphanumeric LCD display with LED Backlight		

	<p>Operator interface, Provide a record of most recent fault conditions. Fault history stored in the control non volatile memory, Provide Alternator Data. Voltage (1 ph or 3 ph line to line and line to neutral voltage, Current (1 ph or 3 ph), kVA (3 ph and total), Frequency, Provide Engine Data, Starting battery voltage, Engine running hours, Engine Temp, Engine oil pressure, Control includes provision for Service adjustment and calibration of DG control functions, Voltage, frequency selection, Configurable input and output set up, Meter calibration, Engine controls, Power Start operates on 12 VDC batteries,-Auto start mode accepts a ground signal from remote devices to automatically start the DG set The remote start will also wake up the control system from sleep mode.</p>		
	<p>Engine Starting -The control system supports automatic engine starting, Primary and back up start disconnects are achieved by battery charging alternator feedback or main alternator output frequency. Controller provide configurable time delay of 0-300 sees to start after remote start signal and time delay of 0-600secs prior to shut down after stop signal. Sleep mode increase battery life. Configurable current settings from low to minimize current draw when genset is not working. Engine Protective functions include, Configurable alarm output, Emergency stop: Annunciated whenever an emergency stop signal is received by the control. Low lube oil pressure warning and Shutdown, High engine water temp warning / Shutdown, Low coolant temp warning, Sensor failure indication, Low and high battery voltage warning, Weak battery warning, Fail to start shut down, Cracking lockout: Control will not allow the starter to engage or to crank the running engine Cyclic cranking: Configurable for the number of starting cycle, (1 to 7) and duration of crank and rest periods. Alternator Protective functions includes, - High and Low AC voltage shut down, Under and Over frequency shutdown / warning, Loss of sensing voltage input shut down.</p>		
	<p>Acoustic enclosure: The acoustic enclosure shall be made of 1.6 mm thick CRCA sheets in suitable approved shade and a structural/ sheet metal base frame painted in black. The walls of the enclosure are insulated with fire retardant foam so as to comply with the 75dBA at 1 m sound levels specified by Ministry of Environment & Forest The enclosure has the following features: Specially designed to meet stringent MOEF/CPCB norms of 75dBA @ 1 m at 75% load under free field conditions, Two point lifting for easy handling at customer site, Designed to have optimum serviceability, Air inlet louvers specially designed to operate at rated load made on special purpose CNC machines for consistency in quality and workmanship, Powder coated for long lasting service life and superior finish, With UV resistant powder coating, can withstand extreme environment,</p>		
	<p>Use of special hardware for longer life, Insulation material meets exacting IS 8183 specifications for better sound attenuation, Flush styling - no projections, Fluid drains for lube oil and fuel, Fuel filling point inside the enclosure. The complete set shall have sufficient safety and adhere to NEC, NBC 2016, IEC, CPWD specifications, PCB norms and KSGEI Acts and Rules.</p>		
10.1.1	15KVA/12kw	Set	349110.00

10.1.2	20KVA/16kw	Set	395097.00
10.1.3	25KVA/20kw	Set	451101.00
10.1.4	30KVA/24kw	Set	457067.00
10.1.5	40KVA/32kw	Set	559117.00
10.1.6	50KVA/40kw	Set	617368.00
10.1.7	62.5KVA/50kw	Set	641071.00
10.1.8	82.5 KVA/66kw	Set	785987.00
10.1.9	100 KVA/ 80 kw	Set	900956.00
10.1.10	125 KVA / 100 kw	Set	908620.00
10.1.11	180 KVA / 144 kw	Set	1447891.00
10.1.12	200 KVA / 160kw	Set	1598191.00
10.1.13	250 KVA / 200 kw	Set	1904321.00
10.1.14	320 KVA / 256 kw	Set	2644841.00
10.1.15	400 KVA / 320 kw	Set	3340591.00
10.1.16	500 KVA / 400 kw	Set	3794341.00
10.2	Supply, Erection, testing and commissioning of AMF panel suitable forkVA DG set. The panel is of cubical type base/floor mounting control panel with hinged doors, undrilled bottom gland plate, aluminium Bus Bar with the accommodation forA 4 pole contactor for alternator with thermal O/L relay,..... A 4 pole contactor for mains, HRC fuse for short circuit protection, Microprocessor based AMF module with supply failure timer, Restoration timer, 3 impulse automatic engine start/stop logic, Mains/generator voltage,capacity bypass switch and frequency sensing, PCC 1301controller with water temperature/Lube oil pressure/ engine speed, Voltage/ampere/Frequency/ kVA, Running-hour count, No of starts, Fault indication, over / under speed, Fails to start, Low oil pleasure, High engine temperature, Under/over voltage, over current, Earth fault relay, with indications for Mains on, Load on Mains, Battery charger on Push buttons AMF module by pass Mode, Battery charger unit with inbuilt Auto/Manual and Flat/Boost facility. The complete set shall have sufficient safety and adhere to NEC, NBC 2016, IEC, CPWD specifications, PCB norms and KSGEI Acts and Rules.		
10.2.1	15 KVA to 30 KVA	Each	58711.00
10.2.2	40 KVA to 50 KVA	Each	71416.00
10.2.3	62.5 KVA	Each	77768.00
10.2.4	82.5 KVA to 125 KVA	Each	109531.00
10.2.5	180 KVA	Each	141293.00
10.2.6	200 KVA	Each	230228.00
10.2.7	250 KVA	Each	281048.00
10.2.8	320 KVA to 400 KVA	Each	312811.00
10.2.9	500 KVA	Each	573263.00

Chapter - 11

LUMINAIRES / LIGHTING FIXTURES & ACCESSORIES

LUMINAIRES / LIGHT FIXTURES & ACCESSORIES			
11.0	LUMINAIRES / LIGHT FIXTURES & ACCESSORIES		
	LED Indoor		
11.1	Supplying & fixing - flexible LED Strip Light W Power consumption in 5 ms length CCT6500 degree K, CRI> 70%. efficacy >80 lumen per W, life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The LED are driven by HF electronic driver non integrated, with PF > 0.95, power loss should< 5% of lamp Wage., short circuit & open circuit protection to be integrated in the circuit, THD less than 20%, Life as per LM 79. The operating input voltage should be between 130 to 275 V. BIS Approved with 2 years Warranty against any manufacturing defect working under standard electrical condition.	m	1291.00
11.2	Supplying & fixing retrofit type-PL- LED Lamp W LED linear source with CCT 6500 degree K, CRI> 70%. efficacy >80 lumen per W, life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The LED are driven by HF electronic driver integrated in the system, with PF > 0.95, power loss should < 5% of lamp Wage., short circuit & open circuit protection to be integrated in the circuit, THD less than 20%, Life as per LM 79. The operating input voltage should be between 130 to 275 V. Tested by NABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical condition.		
11.2.1	8-9 W	Each	623.00
11.2.2	18-20 W	Each	702.00
11.3	Supplying offeet -PVC Batten with integrated LED tube ... W with high quality diffuser with Life of 25000 burning hours & 70% lumen maintenance with CRI > 80. Power Input: 220-240V@ 50/60Hz & Power factor >0.9 along with CE approved. 2 years Warranty against any manufacturing defect working under standard electrical condition.		
11.3.1	LED light fitting 1 x 2' - 9/10 W	Each	551.00
11.3.2	LED light fitting 1 x 4' - 20/22 W	Each	690.00
11.3.3	LED light fitting 1 x 4' - 36/40 W	Each	1269.00
	LED Down light		

11.4	Supplying of recess mounting non integrated type LED down light..... W luminaire comprising of pressure decast/ extruded aluminium housing, with spring loaded false ceiling clamps, LED of Power/COB with CCT 6500 degree K, CRI> 70%. efficacy >100 lumen per W, 120degree beam spread, life> 25000 burning hours and Compliance to IS10322/IEC 60598, LM 79 & LM 80. The lamp compartment is enclosed with anti glare opal diffuser which enhances the lighting level. LED's are driven by HF electronic driver integrated in a separate control gear assembly., with PF > 0.95, power loss should< 5% of lamp Wage, short circuit & open circuit protection to be integrated in the circuit, THD less than 20%, Life as per LM 79. The operating input voltage should be between 130 to 275 V. BIS Approved and Tested by NABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical condition.		
11.4.1	5-6W	Each	805.00
11.4.2	10-12W	Each	1269.00
11.4.3	15-18W	Each	1671.00
11.4.4	24 W	Each	1733.00
11.5	Supply of round/square recess/surface mounted rolling type LED Down light with W GU 10 LED Lamp Rib Fabricated from diecast aluminium with white powder coated prewired to mains connector & has swivelling unit of aluminium die cast eye ball & LED Lamp position retained by circular wire spring, with Life of 25000 burning hours & 70% lumen maintenance with CRI > 80. Power Input: 220-240V @50/60Hz & Power factor >0.9 along with CE approved. 2years Warranty against any manufacturing defect working under standard electrical condition		
11.5.1	LED square or round down light 5-6W	Each	571.00
11.5.2	LED square or round down light 10-12W	Each	885.00
11.5.3	LED square or round down light 15-18W	Each	1324.00
11.5.4	LED square or round down light 24W	Each	
11.6	Supplying of recess mounting non integral type LED w luminaire comprising of pressure decast/extruded aluminium housing, with spring loaded false ceiling clamps, Power LEDs with CCT 6500 degree K, CRI> 70%. efficacy > 100 lumen per W, 120degree beam spread, life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The lamp compartment is enclosed with anti glare opal diffuser which enhances the lighting level LEDs are driven by HF electronic driver integrated in a separate control gear assembly., with PF > 0.95, power loss should< 5% of lamp Wage., short circuit & open circuit protection to be integrated in the circuit, THD less than 20%, Life as per LM 79. The operating input voltage should be between 130 to 275 V. BIS Approved and Tested by NABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical condition.		
11.6.1	LED modular down light 1'x1' 18W	Each	3138.00
11.6.2	LED modular down light 1'x1' 24W	Each	3692.00

11.6.3	LED modular down light 2'x2' 36 W	Each	4553.00
11.6.4	LED modular down light 2'x2' 40-42W	Each	4861.00
11.6.5	LED modular down light 1'x4' 34-36W	Each	5898.00
	LED Post Top Lantern GARDEN.		
11.7	Supply of LED pole mounting type post top lantern with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate/ clear glass material, delivering superior light output Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/Overload, short circuit/ miss-wiring protection. Compatible for pole mounting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/1 EC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB LED Efficiency >130lm/w, nominal CRI >75. Luminaire manufacturer should have in- house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008. Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.		
11.7.1	LED Post Top Lantern with 15/20 W	Each	6922.00
11.7.2	LED Post Top Lantern with 25/30 W	Each	7722.00
11.7.3	LED Post Top Lantern with 35/40 W	Each	9622.00
11.7.4	LED Post Top Lantern with 45 W	Each	11998.00
	LED Street light.		
11.8	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mounting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture withW System Power consumption. LED Efficiency >130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008. Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.		

11.8.1	LED Streetlight 25W	Each	2425.00
11.8.2	LED Streetlight 40W	Each	4024.00
11.8.3	LED Streetlight 70W	Each	5992.00
11.8.4	LED Streetlight 90 W	Each	8860.00
11.8.5	LED Streetlight 120 W	Each	10060.00
11.8.6	LED Streetlight 150 W	Each	14705.00
11.8.7	LED Streetlight 170 W	Each	18868.00
11.8.8	LED Streetlight 200 W	Each	19094.00
	LED Flood Light.		
11.9	Supply of LED floodlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate/clear glass material, delivering superior light output Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mauling with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100 V to 270V 50/60Hz application. Compliance to IS 10322/ IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency> 130lm/w, nominal CRI >75. Luminaire manufacturer should have in- house facility accredited by NABL / CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008. Housing with supplier word mark / name shall be Engraved / Embossing on the die cast housing / Body part Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.		
11.9.1	LED Floodlight 70W	Each	6768.00
11.9.2	LED Floodlight 100W	Each	9486.00
11.9.3	LED Floodlight 120W	Each	10757.00
11.9.4	LED Floodlight 150W	Each	12490.00
11.9.5	LED Floodlight 180W	Each	15464.00
11.9.6	LED Floodlight 200W	Each	18581.00
11.9.7	LED Floodlight 240W	Each	22068.00
11.10	Supplying & fixing of Surface mounting type retrofit type -LED tube W comprising of LED linear source with CCT 6500 degree K, CRI> 70%. efficacy >80 lumen per W, life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The LED are driven by HF electronic driver integrated in the system, with PF > 0.95, power loss should < 5% of lamp Wage., short circuit & open circuit protection to be integrated in the circuit, THD less than 20%, Life as per LM 79. The operating input voltage should be between 130 to 275 V. BIS Approved and Tested by NABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical condition.		
	Glass Casing		
11.10.1	8W-10W (T8)	Each	
11.10.2	18W-20W (T8)	Each	330.00

	Polycarbonate/OPAL Acrylic Casing		
11.10.4	8W-10W (T8)	Each	471.00
11.10.5	18W-20W (T8)	Each	683.00
11.11	Supplying & fixing of retrofit type - LED bulb W with OPAL acrylic diffuser comprising of LED source with CCT 6500 degree K, CRI> 70%. efficacy >80 lumen per W, life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The LED are driven by HF electronic driver integrated in the system, with PF > 0.95, power loss should < 5% of lamp Wage., short circuit & open circuit protection to be integrated in the circuit, THD less than 20%, Life as per LM 79. The operating input voltage should be between 130 to 275 V. BIS Approved and Tested by NABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical condition.		
11.11.1	3 W 6500K	Each	124.00
11.11.2	5 W 6500K	Each	144.00
11.11.3	7W, 6500K	Each	149.00
11.11.4	9W, 6500K	Each	154.00
11.11.5	12W, 6500K	Each	269.00
11.11.6	15W, 6500K	Each	326.00
11.11.7	18W, 6500K	Each	426.00
11.12	Supply of LED Bollard light fitting of ...W with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate/clear glass material, delivering superior light output Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/Overload, short circuit/ miss-wiring protection. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB, with 2 years Warranty against any manufacturing defect working under standard electrical condition.		
11.12.1	8W 0.5 m Height	Each	4230.00
11.12.2	8W 1 m Height	Each	4528.95
11.13	Supplying and fixing of slim patty fitting, made out of CRCA Sheet metal body with locking type holder completely wired. Excluding Ballast & Fluorescent Tube.		
11.13.1	1 x 2' Tube light fitting.	Each	185.00
11.13.2	1 x 4' Tube light fitting.	Each	269.00
11.14	Supplying and fixing of slim box fitting, made out of CRCA Sheet metal body with locking type holder completely wired. Excluding Ballast & Fluorescent Tube.		
11.14.1	1 x 2' Tube light fitting.	Each	248.00
11.14.2	1 x 4' Tube light fitting.	Each	361.00
11.14.3	2 x 4' Tube light fitting.	Each	421.00
11.15	Supplying and fixing of LED Bulkhead of 10W with IP65 protection and IK 08 impact resistance suitable for surface and wall mounting applications.	Each	842.00

Chapter - 12

MAINTENANCE WORKS

12.0	MAINTENANCE WORKS		
12.1	Supplying and fixing one of 230 V bell or buzzer and a flush type bell push with gang box fixed on necessary wooden or rawl plugs using NF screws.	Each	189.00
12.2	Supplying and fixing one of 230 V Ding dong bell and a flush type bell push with gang box fixed on necessary wooden or rawl plugs using NF screws with Remote.		
12.2.1	Ding Dong Bell	Each	246.00
12.2.2	Musical	Each	434.00
12.2.3	Remote	Each	1190.00
12.3	Supplying and fixing/replacing condenser for ceiling fan/MV/ SV/MH and other luminaries.		
12.3.1	upto 4mfd	Each	132.00
12.3.2	8mfd	Each	163.00
12.3.3	10mfd	Each	187.00
12.3.4	15mfd	Each	238.00
12.3.5	20mfd	Each	256.00
12.3.6	33mfd	Each	274.00
12.3.7	42mfd	Each	298.00
12.4	Rewinding a ... mm ceiling fan/after using necessary gauge annealed and insulated copper wire with necessary insulating, separators vibration arresting shellac, etc including replacement of bearings if any transportation to and from the spot to workshop inclusive of releasing the refixing.		
12.4.1	900mm	Each	553.00
12.4.2	1050mm	Each	700.00
12.4.3	1200mm	Each	765.00
12.4.4	1400mm	Each	798.00
12.5	Releasing the existing fan dismantling testing painting after removing the existing painting by scraping and cleaning (spray method) not less than 2 coats of approved make enamel paint to a ceiling fan and wiring and fixing of the same.	Each	340.00
12.6	Supplying and replacing ceiling fan regulator 900mm to 1500mm.	Each	382.00
12.7	Releasing an unserviceable thermostat and providing in its place a new 20 A capacity 25 inch to 85 inch range thermostat.	Each	330.00
12.8	Releasing the existing fan checking, testing and installation at the same place.	Each	35.00
12.9	Releasing the existing fan checking, testing and installation at the New place.	Each	72.00
12.10	Releasing the existing fan and refixing the same in the new place with clamps without 'S' hook complete.	Each	80.00
12.11	Releasing the existing FTL Fitting all capacities, checking, testing and installing at same place.	Each	38.00
12.12	Supplying and fixing/replacing of fluorescent tube.		
12.12.1	18 to 40W	No	95.00
12.12.2	65 to 80W	No	242.00

12.13	Supplying and fixing/replacement of heating element for Geyser/Boiler.		
12.13.1	2kW Capacity	No	1049.00
12.13.2	3kW Capacity	No	1119.00
12.14	Supplying and fixing/replacement of pressure relief valve suitable for Geyser.	No	620.00
12.15	Supplying and fixing/replacement of Round/ Conical/ Diamond shaped HDPE Doom suitable for 125/160W post top lamp fittings.	No	2559.00
12.16	Supplying and fixing 6A capacity 4 way universal shutter type spike buster suitable to operate on 230V 50Hz AC Supply.	No	726.00
12.17	Painting of existing street light pole after scrapping the old paint and painted with suitable colour enamel/Silver paint including coping/footing of the pole.		
12.17.1	upto 5 m street light pole.	No	610.00
12.17.2	Above 5.5 to 7.5 m street light pole.	No	762.00
12.17.3	8 m and above street light pole.	No	835.00
	Accessories		
12.18	Supplying and fixing of T5 Fluorescent Tube with 14W power consumption with low 3mg Mercury content & below 40% glass content than TS lamp & 20% less phosphor coating than T8 with initial lumen on 1350 (for 3000-6500 deg Kelvin), rated Avg life (12 Hr. Cycle) of greater than 35000 burring hours. Operating voltage range from 180V to 265V, 50Hz AC power Supply		
12.18.1	14 W Lamp	Each	141.00
12.18.2	28 W Lamp	Each	179.00
12.18.3	54 W High Output Lamp	Each	275.00
12.19	Supplying and fixing of Electronic Ballast suitable for T5 Lamp with housing made of Pre-coated steel/PC, Operating voltage range from 180V to 265V, 50Hz AC power Supply flicker free warm start with over voltage protection, Inrush current protection, De-activated lamp protection& End of Lamp life protection with PF> 0.95 & TC(degC) > 65 deg C compliance to EN 61347-2-3 (Safety), EN60929(Performance), EN55015(EMI/RFI), EN61000-3-2 (Harmonics), EN 61547 (Surge). Operating voltage range from 180V to 265V, 50Hz AC power Supply.		
12.19.1	1 x 14 W	Each	491.00
12.19.2	2 x 14 W	Each	848.00
12.19.3	1 X 24W	Each	925.00
12.19.4	2x 24 W	Each	1734.00
12.19.5	2x 54 W	Each	5238.00
12.20	Supplying and fixing of T8 36/40W Fluorescent Tube with 36W power consumption with initial lumen of 2750 (3000 deg K / 4000 deg K) with rated avg life of greater than 10000 hrs. Operating voltage range from 180V to 265V. 50Hz AC power Supply	No	63.00

12.21	Supplying and fixing of 5'-80 W of T8 Fluorescent Tube with 54W power consumption with low 3mg Mercury content less phosphor coating Operating voltage range from 180V to 265V, 50Hz AC power Supply	No	520.00
12.22	Supplying and fixing of Electronic Ballast suitable for T8 Lamp with housing made of Pre-coated steel/PC, Operating voltage range from 180V to 265V. 50Hz AC power Supply flicker free warm start with over voltage protection, Inrush current protection, De-activated lamp protection & End of Lamp life protection with PF> 0.95 & TC(deg C) > 65 deg C. Operating voltage range from 180V to 265V, 50Hz AC power Supply.		
12.22.1	1 x 18/22 W	Each	311.00
12.22.2	1 x 36/40 W	Each	535.00
12.22.3	2 x 36/40 W	Each	776.00
12.22.4	1 x 80 W	Each	2046.00
12.23	Supplying and fixing of 20/40 W heavy duty open construction Ferromagnetic copper ballast for fluorescent tubes: Supplying and fixing of 20/40 W heavy duty open construction Ferromagnetic copper ballast for fluorescent tubes, Class H Insulated copper wire, Vacuum impregnated high quality with Low loss silicon steel lamination operated on 240V,50Hz supply with IEC 60920 (Safety) & IEC 60921 (Performance). Operating voltage range from 180V to 265V, 50Hz AC power Supply.	No	293.00
12.24	Supplying and fixing 65/80 W heavy duty open construction ferromagnetic copper ballast for fluorescent tubes: 65/80 W heavy duty open construction Ferromagnetic copper ballast for fluorescent tubes, Class H Insulated copper wire, Vacuum impregnated high quality with Low loss silicon steel lamination operated on 240V,50Hz supply with IEC 60920 (Safety) & IEC 60921(Performance). Operating voltage range from 180V to 265V, 50Hz AC power Supply.	No	583.00
12.25	Supplying of patty fitting, made out of CRCA Sheet metal body with locking type holder completely wired with HF Electronic Ballast, Operating voltage range from 180V to 265V, 50Hz AC power supply excluding Tube.		
12.25.1	1 x 2' Tube light fitting.	Each	297.00
12.25.2	1 x 4' Tube light fitting.	Each	340.00
12.26	Supplying of box fitting, made out of CRCA Sheet metal body with locking type holder completely wired with HF Electronic Ballast, Operating voltage range from 180V to 265V, 50Hz AC power supply excluding Tube.		
12.26.1	1 x 2' Tube light fitting.	Each	322.00
12.26.2	1 x 4' Tube light fitting.	Each	461.00
12.27	Supplying & Fixing of Special Type pigmy and candle lamp. Operating voltage range from 180V to 265V, 50Hz AC power Supply	No	52.00
12.28	Supplying & Fixing of Special Type Halogen LA Operating voltage range from 180V to 265V, 50Hz AC power Supply		

12.28.1	500 W	Each	153.00
12.28.2	100 W	Each	177.00
12.29	Supplying & Fixing of 80W Mercury Vapour lamp with E27 Base, Lumen output greater than 3500 lumen & CRI 45.Avg Burning life greater than 20,000 hrs. Operating voltage range from 180V to 265V, 50Hz AC power Supply.	No	431.00
12.30	Supplying & Fixing of 125W Mercury Vapour lamp with E27 Base, Lumen output greater than 6000 lumen & CRI 45.Avg Burning life greater than 20,000 hrs. Operating voltage range from 180V to 265V, 50Hz AC power Supply	No	448.00
12.31	Supplying & Fixing of 160W Mercury Vapour lamp with E27 Base, Lumen output greater than 12500 lumen & CRI 45 Avg Burning life greater than 20,000 hrs. Operating voltage range from 180V to 265V, 50Hz AC power Supply	No	454.00
12.32	Supplying & Fixing of 250W Mercury Vapour lamp with E27 Base, Lumen output greater than 22000 lumen & CRI 45.Avg Burning life greater than 20,000 hrs. Operating voltage range from 180V to 265V, 50Hz AC power Supply	No	454.00
12.33	Supplying & Fixing of 400W Mercury Blended lamp with E27 Base, Lumen output greater than 3000 lumen & CRI 52.Avg Burning life greater than 8000 hrs. Operating voltage range from 180V to 265V, 50Hz AC power Supply.	No	605.00
12.34	Supplying & Fixing of 70W Metal Halide single end tubular Lamp with lumen output of 6400 lumens & CCT 3000/4000 & CRI 80+ & Avg life greater than 15000 to 20,000 Hrs. With Cap Base E27. Operating voltage range from 180V to 265V,50Hz AC power Supply	No	746.00
12.35	Supplying & Fixing of 150W Metal Halide single end tubular Lamp with lumen output of 14500 lumens (150W) & CCT 3000/4000 & CRI 80+ & Avg life greater than 15000 to 20,000 Hrs. with Cap Base E40 Operating voltage range from 180V to 265V, 50Hz AC power Supply.	No	576.00
12.36	Supplying & Fixing of 250W Metal Halide single end tubular Lamp with lumen output of 25000 lumens & CCT 3000 & CRI 80+ & Avg life greater than 24,000 Hrs. with Cap Base E40	No	576.00
12.37	Supplying & Fixing of 400W Metal Halide single end tubular Lamp with lumen output of 25000 lumens & CCT 3000 & CRI 80+ & Avg life greater than 20,000 Hrs. with Cap Base E40. Operating voltage range from 180V to 265V, 50Hz AC power Supply	No	903.00
12.38	Supplying & Fixing of 70W Metal Halide Double Ended Lamp with lumen output of 5000 lumens & CCT 3000/4000 & CRI 65+ & Avg life greater 9000 Hrs. Operating voltage range from 180V to 265V, 50Hz AC power Supply	No	746.00
12.39	Supplying & Fixing of 150W Metal Halide Double Ended Lamp with lumen output of 13000 lumens (> 3000k to 4200K) & CCT 3000/4000 & CRI 65+ & Avg life greater 9000 Hrs. Operating voltage range from 180V to 265V, 50Hz AC power Supply	No	988.00

12.40	Supplying & Fixing of 70W/150W High Pressure Sodium Vapour tubular Lamp with Xenon filled gas with luminous efficiency of greater than 140 lumen/W or initial lumens of greater than 6500 lumens & avg rated life greater than 26000 hrs. & minimum starting temperature of (-) 40 degC & Hot restrike time <30 Sec with CCT 2000K. Operating voltage range from 180V to 265V, 50Hz AC power Supply	No	726.00
12.41	Supplying & Fixing of 250W/400W High Pressure Sodium Vapour tubular Lamp with Xenon filled gas with luminous efficiency of greater than 140 lumen/W or initial lumens of greater than 55000 lumens & avg rated life greater than 26000 hrs. & minimum starting temperature of (-) 40 deg C & Hot restrike time <60 Sec with CCT 2000K . Operating voltage range from 180V to 265V, 50Hz AC power Supply	No	1774.00
12.42	Supplying & Fixing of High Intensity Discharge Electro Magnetic ballast suitable for Mercury Vapour Lamp with Class H insulated copper wire. Operating voltage range from 180V to 265V, 50Hz AC power Supply		
12.42.1	Ballast/Choke for Mercury Vapour Lamp- 125 W	No	1117.00
12.42.2	Ballast/Choke for Mercury Vapour Lamp- 250 W	No	1681.00
12.42.3	Ballast/Choke for Mercury Vapour Lamp- 400 W	No	2274.00
12.43	Supplying & Fixing of Open Type Heavy Duty Ferromagnetic Copper Ballast for HPSV/HPMH 1A: Supply of High Intensity Discharge Electro Magnetic Ballast suitable for ... W sodium vapour / Metal Halide lamp with Copper winding of Orthocyclic winding coil. Class H insulated dual coated copper wire. Compliance to IEC 61347-2-9 Safety & IEC60923- Performance. Winding Temperature for HID Ballast $t_w = 130$ deg C & temperature rise $\Delta T = 70$ deg C. Operating voltage range from 180V to 265V, 50Hz AC power Supply.		
12.43.1	For 70 -W	No	1330.00
12.43.2	For 150 -W	No	1745.00
12.43.3	For 250 -W	No	2514.00
12.43.4	For 400 -W	No	3262.00
12.44	Supplying & Fixing of 230 V 20/40 W starter for Fluorescent Lamp	No	30.00
12.45	Supplying & Fixing of 230 V 20/40 W Fluorescent Lamp holder	No	33.00
12.46	Supplying & Fixing of 70-150 W lamp holder 2 Pin	No	63.00
12.47	Supplying & Fixing of 70-150 W lamp holder 4 Pin	No	148.00
12.48	Supplying & Fixing of 230 V Porcelain holder for MV/SV/ MH Lamp	No	190.00
12.49	Supplying & Fixing of 250-400 W lamp Holder	No	198.00
12.50	Supplying & Fixing of Ignitor Suitable for 70 to 400 W SV/MH fittings. Operating voltage range from 180V to 265V, 50Hz AC power Supply.	No	533.49
12.51	Supplying & fixing LED Drivers suitable for 5700K LED fitting Indoor Fixtures. Operating voltage range from 180V to 265V, 50Hz AC power Supply		

12.51.1	upto 3W 5700K suitable for indoor LED fitting.	Each	275.00
12.51.2	5W to 6W 5700K suitable for indoor LED fitting.	Each	336.00
12.51.3	9W to 12W 5700K suitable for indoor LED fitting.	Each	420.00
12.51.4	15W to 18W 5700K suitable for indoor LED fitting.	Each	611.00
12.51.5	25W 5700K suitable for indoor LED fitting.	Each	671.00
12.51.6	28W 5700K suitable for indoor LED fitting.	Each	792.00
12.51.7	36W 5700K suitable for indoor LED fitting.	Each	895.00
12.51.8	43W 5700K suitable for indoor LED fitting.	Each	974.00
12.52	Supplying & fixing LED Drivers suitable for 5700K LED fitting Outdoor Fixtures. Operating voltage range from 180V to 265V, 50Hz AC power Supply		
12.52.1	25W 5700K suitable for outdoor LED fitting.	Each	1474.00
12.52.2	40W 5700K suitable for outdoor LED fitting.	Each	1897.00
12.52.3	70W 5700K suitable for outdoor LED fitting.	Each	2200.00
12.52.4	90W 5700K suitable for outdoor LED fitting.	Each	2623.00
12.52.5	120W 5700K suitable for outdoor LED fitting.	Each	3410.00
12.52.6	150W 5700K suitable for outdoor LED fitting.	Each	4214.00
12.52.7	180W 5700K suitable for outdoor LED fitting.	Each	4819.00
12.52.8	200W 5700K suitable for outdoor LED fitting.	Each	5424.00
12.52.9	240W 5700K suitable for outdoor LED fitting.	Each	6634.00
12.53	Supplying and fixing of round or oblong type bulk head fitting glass cover	No	70.00
12.54	Supply, installation, testing & commissioning of Occupancy Sensor Switch:-Surface Mount with movement detector with built-in switch. It will switch off the lights in a room or area when it is vacated and thus save upto 30% of electrical energy The Occuswitch Surface Mount can switch any load upto 6A, Device mounting heights between 2.5 and 3.5 meter, for movement detection covering an area of 4 to 5 square meters (desk work) and 6 to 8 meters for larger movements like walking (at 25 deg Cel ambient). "Functions- Automatic control of lights/electrical load switch ON/OFF automatically when any movement is detected, with adjustable time settings for Switch ON/OFF(30 seconds to 30 minutes). Red LED indicator on detection of movement." Smart timer- The smart timer will extend the delay time by the set delay time if movement is detected shortly after switch off, assuming that the area is still in use, but very little movement is made. "Power Supply- Voltage 230 V +/-1 0%,.. 50/60Hz AC Supply,.. Maximum load 6 A. (1440 VA) any load, .. Maximum wire range 0.75 to 1.5mm2, .. Mains distribution system TN-S with Neutral grounded,."	Each	3200.00

12.55	<p>Supply, installation, testing & commissioning of Daylight Occupancy Sensor Switch:- Surface Mount with movement detector & daylight sensing with built-in switch. It will switch off the lights in a room or area when it is vacated or day light is sufficient enough and thus save upto 30% of electrical energy The Occupancy switch Surface Mount can switch any load upto 6A, Daylight override- Prevent Automatic switch-ON when sufficient daylight is available in order to create additional power savings To enable this feature necessary settings are available on the device for adjusting required light level.</p> <p>Device mounting heights between 2.5 and 3.5 meter, for movement detection covering an area of 4 to 5 square meters (desk work) and 6 to 8 meters for larger movements like walking (at 25 deg Cel ambient). "Functions- Automatic control of lights/electrical load switch ON/OFF automatically when any movement is detected, with adjustable time settings for Switch ON/OFF(30 seconds to 30 minutes). Red LED indicator on detection of movement." Smart timer- The smart timer will extend the delay time by the set delay time if movement is detected shortly after switch off, assuming that the area is still in use, but very little movement is made. "Power Supply-Voltage 230 V +/-10%,. 50/60Hz AC Supply, .. Maximum load 6 A (1440 VA) any load. Maximum wire range 0.75 to 1.5mm2, ..Mains distribution system TN-S with Neutral grounded,.."</p>	Each	3500.00
12.56	<p>Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40 mm dia 2.90 mm thick GI pipe 2.5m long buried in a pit . The pit should be filled with equal proportion of salt and charcoal 150 mm all-round the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12 mm dia bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 12 mm dia</p>	No	3510.00
12.57	<p>Supplying fixing and wiring earth electrode for grounding of lifts, transformers, DG sets etc. using 40 mm dia 2.9 mm thick 2.5m long GI pipe with GI funnel with mesh and suitable size reducer fixed on the top of the earth electrode.The funnel should be enclosed in a CC chamber of 400x400x400 mm with a cast iron cover. The earth electrode shall have staggered holes of 12 mm dia and the electrode should be covered 150 mm all-round with alternate layers of salt and charcoal from the bottom of the CC chamber. The connection from the electrode is to be established through GI strip using GI bolts and nuts.</p>	No	4256.00
12.58	GI/Copper strips for grounding connections, using necessary fixing materials as required.		
12.58.1	GI/Copper strips		
12.58.2	25 x 3 mm GI strip	m	82.00
12.58.3	25 x 6 mm GI strip	m	128.00
12.58.4	40 x 6 mm GI strip	m	181.00

12.58.5	50 x 6 mm GI strip	m	218.00
12.58.6	600 x 600 x 3 mm GI Plate	Each	875.00
12.58.7	25 x 3 mm Copper strip	m	570.00
12.58.8	25 x 6 mm Copper strip	m	1100.00
12.58.9	40 x 6 mm Copper strip	m	1643.00
12.58.10	50 x 6 mm Copper strip	m	2169.00
12.58.11	600 x 600 x 3 mm Copper plate	Each	7421.00
12.59	2 mm thick perforated cable GI tray with on existing MS angle support using necessary GI bolts/nuts and washer or welding as required.		
12.59.1	150 x 50 mm	m	463.00
12.59.2	300 x 50 mm	m	587.00
12.59.3	450 x 50 mm	m	913.00
12.59.4	600 x 50 mm	m	938.00
12.59.5	750 x 50 mm	m	1176.00
12.60	Supplying & Fixing Chemical earthling for grounding. Conduits, IC cut-outs & other equipments backfill compound which is non-corrosive, thermally conductive, potential to permissible limits, superior Fault conduction capacity, non toxic, weather resistance & capable of achieving ohmic value less than one ohm		
12.60.1	Using 4ft. Copper bonded rod with backfill compound	1 kit	4528.00
12.60.2	Using 6ft. Copper bonded rod with backfill compound	1 kit	6230.00
12.60.3	Using 10ft. Copper bonded rod with backfill compound	1 kit	8494.00
12.60.4	Using 4ft. SS rod with backfill compound	1 kit	2831.00
12.60.5	Using 6ft. SS rod with backfill compound	1 kit	4528.00
12.60.6	Using 10ft. SS rod with backfill compound	1 kit	6230.00
12.61	Supply and fixing of switch mode power supply based Battery chargers with Input voltage range: 160V to 270V AC, Nominal output voltage : 12V DC to 24V DC., Rated output current: 10A, switching frequency: 130KHz, Efficiency: >80%, Protection: - Fuse at the input -isolation of 2KV between input and output and protection against output short circuit and transient/Surge.	Each	6838.00

Chapter - 13

FIXING CHARGES

13.0	FIXING CHARGES		
13.1	Supplying and Fixing of.....mm dia class A GI pipe bracket upto 2 ms long bent at suitable angle and fixing to this bracket street light fitting of all capacities to GI or GI or rail or RCC pole / wall using suitable clamps, bolts, and nuts and wiring using suitable capacity wires.		
13.1.1	Using 25mm dia G.I.Pipe	Each	978.00
13.1.2	Using 32mm dia G.I.Pipe	Each	1045.00
13.2	Supplying and Fixing.....mm dia clampsss A GI pipe bracket upto 2.7 meters long terminated with a reducing collar of 40x25mm to which extra pipe of 175mm length is fixed for fixing MV/SV/MH/FTL street light fitting of all capacities on rail/RCC/wall/tubular pole, using suitable clamps, bolts, nuts and wiring using suitable capacity wires.		
13.2.1	Using 25mm dia G.I.Pipe	Each	1203.00
13.2.2	Using 32mm dia G.I.Pipe	Each	1295.00
13.2.3	Using 40mm dia G.I.Pipe	Each	1478.00
13.3	Supplying and Fixing 50mm clamps A GI pipe up to 4.5 ms. long with a reducing collar of 50x40mm to which, an extension of 250 mm pipe is fixed for 125 or 250/400 W MV/Sodium vapour street light fitting, using suitable clamps, bolts ,nuts, and wiring using suitable capacity wires.	Each	2452.00
13.4	Supplying and fixing telescopic M.S. bracket fabricated by using 0.5m length 4" dia telescopic M. S. pipe, with 2" dia 1.5m long M.S.Bracket and are welded with suitable angle, using 6mm thick M. S. sheet, grip bolts & nuts, as required, suitable for 9 to 12 ms. M. S. tubular pole, with necessary two coats of painting, with all other accessories.		
13.4.1	Single bracket 1.5 m. Length	Each	1461.00
13.4.2	Single bracket 2 m. Length	Each	1850.00
13.4.3	Double bracket 2x1.5 m. Length	Each	2335.00
13.4.4	Double bracket 2x2 m. Length	Each	2723.00
13.5	Fixing halogen/metal halide /SVL/IL/LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires.	Each	162.00
13.6	Fixing charges of post top/ Gate/ Garden fitting /LED on the existing CI/ GI or any other pipe using required size of reducer, wiring using suitable wires.	Each	198.00
13.7	Fixing all types and all capacities of fluorescent /false ceiling / spot light / CFL / LED fittings indoor on the wall/ ceiling / rafters / girders using 23/0.0076" twin twisted PVC insulated wires, required Nos of round blocks and clamps.		
13.7.1	On wall/ ceiling / Rafter / Girders	Each	122.00
13.7.2	Using necessary length of G.I. chain	Each	263.00
13.8	Using 1 m long 19mm 18 SWG enamelled brazed conduit of two nos. rod pendent with ball socket with check nuts all nickel plated	Each	320.00

13.9	Using 2 m long 19mm 18 SWG enamelled braised conduit of two nos. rod pendent with ball socket with check nuts all nickel plated	Each	570.00
13.10	Fixing a ceiling / Wall mounting fan of all capacities and all types to the existing 'S' hook with fan regulator to the existing board together with supplying and fixing 5 A. ceiling rose, necessary length of 23 / 0.0076 inch PVC insulated twin twisted copper wire and wiring.	Each	171.00
13.11	Fixing a ceiling /wall mounting fan of all capacities and all types, with necessary clamps and 'S' hook made out of 15mm dia MS rod, with 5 A. ceiling rose of approved quality with necessary length of 23/0.0076 inch PVC insulated twin twisted wire of approved quality, mounted on a suitable size wooden board and wired.	Each	315.00
13.12	Extra length of GI pipe of class B 19mm dia for down rod.	m	197.00
13.13	Fixing one exhaust fan after making a suitable notch in the wall and finishing with cement mortar and colouring to match the existing wall or brackets, with bolts and nuts and a 5 A, ceiling rose with sufficient length of 23 / 0.0076 inch PVC insulated twin core wire of approved make with wire mesh and wooden frame.	Each	707.00
13.14	Fixing one exhaust fan in the nitch already left in the wall with bolts and nuts and 5 A. ceiling rose with sufficient length of 23/0.0076 inch PVC insulated twin core wire.	Each	492.00
13.15	Erection charges for fixing a ... litres capacity wall mounting electric geysers using bolts, flat at one end nut and washers at the other end for through bolts and nuts and washers with 150x450x600mm back plate and wiring complete with 15A 3 pin top.		
13.15.1	upto 30 Litres	Each	664.00
13.15.2	35 to 50 Litres	Each	698.00
13.15.3	70 to 100 Litres	Each	737.00
13.16	Erection of single phase preventer / ammeters / including fixing selector switch / voltmeter / current operated earth leakage circuit breakers / voltage operated circuit breaker / above 100A fuse channel set (3 Nos) HRC fuses above100A (3 Nos.) / Digital ammeter/digital volt meter/set of3 indicating 1A /MCB / Relays /A-V selector switches including wiring using suitable capacity wires, bolts, nuts, screws.	Each	198.00
13.17	Fixing a shunt capacitor of ... kVAR capacity with necessary clamps, bolts, and nuts on existing wooden or metal board including banking of more than one capacitor.		
13.17.1	upto 5 kVAR	Each	270.00
13.17.2	6 to 10 kVAR	Each	323.00
13.17.3	11 to 20kVAR	Each	410.00
13.18	Fixing of A TPST / change over switch / Contactor along with neutral link with screws, bolts, nuts and wiring using required capacity wires and circuit labelling.		
13.18.1	15A to 63A TPST	Each	278.00
13.18.2	100A to 250A TPST	Each	447.00
13.18.3	300A to 400A TPST	Each	584.00
13.18.4	15A to 63A TPDT/COS	Each	290.00

13.18.5	100A to 250A TPDT/COS	Each	471.00
13.18.6	300A to 400A TPDT/COS	Each	596.00
13.19	Fixing all types and all capacities of 1'x4' / 2'x2' LED Light fittings indoor on the wall / ceiling / rafters / girders with necessary supporting frame, using 2310.0076" twin twisted PVC insulated wires, required Nos of round blocks and clamps.	Each	490.00

- 14.0 Design, supplying, erecting testing and commissioning of - Passenger/ Bed-cum-passenger hospital lift with speed of 1mtr per second, variable voltage variable frequency drive, with or without machine room for the available well size, operating at 415 V 3 phase 50 cycles AC supply, powder coated / Stainless Steel car entrance doors enclosures with suitable colour vinyl flooring, LED car illumination, emergency light, intercom and fan as desired by the user, central opening / side opening door with or without attendant operation, 7 segment display buttons, call register indicator, fireman drive, SS handrails inside car, full length infrared curtain in car door, automatic rescue device with batteries, voice announcing in regional/ international languages, Braille buttons with one year warranty and maintenance with necessary scaffolding and minor civil works like fixing of guide rail, counter weight etc.,The total product and services shall adhere to IS 14665/2016 (with latest amendments) part/section 1 to 5 with regards to general guidelines of fire safety rated doors, MRL beams, pressure switch, manual change over for doors during emergency, ARD of 10 times with sufficient battery back up and standard dimensions of chair car and door openings for all sizes and capacities of lifts including fitness certificate and duly observing all other safety norms prescribed and adhere to CPWD specifications, PCB Norms, National Electricity Code (NEC), NBC-2016, IEC and Karnataka State Lifts, Escalators and Passengers Conveyers Act 2012 and Rules 2014. The Supplier shall be registered in Government Electrical Inspectorate in the State of Karnataka.

14.1 A. With Machine Room-PC Finish

Capacity		2 stops Rs	3 stops Rs	4 stops Rs	5 stops Rs	6 stops Rs	7 stops Rs	8 stops Rs
14.1.1 6 Passengers	Job	1237239.36	1295113.25	1355135.40	1415157.55	1544971.07	1557698.63	1628969.68
14.1.2 8 Passengers	Job	1246252.83	1302458.36	1360709.60	1418961.87	1545233.58	1557962.16	1627463.33
14.1.3 10 Passengers	Job	1429181.25	1493659.89	1560444.71	1627229.53	1786470.66	1799198.22	1879380.20
14.1.4 13 Passengers	Job	1613451.94	1680079.87	1749012.96	1817948.09	1898901.19	1979855.32	2060808.42
14.1.5 15 Passengers	Job	1641174.27	1707241.30	1775569.38	1843896.44	1924243.52	2004591.62	2084938.69
14.1.6 20 Passengers	Job	2749915.73	2860262.60	2961094.57	3062995.03	3225165.79	3294193.21	3397400.06

14.2 B.With Machine Room-SS Finish

Capacity		2 stops Rs	3 stops Rs	4 stops Rs	5 stops Rs	6 stops Rs	7 stops Rs	8 stops Rs
14.2.1 6 Passengers	Job	1360930.07	1427016.58	1495454.38	1563893.21	1710540.08	1723267.64	1802955.37
14.2.2 8 Passengers	Job	1388926.19	1453636.58	1520607.00	1587578.45	1731290.56	1744018.12	1822238.47
14.2.3 10 Passengers	Job	1461460.56	1527728.57	1598354.63	1667954.24	1832824.94	1845552.50	1928551.32
14.2.4 13 Passengers	Job	1724170.02	1796933.06	1872114.05	1947295.04	2034497.08	2121698.08	2208899.09
14.2.5 15 Passengers	Job	1706321.49	1776500.47	1848965.11	1921440.01	2005933.90	2090428.81	2174922.70
14.2.6 20 Passengers	Job	2939539.14	3057294.69	3164585.81	3274762.46	3380857.92	3538000.01	3622320.60

14.3 C .With Out Machine Room-PC Finish

Capacity		2 stops Rs	3 stops Rs	4 stops Rs	5 stops Rs	6 stops Rs	7 stops Rs	8 stops Rs
14.3.1 6 Passengers	Job	1215634.70	1275528.68	1337648.85	1399767.99	1473137.06	1546505.10	1619873.14
14.3.2 8 Passengers	Job	1284909.25	1345894.28	1409104.47	1472314.67	1546772.74	1621231.83	1695690.92
14.3.3 10 Passengers	Job	1425213.88	1493107.19	1563380.50	1633654.84	1729261.25	1813002.47	1896743.70
14.3.4 13 Passengers	Job	1559857.14	1623715.41	1693295.53	1758684.75	1841023.20	1920774.51	2000770.89
14.3.5 15 Passengers	Job	1723351.73	1795265.72	1869495.12	1943724.52	2029953.42	3039102.65	2196306.89
14.3.6 20 Passengers	Job	2784854.99	2879516.98	3003054.91	3115253.69	3226769.55	3393075.85	3469454.53

14.4 D With Out Machine Room-SS Finish

Capacity		2 stops Rs	3 stops Rs	4 stops Rs	5 stops Rs	6 stops Rs	7 stops Rs	8 stops Rs
14.4.1 6 Passengers	Job	1308394.53	1375286.00	1444558.50	1513828.95	1594351.37	1674871.75	1755392.12
14.4.2 8 Passengers	Job	1390433.56	1458491.96	1529002.14	1592677.88	1681056.08	1762743.38	1844431.71
14.4.3 10 Passengers	Job	1455661.79	1526462.17	1599643.58	1672825.00	1771339.51	1857986.79	1944636.12
14.4.4 13 Passengers	Job	1664909.75	1736522.27	1810536.33	1884540.14	1970562.93	2056586.75	2142609.55
14.4.5 15 Passengers	Job	1795101.65	1871945.88	1964217.61	2043444.92	2134692.25	2225939.58	2317185.89
14.4.6 20 Passengers	Job	2789558.61	2883509.98	3006800.78	3119632.25	3229317.73	3388867.51	3470017.49

Please Note:

- To arrive at the rates for next higher stops viz., 9,10,11 & 12 only add Rs. 75,000.00 to the subsequent lower stop price.
- For more than 6 stops, lift with speed of 1.5 mtr / sec. is recommended. To arrive the rates for 1.5 mtr/sec. speed lifts add 10% on the above rates.

**CHAPTER 15
FIRE FIGHTING WORKS**

SL No	SPECIFICATION	Unit	Rate
	Providing ABC Powder based MAP 50, 1Kg		
15.1	Supply, installation of 1kg Fire Extinguisher Mono Ammonium Phosphate Powder 50, Stored Pressure Type, Pressure Gauge, Gross Weight 2.3 Kg, empty weight 1.3 Kg, Can Height 298mm, Diameter 86.50mm, Discharge Time less than 8 Secs, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 2 meters, applicable on Class A, 8,C and electrically started Fire, A Rating 1A, 8 Rating 88, Can construction: Deep drawn & Co., Mig welded, valve Construciton: Forging and Machining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyster power coating, Sheet metal thickness: 1.60mm, 5 years Warranty with installation system etc., including cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall, labour, usage charges of machinery complete as per specifications. complete. IS 15683 Approved.	Each	1350.00
	Providing ABC Powder based MAP 50, 2Kg		
15.2	Supply and installation of 2kg Fire Extinguisher Mono Ammonium Phosphate Powder 50, Stored Pressure Type, Pressure Gauge, Gross Weight 3.6 Kg, empty weight 1.6 Kg, Can Height 344MM, Diameter 108MM, Discharge Time less than 8 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 2 meters, applicable on Class A,8, C and electrically started Fire, A Rating 1A, 8 Rating 88, Can construction : Deep drawn & Co. , Mig welded, valve Construciton: Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyster power coating, Sheet metal thickness: 1.60MM, 5 years Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete. IS 15683, CE A 5 with	Each	2100.00
	Providing ABC Powder based MAP 50, 4Kg		

15.3	<p>Supply, installation of 4kg Fire Extinguisher Mono Ammonium Phosphate Powder 50, Stored Pressure Type, Pressure Gauge, Gross Weight 6.9 Kg, empty weight 2.9 Kg, Can Height 440MM, Diameter 140MM, Discharge Time less than 13 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 meters, applicable on Class A,8, C and electrically started Fire, A Rating 2A, 8 Rating 218, Can construction : Deep drawn & Co., Mig welded, valve Construcion</p> <p>: Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyster power coating, Sheet metal thickness: 1.60MM, 5 years Warranty with installation system with Superior quality EPDM Rubber Hosepipe etc., including cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall, , labour, usage charges of machinery complete as per specifications. complete IS 15683, CE Approved.</p>	Each	2650.00
Providing ABC Powder based MAP 50, 6Kg			
15.4	<p>Supply and installation in position, testing and commissioning 6kg Fire Extinguisher Mono Ammonium Phosphate Powder 50, Stored Pressure Type, Pressure Gauge, Gross Weight 9.5 Kg, empty weight 3.5 Kg, Can Height 435MM, Diameter 160MM, Discharge Time less than 9 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 meters, applicable on Class A,8,C and electrically started Fire, A Rating 3A, 8 Rating 218, Can construction : Deep drawn & Co., Mig welded, valve Construcion : Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyster power coating, Sheet metal thickness: 1.60MM, 5 years Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,,, labour, usage charges of machinery complete as per specified.with regards to general guidelines of fire saf</p>	Each	2850.00
Providing ABC Powder based MAP 50, 9Kg			

15.5	<p>Supply and installation of 9kg Fire Extinguisher Mono Ammonium Phosphate Powder 50, Stored Pressure Type, Pressure Gauge, Gross Weight 14.90 Kg, empty weight 5.90 Kg, Can Height 615MM, Diameter 175M M, Discharge Time less than 13Secs, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 meters, applicable on Class A,8, C and electrically started Fire, A Rating 4A, 8 Rating 348, Can construction : Deep drawn & Co., Mig welded, valve Construciton : Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyester power coating, Sheet metal thickness: 2.00MM, 5 years Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including including cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,including cost of supporting materials like MS stand & accessories if ited.with regards to general guidelines of fire safety rated doors, MRL beams, pressure switch, manual change over for doors during emergency, ARD of 10 times with sufficie</p>	Each	3250.00
	Providing ABC Powder based MAP 90, 2Kg		
15.6	<p>Supply and installation of 2 kg Fire Extinguisher Mono Ammonium Phosphate Powder 90, Stored Pressure Type, Pressure Gauge, Gross Weight 3.6 Kg, empty weight 1.6 Kg, Can Height 344MM, Diameter 108MM, Discharge Time less than 8 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 2 meters, applicable on Class A,8,C and electrically started Fire, A Rating 1A, 8 Rating 88, Can construction : Deep drawn & Co., Mig welded, valve Construciton :Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyester power coating, Sheet metal thickness: 1.60MM, 5 years Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost of materials, labour, usage charges of machinery complete as per specifications. complete IS 15683, CE Approved</p>	Each	1850.00
	Providing ABC Powder based MAP 90, 4Kg		
15.7	<p>Supply and installation of 4kg Fire Extinguisher Mono Ammonium Phosphate Powder 50, Stored Pressure Type, Pressure Gauge, Gross Weight 6.9 Kg, empty weight 2.9 Kg, Can Height 440MM, Diameter 140MM, Discharge Time less than 13 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 meters, applicable on Class A,8,C and electrically started Fire, A Rating 2A, 8 Rating 218, Can construction : Deep drawn & Co., Mig welded, valve Construciton : Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyester power coating, Sheet metal thickness: 1.60MM 5 years Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete IS 15683 CE Appred.wi</p>	Each	2100.00

	Providing ABC Powder based MAP 90, 6Kg		
15.8	Supply, installation in position, testing and commissioning of 6kg Fire Extinguisher Mono Ammonium Phosphate Powder 90, Stored Pressure Type, Pressure Gauge, Gross Weight 9.40 Kg, empty weight 3.4 Kg, Can Height 480MM, Diameter 160MM, Discharge Time less than 13 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 meters, applicable on Class A,B, C and electrically started Fire, A Rating 3A, B Rating 21B, Can construction : Deep drawn & Co., Mig welded, valve Construciton : Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyster power coating, Sheet metal thickness: 1.60MM, 5 years Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost of materials, labour, usage charges of machinery complete as per specifications. complete IS 15683 and CE Approved	Each	2550.00
15.9	Supply and installation of 9kg Fire Extinguisher Mono Ammonium Phos phate Powder 90, Stored Pressure Type, Pressure Gauge, Gross Weight 14.9 Kg, empty weight 5.90 Kg, Can Height 615MM, Diameter 175M M, Discharge Time less than 13Secs, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 meters, applicable on Class A,B, C and electrically started Fire, A Rating 4A, B Rating 348, Can construction : Deep drawn & Co., Mig welded, valve Construciton : Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyster power coating, Sheet metal thickness: 2.00 M M, 5 years Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete IS 15683 and CE Approved	Each	3100.00
	Providing ABC Powder based MAP 90, 25Kg		
15.10	Supply and installation of 25kg Fire Extinguisher Mono Ammonium Phosphate Powder 90, Stored Pressure Type, Pressure Gauge, Gross Weight 76Kg, empty weight 51 Kg, Can Height 1200 MM, Diameter 300 MM, Discharge Time less than 30 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 6 meters, applicable on Class A, B,C and electrically started Fire, Can construction : Deep drawn & Co., Mig welded, valve Construciton: Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyster power coating, Sheet metal thickness: 4.00 MM, IS 16018 and CE Approved. 1year Warranty. with instalert system with Superior quality EPDM Rubber. Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete	Each	10500.00
	Providing Ceiling mounted 5 Kg		

15.11	Supply and installation of 5kg Fire Extinguisher Mono Ammonium Phosphate Powder 90, Stored Pressure Type, Pressure Gauge, Gross Weight 7.7Kg, empty weight 2.7 Kg, Can Height 264 M M , Diameter 240 M M, Discharge Time less than 8 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 10 meters, applicable on Class A,8,C and electrically started Fire, Can construction CE Approved : Deep drawn & Co., Mig welded, valve Construcion : Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyster power coating, Sheet metal thickness: 2.00 MM, Tested, 5 years warranty. etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete	Each	10000.00
	Providing 10 Kg Ceiling Mounted		
15.12	Supply, installation in position, testing and commissioning of 10kg Fire Extinguisher Mono Ammonium Phosphate Powder 90, Stored Pressure Type, Pressure Gauge, Gross Weight 14.8Kg, empty weight 4.8 Kg, Can Height 320 MM, Diameter 300 MM, Discharge Time less than 10 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 10 meters, applicable on Class A,8,C and electrically started Fire, Can construction: Deep drawn & Co., Mig welded, valve Construcion: Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyster power coating, Sheet metal thickness: CE Approved 2.00 MM, 5 years warranty. etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete	Each	15000.00
	Providing 1 Kg Fire Extinguisher Powder based		
15.13	Supply and installation of 1kg Stored Pressure Type, Pressure Guage, Gross Weight 2.7 Kg, empty weight 1.7 Kg, Can Height 344MM, Diameter 108MM, Discharge Time less than 8 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 meters, applicable onClass A,8 and electrically started Fire, 8 Rating 898, Can construction : Deep drawn & Co., Mig welded, valve Construcion: Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyster power coating, Sheet metal thickness: 1.60 MM, IS 15683 and CE Approved. 5 years warranty. with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost of materials, labour, usage charges of machinery complete as per specifications. complete	Each	1850.00
	Providing 2 Kg Fire Extinguisher Powder based		

15.14	Supply and installation of 2kg Stored Pressure Type, Pressure Guage, Gross Weight 4.9 Kg, empty weight 2.9 Kg, Can Height 440 MM, Diameter 140 MM, Discharge Time less than 9 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 meters, applicable on Class A, 8 and electrically started Fire, Very effective on Class 8 Fire, 8 Rating 144B, Can construction : Deep drawn, IS 15683 and CE Approved welded, valve Construciton: Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyster power coating, Sheet metal thickness: 1.60 M M, 5 years warranty. with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete	Each	2850.00
	Providing 4 Kg Fire Extinguisher Powder Based		
15.15	Supply and installation of 4kg Stored Pressure Type, Pressure Guage, Gross Weight 7.4Kg, empty weight 3.4 Kg, Can Height 480 MM, Diameter 160 MM, Discharge Time less than 13 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 meters, Can construction Deep drawn & Co., Mig welded, valve Construciton Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyster power coating, Sheet metal thickness: 1.60 MM, IS 15683 and CE Approved 5 years warranty. with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete	Each	3350.00
	Providing 4 Kg Fire Extinguisher for Lite metal fires SPM-TEC		
15.16	Supply and installation of 4kg SPM-TEC Powder Based stored presure type melting point at 600-650 degree C, Applicable on Class D metal fires in Magnesium, Aluminium, Zinc, Sodium Potassium, Francium, Lithium, Cesium, Pressure Guage, Gross weight Gross Weight 6.9Kg, empty weight 2.9 Kg, Can Height 440 MM, Diameter 140 MM, Discharge Time less than 15 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 meters, Can construction: Deep drawn & Co. , Mig welded, valve Construciton : Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyster power coating, Sheet metal thickness: 1.60 M M, 5 years warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete aste IS 15683 and CE Approved uidelines of fir	Each	6500.00
	Providing 6 Kg Fire Extinguisher for Lite metal fires SPM-TEC		

15.17	Providing 6kg SPM-TEC Powder Based stored pressure type melting point at 600-650 degree C, Applicable on Class D metal fires in Magnesium, Aluminium, Zinc, Sodium Potassium, Francium, Lithium, Cesium, Pressure Gauge, Gross weight Gross Weight 9.4Kg, empty weight 3.4 Kg, Can Height 480 MM, Diameter 160 M M, Discharge Time less than 16 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 meters, Can construction : Deep drawn & Co. , Mig welded, valve Construcion CE Approved : Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyester power coating, Sheet metal thickness: 1.60 M M, 5 years warranty. with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost of materials, labour, usage charges of machinery complete as per specifications. complete	Each	8100.00
	Providing 9 Kg Fire Extinguisher for Lite metal fires SPM-TEC		
15.18	Supply, installation of 9kg SPM-TEC Powder Based stored pressure type melting point at 600-650 degree C, Applicable on Class D metal fires in Magnesium, Aluminium, Zinc, Sodium Potassium, Francium, Lithium, Cesium, Pressure Gauge, GrossweightGrossWeight14.9Kg, emptyweight5.9 Kg, Can Height 615 MM, Diameter 175MM, Discharge Time less than18 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 meters, Can construction: Deep drawn & Co., Mig welded, valve Construcion : Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyester power coating, Sheet metal thickness: 2.00 MM, 5 years warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges machinery complete as per specifications. complete.	Each	11500.00
	Providing 4 Kg Fire Extinguisher for Heavy metal fires SPM-PYRO		
15.19	Supply and installation of 4 Kg Powder Based stored pressure type melting point at 1200 degree C, Applicable on Class D metal fires in heavy metals, alkali metals and alloys Pressure Gauge, Gross weight Gross Weight 6.9Kg, empty weight 2.9 Kg, Can Height 440 M M, Diameter 140 M M, Discharge Time less than 15 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 meters, Can construction : Deep drawn & Co., Mig welded, valve Construcion: Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyester power coating, Sheet metal thickness: 1.60 MM, 5 years warranty. including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete, CE APproved.	Each	7500.00
	Providing 6Kg Fire Extinguisher for Heavy metal fires SPM-PYRO		

15.20	Supply and installation of 6Kg Powder Based stored pressure type melting point at 1200 degree C, Applicable on Class D metal fires in heavy metals, alkali metals and alloys Pressure Gauge, Gross weight Gross Weight 9.4Kg, empty weight 3.4 Kg, Can Height 480MM, Diameter 160 MM, Discharge Time less than 16 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 meters, Can construction : Deep drawn & Co., Mig welded, valve Construciton : Forging and Mechining, Internal Coating of Can: Epoxy powder coating, ExternalCoating of Can: Epoxy Polyester power coating, Sheet metal thickness: 1.60 MM, 5 years warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete, CE Approved.	Each	8900.00
	Providing 9 Kg Fire Extinguisher for Heavy metal fires, SPM-PYRO		
15.21	Supply and installation of 9Kg Powder Based stored pressure type melting point at 1200 degree C, Applicable on Class D metal fires in heavy metals, alkali metals and alloys Pressure Gauge, Gross Weight 14.9Kg, empty weight 5.90 Kg, Can Height 615MM, Diameter 175 MM, Discharge Time less than 18 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4meters, Canconstruction: Deepdrawn& Co., Mig welded, valve Construciton: Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyester power coating, Sheet metal thickness: 2.00 MM, 5 years warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete CE Approved.	Each	11500.00
	Providing 2Kg Fire Extinguisher Clean Agent HCFC 123		
15.22	Supply and installation of 2Kg Pressure type, Pressure Gauge, Gross Weight 3.7Kg, empty weight 1.7 Kg, Can Height 344MM, Diameter 108MM, Discharge Time less than 8 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 2 meters, applicable on Class A,8,C and electrically started Fire, 8 Rating 218, Can construction: Deep drawn &Co., Mig welded, valve Construciton: Forging and Mechining, Internal Coating of Can: Epoxy powder coating, External Coating of Can: Epoxy Polyester power coating, Sheet metal thickness: 2.00 MM, 5 years warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete IS15683 and CE Approved.	Each	6500.00
	Providing 4 Kg Fire Extinguisher Clean Agent HCFC 123		

15.23	Supply and installation of 4Kg Stored Pressure Type, Pressure Gauge, Gross Weight 6.9 kg empty weight 2.9 kg Can Height 440MM, Diameter 140 M M, Discharge minimum 9 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 Meters, applicable on Class A,8,C and electrically started Fire, A Rating 1A, 8 Rating, IS 15683 and CE Approved 138 Can Construction; Deepdrawn & CO, Migwelded, Valve Construction: Forging & Machining, Internal Coating of Can : Epoxy Powder coating, External Coating of Can : Epoxy Polyester Powder coating, Sheet metal thickness: 1.60M M, 5 years warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete	Each	10500.00
	Providing 6 Kg Fire Extinguisher Clean Agent HCFC 123		
15.24	Supply and installation of 6Kg Stored Pressure Type, Pressure Gauge, Gross Weight 9.4kg. empty weight 3.4 kg Can Height 480MM, Diameter 160 MM, Discharge Time less than 13 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 4 Meters, applicable on Class A,8,C and electrically started Fire, A Rating 2A, IS 15683 and CE Approved. 8 Rating 218 Can Construction; Deep drawn & CO, Mig welded, Valve Construction: Forging & Machining, Internal Coating of Can: Epoxy Powder coating, External Coating of Can : Epoxy Polyester Powder coating, Sheet metal thickness: 1.60M M, 5 years warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete	Each	14500.00
	Providing 5Kg Ceiling Mounted Fire Extinguisher Clean Agent HCFC 123		
15.25	Supply and installation of 5Kg Stored Pressure Type, Pressure Gouge, Gross Weight 7.7kg. empty weight 2.7 kg Can Height 267MM, Diameter 230 MM, Discharge Time less than 8Secs,Auto discharge mechanism, on temperature rise, applicable on Class A, 8,C and electrically started Fire, Can Construction; Deep drawn & CO, Mig welded, Valve Construction: Forging & Machining, Internal Coating of Can : Epoxy Powder coating, External Coating of Can : Epoxy Polyester Powder coating, Sheet metal thickness: 1.60MM, 5 Years Warranty. including cost of materials, labour, usage charges of machinery complete as per specifications. IS 15683 and CE Approved	Each	18500.00
	Providing 10Kg Ceiling Mounted Fire Extinguisher Clean Agent HCFC 123		

15.26	Supply and installation of 10Kg Stored Pressure Type, Pressure Gauge, Gross Weight 14.8kg. empty weight 4.8 kg Can Height 316MM, Diameter 300 MM, Discharge Time less than 10Secs, Auto discharge mechanism, on temperature rise, applicable on Class A, 8,C and electrically started Fire, Can Construction; Deep drawn & CO, Mig welded, Valve Construction: Forging & Machining, Internal Coating of Can : Epoxy Powder coating, External Coating of Can : Epoxy Polyester Powder coating, Sheet metal thickness: 2.0M M, 5 Years Warranty including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. CE Approved.	Each	48500.00
	Providing 2Kg Fire Extinugisher Clean Agent HCFC 123		
15.27	Supply and installation of 2Kg Stored Pressure Type, Pressure Gauge, Gross Weight 3.70kg. empty weight 1.7 kg Can Height 344MM, Diameter 108 MM, Discharge Time minimum 8 Sees, Controlable discharge mechanism, Range minimum 2 Meters, applicable on Class A, 8,C and electrically started Fire 8, Rating 88, Can Construction; Deep drawn & CO, Mig welded, Valve Construction: Forging & Machining, Internal Coating of Can : Epoxy Powder coating, External Coating of Can : Epoxy Polyester Powder coating, Sheet metal thickness: 1.60M M, E119 5 Years Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. Complete CE Approved And IS 1568 3	Each	5800.00
	Providing 4Kg Fire Extinugisher Clean Agent HCFC 123		
15.28	Supply and installation of 4Kg Stored Pressure Type, Pressure Gauge, Gross Weight 6.9kg. empty weight 2.9 kg Can Height 440MM, Diameter 140 MM, Discharge Time minimum 13 Sees, Controlable discharge mechanism, Range minimum 4 Meters, applicable on Class A, 8,C and electrically started Fire A, Rating 1A, 8, Ranting 138, Can Construction; Deep drawn & CO, Mig welded, Valve Construction: Forging & Machining, Internal Coating of Can : Epoxy Powder coating, External Coating of Can : Epoxy Polyester Powder coating, Sheet metal thickness: 1.60M M, 5 Years Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost of materials, labour, usage charges of machinery complete as per specifications. complete IS 15683 and CE Approved	Each	8100.00
	Providing 6Kg Fire Extinugisher Clean Agent HCFC 123		

15.29	<p>Supply, installation in position, testing and commissioning of 6Kg Stored Pressure Type, Pressure Gauge, Gross Weight 9.4kg. empty weight 3.4 kg Can Height 480MM, Diameter 160 MM, Discharge Time minimum 13 Sees, Controlable discharge mechanism, Range minimum 4 Meters, applicable on Class A, B,C and electrically started Fire A Rating 5A, B, Ranting 348, Can Construction; Deep drawn & CO, Mig welded, Valve Construction: Forging & Machining, Internal Coating of Can : Epoxy Powder coating, External Coating of Can</p> <p>: Epoxy Polyster Powder coating, Sheet metal thickness: 1.60M M, 5 Years Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete IS 15683 and CE Approved</p>	Each	11000.00
	Providing 9Kg Fire Extinugisher Clean Agent HCFC 123		
15.30	<p>Supply and installation of 9Kg Stored Pressure Type, Pressure Gauge, Gross Weight 13.8kg. empty weight 4.8 kg Can Height 611MM, Diameter 175 MM, Discharge Time minimum 12 Sees, Controlable discharge mechanism, Range minimum 4 Meters, applicable on Class A, B,C and electrically started Fire, Can Construction; Deep drawn & CO, Mig welded, Valve Construction: Forging & Machining, Internal Coating of Can : Epoxy Powder coating, External Coating of Can : Epoxy Polyster Powder coating, Sheet metal thickness: 1.60MM, IS 15683 and CE Approved 5 Years Warranty including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications.</p>	Each	15500.00
	Providing 5Kg Ceiling Mounted Fire Extinugisher Clean Agent HCFC 123		
15.31	<p>Supply and installation of 5Kg Stored Pressure Type, Pressure Gauge, Gross Weight 7.7kg. empty weight 2.7kg Can Height 267M M, Diameter 230 M M, Discharge Time less than 8 Secs,Auto discharge mechanism, on temperature rise, applicable on Class A, B,C and electrically started Fire, Can Construction; Deep drawn & CO, Mig welded, Valve Construction: Forging & Machining, Internal Coating of Can : Epoxy Powder coating, External Coating of Can : Epoxy Polyster Powder coating, Sheet metal thickness: 1.60M M, 5 Years Warranty including cost of materials, labour, usage charges of machinery complete as per specifications. CE Approved.</p>	Each	18500.00
	Providing 10Kg Ceiling Mounted Fire Extinugisher Clean Agent HCFC 123		

15.32	Supply and installation of 10Kg Stored Pressure Type, Pressure Gauge, Gross Weight 14.8kg. empty weight 4.8kg Can Height 316M M, Diameter 300 M M, Discharge Time less than 8 Secs,Auto discharge mechanism, on temperature rise, applicable on Class A, B,C and electrically started Fire, Can Construction; Deep drawn & CO, Mig welded, Valve Construction: Forging & Machining, Internal Coating of Can : Epoxy Powder coating, External Coating of Can : Epoxy Polyester Powder coating, Sheet metal thickness: 1. 60M M, 5 Years Warranty including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. CE Approved.	Each	48500.00
	C02 2Kg Squeeze grip		
15.33	Supply and installation of 2 Kg C02 Gas Type Fire Extinguisher Squeeze grip type, used Unused Mechanism, Squeeze Grip, Gross Weight 9.1 Kg. empty Weight 7.1 Kg. Can Height 595MM Diameter 108MM, Discharge Time less than 8 Sees, Controllable discharge mechanism, Applicable on Class 8&C Fire, 8 Rating 88, Can Construction : Hot spinning/Forging, Valve Construction : Forging & Machining, Internal Coating of Can : Not Applicable, External coating of Can : Spray Painting, Sheet metal thickness: 4.0MM ISI Approved, 1 Year Warranty.with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete	Each	5500.00
	C02 4.5Kg Squeeze grip		
15.34	Supply, installation in position, testing and commissioning of 4.5Kg C0 Gas Type Fire Extinguisher, Trolley Mounted, 2 Easy Weight Management used Unused Mechanism, Squeeze Grip, Gross Weight 19.1 Kg. empty Weight 14.6 Kg. Can Height 860MM Diameter 140MM, Discharge Time less than13 Sees, Controllable discharge mechanism, Applicable on Class 8&C Fire, 8 Rating 138, Can Constuctin : Hot spinning/Forging, Valve Construction : Forging & Machining, Internal Coating of Can : Not Applicable, External coating of Can : Spray Painting, Sheet metal thickness : 4.5M M ISI Approved 1Year Warranty. with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost of materials, labour, usage charges of machinery complete as per specifications. complete	Each	6500.00
	Providing 4.5Kg C02 Wheel Type		

15.35	<p>Supply and installation of 4.5Kg C02 gas valve type Fire Extinguisher, Trolley Mounted, Easy Weight Management used Unused Mechanism, Gross Weight 19.1 Kg. empty Weight 14.6 Kg. Can Height 860MM Diameter 140MM, Discharge Time less than 13 Sees, Controllable discharge mechanism, Applicable on Class 8&C Fire, 8 Rating 138, Can Construction : Hot spinning/Forging, Valve Construction : Forging & Machining, Internal Coating of Can : Not Applicable, External coating of Can : Spray Painting, Sheet metal thickness : 4.5M M ISI Approved, 1Year Warranty. with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete</p>	Each	8500.00
	Providing 6.5Kg C02 Wheel Type		
15.36	<p>Supply and installation of 6.5Kg C02 Gas valve type Fire Extinguisher, Trolley Mounted, Easy Weight Management used Unused Mechanism, Gross Weight 30.5 Kg. empty Weight 24.0 Kg. Can Height 1015M M Diameter 140M M, Discharge Time less than 13 Sees, Controllable discharge mechanism, Applicable on Class 8&C Fire, 8 Rating 348, Can Constuctin : Hot spinning/Forging, Valve Construction : Forging & Machining, Internal Coating of Can : Not Applicable, External coating of Can : Spray Painting, Sheet metal thickness : 4.5M M ISI Approved, 1Year Warranty. with instalert system with Superior quality EPDM Rubber Hosepipe etc.,including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. Complete.</p>	Each	9500.00
	Providing 22.5Kg C02 Wheel Type		
15.37	<p>Providing 22.5Kg C02 Gas Type Fire Extinguisher, Trolley Mounted, Easy Weight Management used Unused Mechanism, Gross Weight 93.5 Kg. empty Weight 71.0Kg. Can Height 1333M M Diameter 232MM, Discharge Time less than 20 Sees, Controllable discharge mechanism, Applicable on Class 8&C Fire, Can Constuction: Hot spinning/Forging, Valve Construction : Forging & Machining, Internal Coating of Can : Not Applicable, External coating of Can : Spray Painting, Sheet metal thickness : 5.20 MM ISI Approved, 1 Year Warranty. including cost of materials, labour, usage charges of machinery complete as per specifications. complete</p>	Each	17500.00
	Providing C02 Aluminium - 2kg		

15.38	Supply, installation in position, testing and commissioning of 2Kg C02 Gas aluminium body Squeeze grip Fire Extinguisher, Used Unused Mechanism, Squeeze Grip, Gross Weight 5.16 Kg. empty Weight 3.16Kg. Can Height 615M M Diameter 111MM, Discharge Time less than 8 Sees, Controllable discharge mechanism, Applicable on Class 8&C Fire, 8 Rating 138, Can Constuction: Cold Impact Extrusion, Valve Construction : Forging & Machining, Internal Coating of Can : Not Applicable, External coating of Can : Spray Painting, Aluminium metal ISO & PESO Approved, 3 Year Warranty. including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete.	Each	4100.00
	Providing C02 Aluminium - 4.5kg		
15.39	Supply and installation of 4.5Kg C02 Gas Type aluminium body Squeeze grip Fire Extinguisher, Trolley Mounted, Easy Weight Management, Used Unused Mechanism, Squeeze Grip, Gross Weight 11.16Kg. empty Weight 6.66Kg. Can Height 860MM Diameter 140MM, Discharge Time less than10 Sees, Controllable discharge mechanism, Applicable on Class 8&C Fire, 8 Rating 138, Can Constuction : Cold Impact Extrusion, Valve Construction : Forging & Machining, Internal Coating of Can : Not Applicable, External coating of Can : Spray Painting, Aluminium metal ISO & PESO Approved, 3 Year Warranty. including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete.	Each	7500.00
	Providing Aqueous Film-Forming Foam - 9 Ltr		
15.40	Supply and installation of 9 Ltr Fire Extinguisher Aqueous Film-Forming Foam Type, Stored Pressure Type, Pressure Gauge, Gross Weight 15.10kg. empty weight 6.10kg Can Height 615 MM, Diameter 175 MM, Discharge Time less than 60 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 6 Meters, applicable on Class A,8,CARating 13A, 8 Rating 558, Can Construction; Deep drawn & CO, Mig welded, Valve Construction: Forging & Machining, Internal Coating of Can : Epoxy Powder coating, External Coating of Can : Epoxy PoIyster Powder coating, Sheet metal thickness: 2.0MM, ISI and EN Approved, Helium Leak Detection Tested, 1 Years Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete	Each	8100.00
	Providing Aqueous Film-Forming Foam - 50 Ltr		

15.41	Supply and installation of 50 Ltr Fire Extinguisher Aqueous Film-Forming Foam Type, External Cartridge Type, Pressure Gauge, Gross Weight 102kg. empty weight 52kg Can Height 1192MM, Diameter 300 MM, Discharge Time less than 180 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 10 Meters, applicable on Class A,B,Can Construction; Deep drawn & CO ₂ , Mig welded, Valve Construction: Forging & Machining, Internal Coating of Can : Epoxy Powder coating, External Coating of Can : Epoxy Polyester Powder coating, Sheet metal thickness: 4.0MM, 1 Years Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost of materials, labour, usage charges of machinery complete as per specifications. complete.	Each	16500.00
	Providing Water type- 9 Ltr -Stored Pressure		
15.42	Supply and installation of 9 Ltr Water type Fire Extinguisher, Stored Pressure Type, Pressur Gauge, Gross Weight 15.1kg. empty weight 6.1kg Can Height 615MM, Diameter 175 MM, Discharge Time less than 120 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 6 Meters, applicable on Class A Fire, A Rating 3A, Can Construction; Deep drawn & CO, Mig welded, Valve Construction: Forging & Machining, Internal Coating of Can : Epoxy Powder coating, External Coating of Can : Epoxy Polyester Powder coating, Sheet metal thickness: 2.0M M, IS 15683 and CE Approved. Years Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete	Each	9100.00
	Providing Water type - 45 Ltr		
15.43	Supply and installation of 45 Ltr Fire Extinguisher Water Type, External Cartridge, Gross Weight 108kg. empty weight 58kg Can Height 1200MM, Diameter 300 MM, Discharge Time less than 180 Sees, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Range minimum 10 Meters, applicable on Class A Fire, Can Construction; Deep drawn & CO, Mig welded, Valve Construction: Forging & Machining, Internal Coating of Can : Epoxy Powder coating, External Coating of Can : Epoxy Polyester Powder coating, Sheet metal thickness: 4.0MM, 1 Years Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, usage charges of machinery complete as per specifications. complete IS 16018 and CE Approved.	Each	21500.00
	Providing Hydro Pyroquell Sytem- 21tr		

15.44	<p>Supply and installation of 2 Ltr Hydro Pyroquell Sytem Watermist technology base, Stored pressure type, Rating -15F, Solid stainless body to withstand hight temperatures, Tamper-proof safety seal, Effective on Class-A, Class-B, Class-F and Electrically Started Fires, Built-in pressure gauge, Instalert, Uses distilled water, Gross Weight 4.60 Kg, empty Weight 2.60kg, can Height 440mm Diameter 140MM, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Can Construction : Deep drawn & C02 Mig welded, Valve Construction Forging & Machining, Sheet metal thickness 1.50MM, Discharge Time Min. 8 Sec., 5 Year Warranty including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. Complete, CE Approved</p>	Each	5500.00
Providing Hydro Pyroquell Sytem- 3ltr			
15.45	<p>Supply and installation of 3 Ltr Hydro Pyroquell Sytem Watermist technology base, Stored pressure type, Rating -5A. 21B & 25F, Solid stainless body to withstand hight temperatures, Tamper-proof safety seal, Effective on Class-A, Class-B, Class-F and Electrically Started Fires, Built-in pressure gauge, Instalert, Uses distilled water, Gross Weight 6.23 Kg, empty Weight 3.23kg, can Height 480mm Diameter 160MM, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Can Construction : Deep drawn & C02 Mig welded, Valve Construction Forgin & Machining, ERDA approved, Sheet metal thickness 1.50MM, Discharge Time: Min.13Sec., 5 Year Warranty including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete</p>	Each	7100.00
Providing Hydro Pyroquell Sytem- 6ltr			
15.46	<p>Supply and installation of 6 Ltr Hydro Pyroquell Sytem Watermist technology base, Stored pressure type, Rating -SA 34B & 40F, Solid stainless body to withstand hight temperatures, Tamper-proof safety seal, Effective on Class-A, Class-B, Class-F and Electrically Started Fires, Built-in pressure gauge, Instalert, Uses distilled water, Gross Weight 10.4 Kg, empty Weight 4.4kg, can Height 615mm Diameter 175MM, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Can Construction : Deep drawn & C02 Mig welded, Valve Construction Forgin & Machining, ERDA approved, Sheet metal thickness 1.50MM, Discharge Time: Min.13 Sec. , 5 Year Warranty including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete</p>	Each	8200.00
Providing Green mist - 2ltr			

15.47	Green mist Extinguishers : Supply and installation of 2 Ltr Watermist technology base, Stored pressure type, Rating -15F, Mild steel body, Tamper-proof safety seal, Effective on Class-A, Class-B, Class-F and Electrically Started Fires, Built-in pressure gauge, Instalert, Uses distilled water, Gross Weight 4.55 Kg, empty Weight 2.73kg, can Height 435mm Diameter 140MM, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Can Construction : Deep drawn & C02 Mig welded, Valve Construction : Forgin & Machining, ERDA approved, Sheet metal thickness : 1.60MM, Discharge Time : Min. 22 Sec., 5 Year Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete	Each	6500.00
Providing Green mist - 3ltr			
15.48	Green mist Extinguishers : Providing 3 Ltr Watermist technology base, Stored pressure type, Rating -5A. 21B & 25F, Mild Steel body, Tamper-proof safety seal, Effective on Class-A, Class-B, Class-F and Electrically Started Fires, Built-in pressure gauge, Instalert, Uses distilled water, Gross Weight 6.23 Kg, empty Weight 3.23kg, can Height 480mm Diameter 160M M, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Can Construction: Deep drawn & C02 Mig welded, Valve Construction: Forgin & Machining, ERDA approved, Sheet metal thickness : 1.60MM, Discharge Time: Min. 13Sec., 5 Year Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete	Each	7100.00
Providing Green mist - 6ltr			
15.49	Green mist Extinguishers : Supply and installation of 6 Ltr Watermist technology base, Stored pressure type, Rating -8A. 34B & 40F, Mild steel body t, Tamper- proof safety seal, Effective on Class-A, Class-B, Class-F and Electrically Started Fires, Built-in pressure gauge, Instalert, Uses distilled water, Gross Weight 12.15 Kg, empty Weight 6.15kg, can Height 615mm Diameter 175M M, Controllable discharge mechanism (Squeeze grip with easy snap safety seal), Can Construction: Deep drawn & C02 Mig welded, Valve Construction: Forgin & Machining, ERDA approved, Sheet metal thickness : 2.00MM, Discharge Time : Min. 64 Sec., 5 Year Warranty with instalert system with Superior quality EPDM Rubber Hosepipe etc., including cost cost of supporting materials like MS stand & accessories if it is fixing n floor / MS brackets & accessories if it is fixing on wall,, labour, usage charges of machinery complete as per specifications. complete	Each	7700.00
Providing CQRS 2 Kg- Direct Low Pressue System			

15.50	<p>Providing CQRS 2 Kg - Direct Low Pressue System - Gross Weight 3.98 Kg, Empty Weight 1.98 Kg, Can Height 333 MM, Diameter 108M M, Can construction : Deep Drawn, Valve Construction : ForgingI Machining, External Construction : Epoxy Powder Coating, Sheet Metal Thickness: 1.60MM, 1 Year warranty, Valve, Nickel Plated, With Intergrated Ball Valve, Integrated position control for ball valve: open- close, Extinguishing Clean Agent HCFC 123, Zero ODP, Stored Pressue, Fitted with Pressue Gauge, Control Panel having Monitoring LED's for AC Power, System On, Discharged, Valve Closed, Valve Open, Pressure Healthy, Strobe Red, Strobe Amber, OLEO Graphic Display 95x16, Battery Backp, 3 Outputs using Potential Free relay contact, Audio Output using Piezo buzzer, 3 Meter Sensor Tue UV Resistance with Pressrization of Tube Using Nitrogen Gas, End of Line Plug 1 Pc, End of Line Adapter 1 Pc, T Connection/Elbow/Straight Connection 1 Pc, Pressure Switch M 10x1, Switchpoint 15 bar -1 Pc, Tube Attchte IS 15683 and CE Approved uidelines of fire safety rated doors, MRLl beams, pressure switch, manual change over for</p>	Each	6550.00
Providing CQRS 4 Kg- Direct Low Pressue System			
15.51	<p>Supply, installation in position, testing and commissioning of CQRS 4 Kg - Direct Low Pressue System - Gross Weight 7 Kg, Empty Weight 3 Kg, Can Height 413 M M, Diameter 140M M, Can construction : Deep Drawn, Valve Construction : Forging I Machining, External Construction : Epoxy Powder Coating, Sheet Metal Thickness: 1.60MM, 1 Year warranty, Valve, Nickel Plated, With Intergrated Ball Valve, Integrated position control for ball valve: open- close, Extinguishing Clean Agent HCFC 123, Stored Pressue, Fitted with Pressue Gauge, Control Panel having Monitoring LED's for AC Power, System On, Discharged, Valve Closed, Valve Open, Pressure Healthy, Strobe Red, Strobe Amber, OLEO Graphic Display 95x16, Battery Backp, 3 Outputs using Potential Free relay contact, Audio Output using Piezo buzzer, 4 Meter Sensor Tue UV Resistance with Pressrization of Tube Using Nitrogen Gas, End of Line Plug 1 Pc, End of Line Adapter 1 Pc, T Connection/Elbow/Straight Connection 1 Pc, Pressure Switite IS 15683 and CE Approved uidelines of fire safety rated doors, MRLl beams, pressure switch, manual change over for doors during emergency, ARD of 10 times with</p>	Each	10500.00
Providing CQRS 6 Kg- Direct Low Pressue System			

15.52	<p>Supply, installation in position, testing and commissioning of CQRS 6 Kg - Direct Low Pressue System - Gross Weight 9.42 Kg, Empty Weight 3.42 Kg, Can Height 460 MM, Diameter 160M M, Can construction : Deep Drawn, Valve Construction : ForgingI Machining, External Construction : Epoxy Powder Coating, Sheet Metal Thickness: 2.00MM, 1 Year warranty, Valve, Nickel Plated, With Intergrated Ball Valve, Integrated position control for ball valve: open- close, Extinguishing Clean Agent HCFC 123, Zero ODP, Stored Pressue, Fitted with Pressue Gauge, Control Panel having Monitoring LED's for AC Power, System On, Discharged, Valve Closed, Valve Open, Pressure Healthy, Strobe Red, Strobe Amber, OLEO Graphic Display 95x16, Battery Backp, 3 Outputs using Potential Free relay contact, Audio Output using Piezo buzzer, 5 Meter Sensor Tue UV Resistance with Pressrization of Tube Using Nitrogen Gas, End of Line Plug 1 Pc, End of Line Adapter 1 Pc, T Connection/Elbow/Straight Connection 1 Pc, Presste IS 15683 and CE Approved uidelines of fire safety rated doors, MRLl beams, pressure switch, manual change over for doors during emergency, ARD of 10 times with sufficien</p>	Each	10500.00
Providing CQRS 9 Kg- Direct Low Pressue System			
15.53	<p>Supply, installation in position, testing and commissioning of CQRS 9 Kg - Direct Low Pressue System - Gross Weight 14.53 Kg, Empty Wight 5.53Kg, Can Height 590 MM, Diameter 175MM, Can construction : Deep Drawn, Valve Construction : ForgingI Machining, External Construction : Epoxy Powder Coating, Sheet Metal Thickness: 2.00MM, 1 Year warranty, Valve, Nickel Plated, With Intergrated Ball Valve, Integrated position control for ball valve: open- close, Extinguishing Clean Agent HCFC 123, Zero ODP, Stored Pressue, Fitted with Pressue Gauge, Control Panel having Monitoring LED's for AC Power, System On, Discharged, Valve Closed, Valve Open, Pressure Healthy, Strobe Red, Strobe Amber, OLEO Graphic Display 95x16, Battery Backp, 3 Outputs using Potential Free relay contact, Audio Output using Piezo buzzer, 6 Meter Sensor Tue UV Resistance with Pressrization of Tube Using Nitrogen Gas, End of Line Plug 1 Pc, End of Line Adapter 1 Pc, T Connection/Elbow/Straight Connection 1 Pc, Pressurete IS 15683 and CE Approved uidelines of fire safety rated doors, MRLl beams, pressure switch, manual change over for doors during emergency, ARD of 10 times with suffiici</p>	Each	13500.00
Providing CQRS 2 Kg - Direct high Pressue System			

15.54	<p>Supply, installation in position, testing and commissioning of CQRS 2 Kg - Direct high Pressue System - Gross Weight 8.52 Kg, Empty Weight 6.52 Kg, Can Height 595 MM, Diameter 108M M, Can construction : Hot Spinning/Heat Treatment, Valve Construction : Forging I Machining, External Construction : Epoxy Powder Coating, Sheet Metal Thickness: 3.5M M, 1 Year warranty, Valve, Brass, Cylinder thread: M10x1, Outlet thread: W21, 8x1/14", Bursting Disc: 250 bar, Integrated position control for Valve: activated- not activated, Intergrated position control for ball valve: open-close, Extinguishing Agent C02 Control Panel having Monitoring LED's for AC Power, System on, Discharged, Valve Closed, Valve Open, Pressure Healthy, Strobe Red, Strobe Amber, OLEO Graphic Display 95x16, Battery Backp, 3 Outputs using Potential Free relay contact, Audio Output using Piezo buzzer, 3 Meter Sensor Tube UV Resistance with Pressurization of Tube Using Nitrogen Gas, End of Lte IS 15683 and CE Approved uidelines of fire safety rated doors, MRLL beams, pressure switch, manual change over for doors during emergency, ARD of 10 times with sufficient battery back up and standard dimensions of chair car and door openings for all sizes and capacit</p>	Each	13600.00
Providing CQRS 4.5 Kg - Direct high Pressue System			
15.55	<p>Supply, installation, testing and commissionin of CQRS 4.5Kg - Direct High Pressue System - Gross Weight 14.73 Kg, Empty Weight 13.23 Kg, Can Height 735 MM, Diameter 139M M, Can construction Hot Spinning/Heat Treatment, Val ve Construction : ForgingI Machining, External Construction : Epoxy Powder Coating, Sheet Metal Thickness: 4.2MM, 1 Yearwarranty, Valve, Brass, Cylinder thread : 25E, Dip tube thread M10x1, Outlet thread: W21, 8x1/14", Bursting Disc: 250 bar, Integrated position control for Valve: activated - not activated, Intergrated position control for ball valve: open-close, Extinguishing Agent C02 Control Panel having Monitoring LED's for AC Power, System on, Discharged, Valve Closed, Valve Open, Pressure Healthy, Strobe Red, Strobe Amber, OLEO Graphic Display 95x16, Battery Backp, 3 Outputs using Potential Free relay contact, Audio Output using Piezo buzzer, 3 Meter Sensor Tube UV Resistance with Pressurization of Tube Using Nitrogen te IS 15683 and CE Approved uidelines of fire safety rated doors, MRLL beams, pressure switch, manual change over for doors during emergency, ARD of 10 times with sufficient battery back up and standard dimensions of chair car and door openings for all sizes and capacities of lifts including fitn</p>	Each	18500.00
Providing CQRS 6.5Kg - Direct High Pressure System			

15.56	<p>Supply, installation in position, testing and commissioning of CQRS 6.5Kg - Direct High Pressue System - Gross Weight 23.2 Kg, Empty Weight 16.7 Kg, Can Height 980 MM, Diameter139.7MM, Can construction : Hot Spinning/Heat Treatment, Valve Construction : Forging I Machining, External Construction : Epoxy Powder Coating, Sheet Metal Thickness: 4.5M M, 1 Year warranty, Valve, Brass, Cylinder thread : 25E, Dip tube thread M10x1, Outlet thread: W21, 8x1/14", Bursting Disc: 250 bar, Integrated position control for Valve: activated - not activated, Intergrated position control for ball valve: open-close, Extinguishing Agent C02 Control Panel having Monitoring LED's for AC Power, System on, Discharged, Valve Closed, Valve Open, Pressure Healthy, Strobe Red, Strobe Amber, OLEO Graphic Display 95x16, Battery Backp, 3 Outputs using Potential Free relay contact, Audio Output using Piezo buzzer, 3 Meter Sensor Tube UV Resistance with Pressurization of Tube Using Nitrogen Gas, End of Line Plug 1 Pc, End te IS 15683 and CE Approved uidelines of fire safety rated doors, MRLL beams, pressure switch, manual change over for doors during emergency, ARD of 10 times with sufficient battery back up and standard dimensions of chair car and door openings for al</p>	Each	31400.00
Providing CQRS 22.5Kg - Direct High Pressure System			
15.57	<p>Supply, installation in position, testing and commissioning of CQRS 22.5Kg -Direct High Pressue System- Gross Weight 63.6 Kg, Empty Weight 41.1 Kg, Can Height 1170 MM, Diameter 232MM, Can construction : Hot Spinning/Heat Treatment, Valve Construction : Forging I Machining, External Construction : Epoxy Powder Coating, Sheet Metal Thickness: 4.5MM, 1 Year warranty, Valve, Brass, Cylinder thread : 25E, Dip tube thread M10x1, Outlet thread: W21, 8x1/14", Bursting Disc: 250 bar, Integrated position control for Valve: activated - not activated, Intergrated position control for ball valve: open-close, Extinguishing Agent C02 Control Panel having Monitoring LED's for AC Power, System on, Discharged, Valve Closed, Valve Open, Pressure Healthy, Strobe Red, Strobe Amber, OLEO Graphic Display 95x16, Battery Backp, 3 Outputs using Potential Free relay contact, Audio Output using Piezo buzzer, 3 Meter Sensor Tube UV Resistance with Pressurization of Tube Using Nitrogen Gas, End of Line Plug 1 Pc, Endte IS 15683 and CE Approved uidelines of fire safety rated doors, MRLL beams, pressure switch, manual change over for doors during emergency, ARD of 10 times with sufficient battery back up and standard dimensions of chair car and door openings for all size</p>	Each	47500.00
ADDRESSABLE FIRE DETECTION AND ALARM SYSTEM			
Smoke detection- Wireless Addressable Panel			

15.58	Analogue Addressable 1 to 4 loop Fire Alarm Control Panel expandable via plug-in loop driver boards, loop current 500mA maximum per loop, dual flash based microprocessor, supports to connect 240 addressable devices one each loop via fully digital communication protocol, equipped with a white backlit display (240x64 pixel resolution) graphical LCD Display with at least 6 lines of information, 400 fire zones (soft zones), fully programmable via alphanumeric keypad or configuration software, dedicated USB and RS-232 serial port for direct or PC connection. 10500 events storage, loop current 500 mA, panel shall be equipped with in-built multi-meter for live monitoring of loop current, earth voltage, loop voltage etc., installer's logo application, network card to network with compatible addressable panel(s) and repeater panel(s), capable to connect maximum 200 network nodes on a standard network, features battery charger status and temperature, supports programmable cause / effect on outputs, panel housing meets te IS 15683 and CE Approved uidelines of fire safety rated doors, MRLl beams, pressure switch, manual change over for doors during emergency, ARD of 10 times with suffi	Each	245000.00
	Smoke detection- Wireless		
15.59	Supply, installation in position, testing and commissioning of Addressable Optical Smoke Detector radio-linked optical detector (smoke) operates with an optical sensing chamber based on the principle of scattered light sensor. The detector communicates with a fire detection control panel in loop technology via the loop RF interface. Two lithium batteries are accommodated in the detector base one as backup. The two coloured LED indicator with 360 visibility. Mechanical theft protection in the base. Radio transmission of 150 m (in free air), operating at de- licensed frequency range of 865MHz all as specified and directed. Approval by IMQ for EN54-7 & EN54-25.	Each	11500.00
	Wireless Translator		
15.60	Supply, installation, testing and commissioning of RF translator wireless device which can control up to 32 detectors modules or signaling devices, configuration through manual or PC software, up to 32 fully intelligent wireless field devices. Operating at frequency of 865 MHz. status indication via 3 LEDs, IT communicates with the control panel via the loop, radio transmission range 150m in free air, operating frequency channels 7, all as specified and directed. Approval by IMQ for EN54-17, EN54-18 & EN54-25.	Each	17500.00
	Wireless Expander		
15.61	Supply, installation in position, testing and commissioning of RF expander wireless device, two orthogonal antennas for safe radio communications, operating at frequency range of 865 MHz, 7 bi-directional data channels, range of RF transmission is 150 meters in free space can boosted , operating frequency channels 7, all as specified and directed. Approval by IMQ for EN54-18 & EN54-25.	Each	13500.00
	Wireless Hooter cum Strobe		

15.62	<p>Supply, installation, testing and commissioning of Addressable Wireless Conventional Wall Sounder with Beacon for providing Audible and Visual Alarms in response to the output signal from the control panel, 32 selectable tone and adjustable sound level, maximum output volume @ 1M distance 100 dB(A), output tone frequency range 440 Hz to 2900 Hz, Visual alarm device output frequency 0.5 Hz, Approved by LPCB for EN 54-3 standard with Intelligent Sounder Interface Module radio-linked. Radio transmission of 150 m (in free air), operating at de-licensed frequency range of 865MHz all as specified and directed.</p> <p>Approval by IMQ for EN54-7 & EN54-25.</p>	Each	14000.00
Multi Sensor (Smoke + Heat) Detector			
15.63	<p>Supply, installation, testing and commissioning of Addressable Optical thermal detector (heat & smoke) radio-linked optical thermal detector operates both with an optical sensing chamber based on the principle of scattered light as well as with a rate of rise thermal sensor. The detector communicates with a fire detection control panel in loop technology via the loop RF interface. Two lithium batteries are accommodated in the detector base one as backup. The two coloured LED indicator with 360 visibility. Mechanical theft protection in the base. Radio transmission of 150 m (in free air), operating at de- licensed frequency range of 865MHz all as specified and directed. Approval by IMQ for EN54-5, EN54-7, EN54-25 & EN54-29.</p>	Each	9100.00
External GSM Dialler			
15.64	<p>Supply, installation, testing and commissioning of the GSM unit enables the system to operate over cellular net work. Indoor plug-in transformer, 120VAC 60 Hz I 9 VAC Current Consumption : 40mA approx (idle), < 400mA (transmission), Backup Battery: Ni-Metal, 7. 2V, 1300 mAh including cost of materials, labour, usage charges of machinery complete as per specifications. complete</p>	Each	15000.00
Wireless Heat Detector			
15.65	<p>Supply, installation in position, testing and commissioning of Addressable thermal detector (heat) radio-linked optical detector operates with a rate of rise thermal sensor. The detector communicates with a fire detection control panel in loop technology via the loop RF interface. Two lithium batteries are accommodated in the detector base one as backup. The two coloured LED indicator with 360 visibility. Mechanical theft protection in the base. Radio transmission of 150 m (in free air), operating at de-licensed frequency range of 865MHz all as specified and directed. Approval by IMQ for EN54-5 & EN54-25.</p>	Each	8500.00

15.66	Supply, installation, testing and commissioning of addressable peer to peer Networkable analogue addressable type fire alarm control panel with minimum 1500 Character / 240X64 Pixel / 7inch Touchscreen graphic LCD display. The panel should be equipped with sufficient numbers of loop with 20% spare capacity, with each networkable intelligent fire alarm Control Panel having SLC with capacity of min 126 /240 detectors/ devices in any combination with key pad, dual flash-based microprocessor technology, inbuilt USB Port for upload and down load the configuration tools, RS232 serial port for direct PC or modem connection, inbuilt NAC's, min 20 programmable Zonal LEDs and operates on 240V AC + 10% with 50 Hz with built in charger. The panel shall have fire, fault relays, option of BMS integration MODBUS/ BACKNET, graphical software for provision of TCP/IP modules, Remote Access, Class 'X' wiring with provision of both class 'A' and class 'B' wiring in the SLC circuit, user friendly with communication facility to monitor & control the FACPs from a single window. The panel shall be suitable for minimum of 5000 event record facility, event fetch from FACP facility and the single panel shall be suitable for min 2000 fire zones and 200 Panels/ Nodes in one network with all other accessories required to successfully run the system. (The System cost shall be included of all necessary cards, modules, Panel enclosure, CPU and associated accessories to complete the system design). Approval: VDS/UL/EN-54 Std		
15.66.1	2 Loop Panel	Each	210000.00
15.66.2	4 Loop Panel	Each	250000.00
15.66.3	8 Loop Panel	Each	450000.00
15.66.4	12 Loop Panel	Each	650000.00
	Repeater Panel		
15.67	Supply, Installation, Testing & Commissioning of Network Active Repeater Panel with 1500 Character / 240X64 Pixel / 7inch Touchscreen. The LCD shall Display all events / detectors, devices status of complete systems in the networked. Approval: UL/VDS/EN54.	Each	65000.00
	Sounder cum Strobe		
15.68	Supply, Installation, Testing & Commissioning of Analogue Addressable loop powered Sounder & Beacon with inbuilt isolator and having Min 15 distinct sound patterns/ multitone to indicate Exit doors and direct occupants for safe and fast evacuation and 100dB output with minimum 1Hz Frequency flash rate designed for IP65 requirements and approved to operate in -10°C to +55°C temperature, complies with the essential requirement of the EMC Directive to be supplied with Junction Box, Glands and other mounting accessories for proper installation. (For Detectors/Device without inbuilt isolator, Fault Isolator or Isolator base to be provided with each detector/device)	Each	4900.00
	Smoke Detector Model		

15.69	Supply, installation, testing and commissioning of analogue addressable Smoke Sensor detector and standard base (For Detectors/Device without inbuilt isolator, Fault Isolator or Isolator base to be provided with each detector/device) Approval: VDS/UL/EN54.	Each	3300.00
Multi Sensor Detector Model			
15.70	Supply, install, test and commissioning of analogue addressable Multisensor having three sensors (OH2) i.e. one optical and dual heat sensor (Static and ROR both), It shall have multiple modes with min five different optical sensitivity adjustment from 1.1%/m to 4.2%/m and to be possible to configure the detector to work in any of the modes such as only optical type or only heat type or combined type. 360° Visible Tri- coloured led for Normal, Fault and alarm condition, addressing shall be by means of Soft addressing or dip switches or decade switches, or suitable punched cards. (For Detectors/Device without inbuilt isolator, Fault Isolator or Isolator base to be provided with each detector/device) Approval: VDS/UL/EN54.	Each	4000.00
Thermal Sensor			
15.71	Supply, installation, testing and commissioning of analogue addressable dual heat detector and standard base, It shall have multiple modes with min five different heat sensitivity adjustment from 57 Degree to 90 Degree for static response while working on Rate of Rise response. 360° Visible Tri- coloured led for Normal, Fault and alarm condition, addressing shall be by means of Soft addressing or dip switches or decade switches, or suitable punched cards. (For Detectors/Device without inbuilt isolator, Fault Isolator or Isolator base to be provided with each detector/device) Approval: UL/VDS/EN54.	Each	3300.00
Monitor/Control Module			
15.72	Supply, install, test and commissioning of Analogue addressable Monitor Cum Control (Input/Output) module (1+1) with inbuilt relay and isolator with LED indicator, approved to operate in -10°C to +55°C temperature, complies with the essential requirement of the EMC Directive to be supplied with Junction Box, Glands and other mounting accessories for proper installation. In case of Manufacturer with single Input or Output module need to supply One quantity of each for line item. (For Detectors/Device without inbuilt isolator, Fault Isolator or Isolator base to be provided with each detector/device) Approval: EN54.	Each	3900.00
Manual Call Point			
15.73	Supply, install, test and commissioning of Analogue addressable Manual Call Point (Resettable Type) with inbuilt isolator and LED indicator, designed for IP44 requirements and approved to operate in -10°C to +55°C temperature, complies with the essential requirement of the EMC Directive to be supplied with Barriers, Junction Box, Glands and other mounting accessories for proper installation. (For Detectors/Device without inbuilt isolator, Fault Isolator or Isolator base to be provided with each detector/device) Approval: VDS.	Each	3000.00
Singages for Walls/Floors			

15.74	Providing's Escape Singage Photoluminescent rigid plastic, 2 mm thickness, Printed on High Quality glass paint with UV resistance, 5 years warranty, Material Used - Non Radiocactive, non-phosphorous, non toxic and lead free. Available in different types & sizes, Time after removing the light source (in minutes) 60 minutes, Luminescent intensity (milicandelas * per square meter - mcd/sqm) : 30 mcd/sqm. Luminescent Intensity greater than 0.32 mcd/sqm, Period of Light Decay* (In Minutes) :3100, including cost of materials, labour, usage charges of machinery complete as per specifications.	Sqm	2500.00
Evacution Plan (Price for 10 + unit)			
15.75	Providing and Fixing evacuation plan of size A4 made out to Acrylic sheet of 3mm thick and fixing with Stainless Steel finished studs etc. complete including cost of materials, labour, usage charges of machinery complete as per specifications.	Sqm	5500.00
15.76	Providing and Fixing evacuation plan of size A3 made out to Acrylic sheet of 3mm thick and fixing with Stainless Steel finished studs etc. complete including cost of materials, labour, usage charges of machinery complete as per specifications.	Sqm	6500.00
PUMPS			
15.77	Supply, installation, testing and commissioning electrically driven Terrance pump of capacity 900.0 Lpm at 35.0m Head bronze impeller pump coupled to electrical driven motor with suitable HP with all the necessary accessories, operating on 3Ph 50Hz, 400/440V AC supply including required foundation for pump, anti vibration pad, founadtion bolts etc. complete. Including cost of materials, labour, usage charges of machinery complete as per specifications and control panel is not included. Required GA drawingfor the pump/ foundation shall be submitted by the contractor.	Nos.	90000.00
15.78	Supply, installation, testing and commissioning electrically driven Terrance pump of capacity 450.0 Lpm at 35.0m Head bronze impeller pump coupled to electrical driven motor with suitable HP with all the necessary accessories, operating on 3Ph 50Hz, 400/440V AC supply including required foundation for pump, anti vibration pad, founadtion bolts etc. complete. Including cost of materials, labour, usage charges of machinery complete as per specifications and control panel is not included. Required GA drawingfor the pump/ foundation shall be submitted by the contractor.	Nos.	65000.00
15.79	Supply, erection, testing & commissioning of electrical motor driven end suction back pull out centrifugal pump capable of delivering,adequate LPM at required head. when running at 2900 rpm directly coupled to TEFC electrical motor of adequate HP to operate on 400/440 V 3 phase, 50 cycles AC supply with required foundation for pump, a terminal box suitable for reception, common bed plate with necessary anti vibration pads, necessary foundation bolts and accessories,neoprine gaskets (16 kg/sq.cm) Control panel is excluded.Required GA drawingfor the pump/ foundation shall be submitted by the contractor.		
15.79.1	2850 lpm at 70m head		335000.00
15.79.2	2850 lpm at 80m head		345000.00
15.79.3	2850 lpm at 90m head		355000.00

15.79.4	2850 lpm at 100m head		365000.00
15.79.5	2850 lpm at 110m head		375000.00
15.79.6	2850 lpm at 120m head		390000.00
15.80	Supply, installation, testing & commissioning of diesel engine driven pump, horizontal mounted, Horizontal spiltcase centrifugal single stage pump, capable of delivering required flow at required head when running at 1800 RPM with adequate BHP automatic diesel engine driven pumpset having the residential silencer system and other accessories like fuel tank, necessary radiator cooling system, flanges, neoprene gaskets (16.0 kg/sqcm), 200 litres fuel storage tank with piping, valves as per detailed specification and two separate starting mechanisms (automatic starting by battery power, electric starting motor as well as manual starting by electric start motor) common bed plate with anti vibration pads, necessary foundation, foundation bolts etc., complete in all respects as per the detailed specifdication. Control panel excluded. Required GA drawingfor the pump shall be submitted by the contractor. Required GA drawingfor the pump/ foundation shall be submitted by the contractor.		
15.80.1	2850 lpm at 70m head		635000.00
15.80.2	2850 lpm at 80m head		655000.00
15.80.3	2850 lpm at 90m head		685000.00
15.80.4	2850 lpm at 100m head		705000.00
15.80.5	2850 lpm at 110m head		735000.00
15.80.6	2850 lpm at 120m head		765000.00
15.81	Supply, erection, testing & commissioning of electrical motor driven end suction back pull out centrifugal pump capable of delivering,adequate LPM at required head. when running at 2900 rpm directly coupled to TEFC electrical motor of adequate HP to operate on 400/440 V 3 phase, 50 cycles AC supply with required foundation for pump, a terminal box suitable for reception, common bed plate with necessary anti vibration pads, necessary foundation bolts and accessories,neoprine gaskets (16 kg/sq.cm) Control panel is excluded Required GA drawingfor the pump/ foundation shall be		
15.81.1	2280 lpm at 70m head		285000.00
15.81.2	2280 lpm at 80m head		295000.00
15.81.3	2280 lpm at 90m head		305000.00
15.81.4	2280 lpm at 100m head		310000.00
15.81.5	2280 lpm at 110m head		315000.00
15.81.6	2280 lpm at 120m head		325000.00
15.82	Supply, installation, testing & commissioning of diesel engine driven pump, horizontal mounted, Horizontal spiltcase centrifugal single stage pump, capable of delivering required flow at required head when running at 1800 RPM with adequate BHP automatic diesel engine driven pumpset having the residential silencer system and other accessories like fuel tank, necessary radiator cooling system, flanges, neoprene gaskets (16.0 kg/sqcm), 200 litres fuel storage tank with piping, valves as per detailed specification and two separate starting mechanisms (automatic starting by battery power, electric starting motor as well as manual starting by electric start motor) common bed plate with anti vibration pads, necessary foundation, foundation bolts etc.,		
15.82.1	2280 lpm at 70m head		560000.00

15.82.2	2280 lpm at 80m head		585000.00
15.82.3	2280 lpm at 90m head		605000.00
15.82.4	2280 lpm at 100m head		625000.00
15.82.5	2280 lpm at 110m head		635000.00
15.82.6	2280 lpm at 120m head		665000.00
15.83	Supply, erection, testing & commissioning of electrical motor driven end suction back pull out centrifugal pump capable of delivering,adequate LPM at required head. when running at 2900 rpm directly coupled to TEFC electrical motor of adequate HP to operate on 400/440 V 3 phase, 50 cycles AC supply with required foundation for pump, a terminal box suitable for reception, common bed plate with necessary anti vibration pads, necessary foundation bolts and accessories,neoprine gaskets (16 kg/sq.cm) Control panel is excluded. Required GA drawingfor the pump/ foundation shall be submitted by the contractor.		
15.83.1	1620 lpm at 70m head		235000.00
15.83.2	1620 lpm at 80m head		245000.00
15.83.3	1620 lpm at 90m head		255000.00
15.83.4	1620 lpm at 100m head		265000.00
15.83.5	1620 lpm at 110m head		275000.00
15.83.6	1620 lpm at 120m head		285000.00
15.84	Supply, installation, testing & commissioning of diesel engine driven pump, horizontal mounted, Horizontal spiltcase centrifugal single stage pump, capable of delivering required flow at required head when running at 1800 RPM with adequate BHP automatic diesel engine driven pumpset having the residential silencer system and other accessories like fuel tank, necessary radiator cooling system, flanges, neoprene gaskets (16.0 kg/sqcm), 200 litres fuel storage tank with piping, valves as per detailed specification and two separate starting mechanisms (automatic starting by battery power, electric starting motor as well as manual starting by electric start motor) common bed plate with anti vibration pads, necessary foundation, foundation bolts etc.,		
15.84.1	1620 lpm at 5m head		490000.00
15.84.2	1620 lpm at 70m head		490000.00
15.84.3	1620 lpm at 80m head		520000.00
15.84.4	1620 lpm at 90m head		535000.00
15.84.5	1620 lpm at 100m head		555000.00
15.84.6	1620 lpm at 110m head		575000.00
15.84.7	1620 lpm at 120m head		595000.00
15.85	Supply, Installation, testing and commisioning electrically driven jockey pump of capacity 180.0 Lpm at required head end suction type bronze impeller pump oupled to electrical driven motor with suitable HP with all the necessary accessories, operating on 3Ph 50Hz, 400/440 V AC supply including foundation, foundation bolts, anti vibration pad,etc. complete. Including cost of materials, labour, usage charges of machinery complete as per specifications. Control panle is excluded. Required GA drawingfor the pump/ foundation shall be submitted by the contractor.	Nos.	110000.00
15.85.1	180 lpm at 70m head		85000.00

15.85.2	180 lpm at 80m head		90000.00
15.85.3	180 lpm at 90m head		100000.00
15.85.4	180 lpm at 100m head		105000.00
15.85.5	180 lpm at 110m head		110000.00
15.85.6	180 lpm at 120m head		125000.00
15.86	FIRE HYDRANT SYSTEM Supplying Installing, testing and commissioning of 63mm mm dia single headed Gun mental Hydrant Valve with flanged inlet, stop valve, spindle and cast iron hand wheel. It has a female instantaneous outlet with Blank Cap and is Hydrostatically tested to 21 Kgf/cm ² pressure having a flow rate of 900 LPM at 7 Kgf/cm ² of pressure with blank cap and wheel as per IS 5290 etc. complete including cost of materials, labour, usage charges of machinery complete as per specifications.	Each	10500.00
15.85	Supplying Installing, testing and commissioning of 63mm mm dia double headed Gun mental Hydrant Valve with flanged inlet 2Nos, stop valve, spindle and cast iron hand wheel. It has a 2 Nos female instantaneous outlet with blank cap and is hydrostatically tested to 21 Kgf/cm ² pressure having a flow rate of 900 LPM at 7 Kgf/cm ² of pressure confirms to IS : 2190 with blank cap and wheel as per IS 5290 etc. including cost of materials, labour, usage charges of machinery complete as per specifications. complete	Each	18500.00
15.86	Supplying Installing, testing and commissioning of Gun metal AIR RELEASE VALVE SIZE OF 25mm dia including cost of materials, labour, usage charges of machinery complete as per specifications. Complete	Each	1500.00
15.87	Supplying Installing, testing and commissioning of Gun metal Branch pipe size of 63mm dia x19mm dia as per IS 903 complete including cost of materials, labour, usage charges of machinery complete as per specifications.	Each	4500.00
15.88	Supplying Installing, testing and commissioning of Reinforced Rubber Lined 2nos .RRL Fire hose of 63mm dia 15m length as per IS 8423 binded with one set of male and Female Instantainious Gun metal coupling as per IS 903 complete including cost of materials, labour, usage charges of machinery complete as per specifications.	Each	5000.00
15.89	Supplying Installing, testing and commissioning of Hose cabinet made out of 18 gauge M.S.sheet with double glass door with lacing arrangement and painted with two coats of Fire red Enamel paint at outer ise of the Box and two coats of white enamel paint at inner side of the box is to accomodated 2 Nos. of Fire hose box size 20"x24"x10" complete including cost of materials, labour, usage charges of machinery complete as per specifications.	Each	6500.00
15.90	Supplying Installing, testing and commissioning of Hose reel cabin	Each	5100.00
15.91	Supplying Installing, of M.S. Pressed reel of 600mm dia swinging type motion which allows a 180° swing and conforms to IS:884/85 or Aluminium fitting Single Piece Compact Type. including cost of materials, labour, usage charges of machinery complete as per specifications.	Each	5200.00

15.92	Supplying Installing, testing and commissioning of 19mm dia 40.0m length hose with rubber lining smooth bore, reinforced of natural/synthetic fibres, a rubber cover finish shall be smooth, fluted or fabric marked with minimum thickness of 1.50mm and to with stand a working pressure of 10Kgf/sqcm confirms & tested as per IS 444/ IS 12585 including cost of materials, labour, usage charges of machinery complete as per specifications.	Each	6000.00
15.93	Supplying Installing, testing and commissioning of, pendent Type/Upright Type ,Standard Response Standard Coverage, Sprinkler, K5.6(80),1/2"NPT, 68 Degree C, Chrome finish, UL listed.	Each	375.00
15.94	Supplying Installing of Horizontal side wall Type ,Standard Response Standard Coverage, Sprinkler, K5.6(80),1/2"NPT, 68 Degree C, Chrome finish, UL listed.	Each	350.00
15.95	Supplying Installing of Consealed Type ,Standard Response Standard Coverage, Sprinkler, K5.6(80),1/2"NPT, 68 Degree C, Chrome finish, UL listed.	Each	800.00
15.96	Supplying Installing, testing and commissioning of hydraulically operated sprinkler Gong Valve with water meter gong bell and trims as required, pressure gauges drain Valve, ball Valves check valve, strainer etc. including cost of materials, labour, usage charges of machinery complete as per specifications.		
15.96.1	100 mm dia. complete	m	55000.00
15.96.2	150 mm dia. complete	m	70000.00
15.97	PIPES		
	Supplying, installing, testing & commissioning approved make heavy duty (Class 'C') GI pipes and fittings confirming to IS 1239 PI & II, Malleable Specials such as tees, long radius bends, check nuts, unions, flanges,nipples, etc including cutting, threading, welding/flanged joints with necessary GI washers, nuts, bolts etc., for pipes running in pipe shafts, ceiling, over terrace etc., as per drawing and specifications. The quoted rate shall include for necessary chasing in walls, making bore in walls etc., and making good the chased surfaces and bores in cement mortar etc. complete. Price is inclusive of Fittings like couplings, reducers, bends, Tees, etc & all fittings .The scope of work included with One coat of yellow/etching primer & 2 coats of red enamel paint		
	Providing and fabricating MS supports using channel, angle, plates pipes, etc., to take the load of number of pipes and the dia of the pipes as per specification and drawings. Rate quoted shall include for supply and providing necessary welding, cutting, G.I "U" clamps, bolt nuts, washers, anchors fastener etc., as per specification or pipe supports for horizontal / vertical pipes running along wall / column, slab trenches etc., to suit different dia pipes made of GI/MS rods, flats, etc., consists of strap, nuts washers, threaded rod etc., The rate quoted shall also include for giving one coat of zinc chromate primer and two coats of approved enamel paint for pipe supports. The pipe support shall be U type support using 50x50x6mm requires for supporting 80mm, 100mm and 150mm dia single pipe.The bracket inside the fire shaft shall be 100mm x50x5mm.		
15.97.1	250 mm dia.	m	4900.00
15.97.2	200 mm dia.	m	4300.00

15.97.3	150 mm dia.	m	3900.00
15.97.4	100 mm dia.	m	2850.00
15.97.5	80 mm dia.	m	2300.00
15.97.6	65 mm dia.	m	1700.00
15.97.7	50 mm dia.	m	1300.00
15.97.8	40 mm dia.	m	1050.00
15.97.9	32 mm dia.	m	800.00
15.97.10	25 mm dia.	m	700.00
15.98	Wrapping and Galing of U/G pipe line work includes one coat of anti corrosion paint (Black) and two coats of Bituminous cloth. including cost of materials, labour, usage charges of machinery complete as per specifications.		
15.98.1	200 mm dia.	m	500.00
15.98.2	150 mm dia.	m	400.00
15.98.3	100 mm dia.	m	250.00
15.98.4	80 mm dia.	m	200.00
15.99	Supplying Installation testing and Commissioning of Micro process base Fire alarm Control panel having power regulation Circuit, which connen to 230 AC to @V.D.C. Indicating FIRE-FAULT, Test facility also with work test facility arrangement, provided in the panel. All this electronic circuits componets are assembled in M.S.16 gauge suitable panel cabinet with glass Fraonted and locking arrangements including cost of all mateials etc. complete including cost of materials, labour, usage charges of machinery complete as per specifications		
15.99.1	8 Zone.	Each	30000.00
15.99.2	12 Zone.	Each	40000.00
15.99.3	16 Zone.	Each	45000.00
15.99.4	20 Zone.	Each	50000.00
15.99.5	24 Zone.	Each	55000.00
15.99.6	32 Zone.	Each	60000.00
15.99.7	48 Zone.	Each	65000.00
15.99.8	64 Zone.	Each	70000.00
15.99.9	96Zone.	Each	180000.00
15.99.10	128Zone.	Each	240000.00

15.100	Supply Installation testing & Commissioning of conventional type photo/Heat electric smoke sensor with flashing LED capable of working at 9V to 33 V DC .The Optical Smoke Detector is unaffected by wind or atmospheric pressure and operates over the temperature range -20°C to +60°C. IP Rating at IP 23D & Approval with EN- 54 -7, LPCB Approved.	Each	2100.00
15.101	Supplying Installing, testing and commissioning of Resettable type Manual Call point . works on 24V DC LED indicator with glass Fronted. Fire Symbol .The red Manual Call Point is approved to EN54-11 standard. MECHANICAL CONSTRUCTION The component parts of the call point are moulded in polycarbonate or ABS, depending on their function.	Each	1500.00
15.102	Supplying Installing, testing and commissioning of electronic Hooter, it consists of electronic circuit to give dual Fire alarm sound with works. 24V DC with speaker all encased in suitable in MS 16 gauge red painted box. complete including cost of materials, labour, usage charges of machinery complete as per specifications.	Each	1500.00
15.103	Supplying Installing, testing and commissioning of Response Indicator consists of twin LED with electronic circuit work on 24 DC enclose in PVC rectangular. complete including cost of materials, labour, usage charges of machinery complete as per specifications.	Each	250.00
15.104	Supplying and fixing sheet metal box made out of 18 SWG sheet metal with necessary holes for cable/conduit entry as required with one coat of primer of approved make etc. including cost of materials, labour, usage charges of machinery complete as per specifications.	Each	150.00
15.105	Supplying and drawing of 2 Core X 1.5 Sqmm copper conductor armoured cable	Each	150.00
15.106	Providing and Fixing Fire force board size of 3'x2' made out to Acrylic sheet of 3mm thick and fixing with Stainless Steel finished studs etc. complete including cost of materials, labour, usage charges of machinery complete as per specifications.	m	2500.00
15.107	Supplying Installing, testing and commissioning of Public address system (Two way communication type) as per requirement of Fire Force authority and which Generally comprise of Supplying Installing, testing and commissioning of Approved make 6 W.wall mounted speaker with talk back facility with store enamel painted M.S.Sheet hosing etc. complete including cost of materials, labour, usage charges of machinery complete as per specifications.	Each	2450.00
15.108	Supplying Installing, testing and commissioning of P.A.System console panel with push button with speaker and indicator on Accomdated in M.S.Cabinet with painting including cost of materials, labour, usage charges of machinery complete as per specifications		
15.108.1	10 Zone cansole.	Each	35000.00
15.108.2	20 Zone cansole.	Each	42000.00
15.108.3	40 Zone cansole.	Each	81000.00

15.108.4	60 Zone cansole.	Each	99000.00
15.109	P.A.System amplifier 250W RM S out put with complete wiring and controls accessible form front	Each	35250.00
15.110	Supplying Installing, testing and commissioning of MIKE suitable to I.A.System. Complete	Each	5500.00
15.111	Supplying of four bucket stand alongwith buckets. Complete	Each	1850.00
15.112	Supplying of two bucket stand alongwith buckets. complete	Each	1100.00
15.113	Supplying of Hand gloves. complete	Each	975.00
15.114	Supplying of first aid box. complete	Each	600.00
15.115	Supplying of SAFETY MASK. complete	Each	150.00
15.116	Supplying of FIRST AID CHART with lamination. Complete	Each	400.00
15.117	Supplying and installation of RUBBER MAT 1mtr x 1mtr -10mm thick. complete including cost of materials, labour, usage charges of machinery complete as per specifications.	Each	1900.00
15.118	Supply, Installation testing and commissioning of approved make heavy tubes (Class 'C') confirming to as per IS1239 Part- I (25mm Nominal bore 4.05mm thick@ 2.97 Kg/m, 32mm Nominal bore 4.05mm thick @ 3.84 Kg/m, 40mm Nominal bore 4.05mm thick@ 4.43 Kg/m,50mm Nominal bore 4.47mm thick@ 6.17 Kg/m, 65mm Nominal bore 4.47mm thick @ 7.90 Kg/m, 80mm Nominal bore 4.85mm thick @ 10.10 Kg/m, 100mm Nominal bore 5.40mm thick@ 14.40 Kg/m,150mm Nominal bore, 5.40mm thick @ 21.20 Kg/m, Such as Tees elbows check nuts unions, Flanger, Nipples etc. including cutting welding, Trending fixing on walls, ceiling (Using 41- Tech pipe/M.S.angle supports work includes two coats of metal primer and two coats of Red enamel paint etc. including cost of materials, labour, usage charges of machinery complete as per specifications.		
15.118.1	Galvanized Iron Pipes 250 mm dia.	m	4900.00
15.118.2	Galvanized Iron Pipes 200 mm dia.	m	4300.00
15.118.3	Galvanized Iron Pipes 150 mm dia.	m	3900.00
15.118.4	Galvanized Iron Pipes 100 mm dia.	m	2850.00
15.118.5	Galvanized Iron Pipes 80 mm dia.	m	2300.00
15.118.6	Galvanized Iron Pipes 65 mm dia.	m	1700.00
15.118.7	Galvanized Iron Pipes 50 mm dia.	m	1300.00
15.118.8	Galvanized Iron Pipes 40 mm dia.	m	1050.00
15.118.9	Galvanized Iron Pipes 32 mm dia.	m	800.00
15.118.10	Galvanized Iron Pipes 25 mm dia.	m	700.00
15.119	Supplying and fixing of Fire duct Shutter fabricated out of M.S.sheet and frame, door shall befixed with 4 mm thick Glass, suitable Rubber beading and Locking arrangement. Rate shall be includes all fasteners etc, and complete shutter shall be powder coated of approved colour both inside and outside	Sqm	12500.00

15.120	Supplying Installing, testing and commissioning of Ceiling Mounted powder coated Surface Finishing Mild Steel Rosette Plate including cost of materials, labour, usage charges of machinery complete as per specifications.	Each	110.00
15.121	Stainless steel braided flexible pipe (hose) for dropping sprinklers below false ceiling, pipe shall be 16 bar pressure rating and 1000 mm long 25 mm dia with union / reducer collar, clamps etc. as required.	Each	1900.00
15.122	Stainless steel braided flexible pipe (hose) for dropping sprinklers below false ceiling, pipe shall be 16 bar pressure rating and 1500 mm long 25 mm dia with union / reducer collar, clamps etc. as required.	Each	2500.00
15.123	Supplying Installing, testing and commissioning of 150mm dia 4 way Fire brigade inlet connection with Non retrn valve of 4 nos. 63 mm dia. including cost of materials, labour, usage charges of machinery complete as per specifications.	Each	38000.00
15.124	Supplying Installing, testing and commissioning of 100mm dia 2 way Fire brigade inlet connection of 2 nos. 63 mm dia. including cost of materials, labour, usage charges of machinery complete as per specifications.	Each	33000.00
15.125	Supplying Installing, testing and commissioning of Gun metal BALL VALVE SIZE OF 25mm dia including cost of materials, labour, usage charges of machinery complete as per specifications. complete	Each	1200.00
15.126	Supplying Installing, testing and commissioning of Gun metal BALL VALVE SIZE OF 19/20mm dia including cost of materials, labour, usage charges of machinery complete as per specifications. complete	Each	950.00
15.127	Supplying, installing , testing and commissioning of PN16 CI butterfly valves of confirming to IS 13039 with necessary nuts & bolts etc., complete ---- etc., complete as per specificaiton with all lead and lift, loading unloading, labour, hire charges of machineries and all such incidental charges necessary for successful completion of work and as per directions of the Engineer-in-charge of the work		
15.127.1	200mm Dia CI butterfly valves	Each	16000.00
15.127.2	150mm dia CI butterfly valves	Each	12500.00
15.127.3	100mm dia CI butterfly valves	Each	9000.00
15.127.4	80mm dia CI butterfly valves	Each	7000.00
15.127.5	65mm dia CI butterfly valves	Each	5500.00
15.127.6	50mm dia CI butterfly valves	Each	4500.00
15.128	Supplying installing, testing and commissioning of PN16 CI "Non Return Valve " confirming to IS 13039 with necessary bolts and nuts etc complete includes cost of all materials labour charges with all lead lift loading and unloading transportation etc complete. ---- etc., complete as per specificaiton with all lead and lift, loading unloading, labour, hire charges of machineries and all such incidental charges necessary for successful completion of work and as per directions of the Engineer-in-charge of the work		

15.128.1	200 mm Dia CI Non Return Valve	Each	14000.00
15.128.2	150 mm Dia CI Non Return Valve	Each	11500.00
15.128.3	100 mm Dia CI Non Return Valve	Each	7120.00
15.128.4	80 mm Dia CI Non Return Valve	Each	5500.00
15.128.5	65 mm Dia CI Non Return Valve	Each	4350.00
15.128.6	50 mm Dia CI Non Return Valve	Each	2950.00
15.129	supply and installing testing and commissioning of CI " Y " stainer confirming to IS standard with necessary bolts and nuts complete includes cost of all materials labour charges with all lead lift loading and unloading transportation etc complete. --- etc., complete as per specificaiton with all lead and lift, loading unloading, labour, hire charges of machineries and all such incidental charges necessary for successful completion of work and as per directions of the Engineer-in-charge of the work		
15.129.1	200 mm Dia CI " Y " stainer.	Each	24500.00
15.129.2	150 mm Dia CI " Y " stainer.	Each	18550.00
15.129.3	100 mm Dia CI " Y " stainer.	Each	12390.00
15.129.4	80 mm Dia CI " Y " stainer.	Each	8600.00
15.130	Supplying, installing , testing and commissioning approved make C.I. Gate valves as per IS: 780 / 14846 with flanges, bolts, nuts, washers, gaskets etc. complete --- etc., complete as per specificaiton with all lead and lift, loading unloading, labour, hire charges of machineries and all such incidental charges necessary for successful completion of work and as per directions of the Engineer-in-charge of the work		
15.130.1	250mm Dia C.I. Gate valves	Each	39688.00
15.130.2	200mm Dia C.I. Gate valves	Each	26550.00
15.130.3	150mm Dia C.I. Gate valves	Each	19500.00
15.131	Pressure Switch including Isolation Valve and forged siphon Tube including with all accessories as per IS:Spec. --- etc., complete as per specificaiton with all lead and lift, loading unloading, labour, hire charges of machineries and all such incidental charges necessary for successful completion of work and as per directions of the Engineer-in-charge of the work	Each	1950.00

15.132	Pressure guage of 150 mm dia including Isolation Valve and forged siphon Tube including with all accsories as per IS:Spec. etc., complete as per specifcaiton with all lead and lift, loading unloading, labour, hire charges of machineris and all such incidental charges necessary for successful completion of work and as per directions of the Engineer-in-charge of the work	Each	2900.00
15.133	Supply, Erection, Testing & commissioning of Foot Valves of Following Dimensions: 150 mm dia Including all lead, lifts, loading unloading, transportation, labour, hire charges of machinery curing for concrete works, cost and convene of all material and all other such incidental charges necessary for successful completion of works as per the detailed technical specification and direction of Engineer - in –charge of this work.	Each	9500.00
15.134	Supply, Erection, Testing & commissioning of Foot Valves of Following Dimensions: 100 mm dia Including all lead, lifts, loading unloading, transportation, labour, hire charges of machinery curing for concrete works, cost and convene of all material and all other such incidental charges necessary for successful completion of works as per the detailed technical specification and direction of Engineer - in –charge of this work.	Each	5900.00
15.135	Supply, Erection, Testing & commissioning of Foot Valves of Following Dimensions: 80 mm dia Including all lead, lifts, loading unloading, transportation, labour, hire charges of machinery curing for concrete works, cost and convene of all material and all other such incidental charges necessary for successful completion of works as per the detailed technical specification and direction of Engineer - in –charge of this work.	Each	4100.00
15.136	Supplying fixing and testing of Air cushions vessel. Fabricated out of 8mm thik It is a 250 mm dia MS pipes (the ends should be dished) 1.2 M high installed verically on suitable legs. Flange connection shall be provided for connection with wet riser pipe Cylinder connected with 25 mm dia gunmetal gate valves , pressure guage. The air vessel shall be tested at 25 Kg/cm2 at the bottom of the cylinder absorbs and water hammering blow in the pipe line. The price includes 25 mm dia connection MS pipes and supporting etc., complete ---- Including all lead, lifts, loading unloading, transportation, labour, hire charges of machinery curing for concrete works, cost and convene of all material and all other such incidental charges necessary for successful completion of works as per the detailed technical specification and direction of Engineer - in –charge of this work.	Each	30000.00
	Fire Fighting Pump		
15.137	Supplying, Installing, testing and commisioning electrically driven jockey pump of capacity 180.0 Lpm at 90.0m head end suction type bronze impeller pump oupled to electrical driven motor with suitable HP with all the necessary accessories, operating on 3Ph 50Hz, 400/440 V AC supply including foundation, bolts etc. complete. Including cost of materials, labour, usage charges of machinery complete as per specifications and control panel is not included	Each	119000.00

15.138	Supplying, Installing testing and commissioning of fire hydrant engine driven end suction pump capable of delivering 2850 Lpm@ 90.0m head bronze impeller coupled pump to water coiled diesel engine of adequate. HP It shall be fitted with a radiator on a common base frame with complete ancillary units such as coiling sytem, fuel tank of 200Ltr capactiy and suitable Battery for Engine start etc. complete and control panel is not included	Each	574000.00
15.139	Supply, erection, testing and commissioning of Fire Fighting panel cubicle type made out of 14/16 Swg MS CRCA sheet which is derusted, degreased, phosphated and passivated with angle iron skeleton or sheet folded construction. The panel to be dust and vermin proof type and with powder coated paint after suitable seven tank pretreatment. The panel will have individual compartments for incoming and outgoing feeders made out of cold rolled sheet and doors fitted with Neoprene gaskets and fasteners. The switchboards are to be tested as per IS 8623-1977 specifications. Busbars are to be of high conductivity Aluminium Alloy E91E IS 5082 specification. The panel shall have both bottom & top cable entry provisions and panel shall be mounted on Pedestal of 300 mm height.	Each	278000.00
	Incoming feeder for 250A TPN MCCB with 250 Amps. TPN Al. Bus bars with color coded heat shrinkable PVC sleeves, RYB indicating lamps with individual MCB control. Suitable Mult Fuction meter with CT`s		
	OUTGOING Feeder for 1 No. of main pumps :- 1 Nos.160A TP MCCB with 60 HP Star delta starter with over load relay, single phase preventer and indicating lamps with ON / OFF push buttons. 1 No. Auto manual selector switch. Feeder for 1 No. of Jockey pump :- 1 No. 63A TP MCCB with 7.5 HP star delta starter with over load relay, single phase preventer and indicating lamps with ON / OFF push buttons. 1 No. Auto manual selector switch. Feeder for 1 No. DIESEL ENGINE MAIN PUMP :- a) 20Amps DP MCB - 4 Nos. b) Battery charger with transformer with rectifier resistance DC ammeter, DC voltmeter, Trickle / booster / off selector switch - 2 Nos. c) 1 set of indicating lamps for the following : 1. phase indication 2. battery charger on 3. over load relay 4. DC supply on 5. control switch on 6. Engine fails to start 7. Pump on 8. Low oil pressure 9. High water temperature 10. Auto manual selector switch d) 1 sets of push button stations for the following : 1. Engine Start 2. Engine Stop 3. Engine - hooter ACK 4. Engine - fault reset e) Selector switches (Engine control, mode selector)-1 No. f) Auxiliary relays / contactors / timer for sequence operating for starting and stopping of the engine - 1 set. g) Hooter for audio alarm (Industrial type) - 1 No.		

15.140	Supply, erection, testing and commissioning of Fire Fighting panel cubicle type made out of 14/16 Swg MS CRCA sheet which is derusted, degreased, phosphated and passivated with angle iron skeleton or sheet folded construction. The panel to be dust and vermin proof type and with powder coated paint after suitable seven tank pretreatment. The panel will have individual compartments for incoming and outgoing feeders made out of cold rolled sheet and doors fitted with Neoprene gaskets and fasteners. The switchboards are to be tested as per IS 8623-1977 specifications. Busbars are to be of high conductivity Aluminium Alloy E91E IS 5082 specification. The panel shall have both bottom & top cable entry provisions and panel shall be mounted on Pedestal of 300 mm height.	Each	290000.00
	Incoming feeder for 320A TPN MCCB with 320 Amps. TPN Al. Bus bars with color coded heat shrinkable PVC sleeves, RYB indicating lamps with individual MCB control. Suitable Multifunction meter with CT's		
	OUTGOING Feeder for 1 No. of main pumps :- 1 Nos.200A TP MCCB with 75 HP Star delta starter with over load relay, single phase preventer and indicating lamps with ON / OFF push buttons. 1 No. Auto manual selector switch. Feeder for 1 No. of Jockey pump :- 1 No. 63A TP MCCB with 12.5 HP star delta starter with over load relay, single phase preventer and indicating lamps with ON / OFF push buttons. 1 No. Auto manual selector switch. Feeder for 1 No. DIESEL ENGINE MAIN PUMP :- a) 20Amps DP MCB - 4 Nos. b) Battery charger with transformer with rectifier resistance DC ammeter, DC voltmeter, Trickle / booster / off selector switch - 2 Nos. c) 1 set of indicating lamps for the following : 1. phase indication 2. battery charger on 3. over load relay 4. DC supply on 5. control switch on 6. Engine fails to start 7. Pump on 8. Low oil pressure 9. High water temperature 10. Auto manual selector switch d) 1 sets of push button stations for the following : 1. Engine Start 2. Engine Stop 3. Engine - hooter ACK 4. Engine - fault reset e) Selector switches (Engine control, mode selector)-1 No. f) Auxiliary relays / contactors / timer for sequence operating for starting and stopping of the engine - 1 set. g) Hooter for audio alarm (Industrial type) - 1 No.		
15.151	Supply, erection, testing and commissioning of Fire Fighting panel cubicle type made out of 14/16 Swg MS CRCA sheet which is derusted, degreased, phosphated and passivated with angle iron skeleton or sheet folded construction. The panel to be dust and vermin proof type and with powder coated paint after suitable seven tank pretreatment. The panel will have individual compartments for incoming and outgoing feeders made out of cold rolled sheet and doors fitted with Neoprene gaskets and fasteners. The switchboards are to be tested as per IS 8623-1977 specifications. Busbars are to be of high conductivity Aluminium Alloy E91E IS 5082 specification. The panel shall have both bottom & top cable entry provisions and panel shall be mounted on Pedestal of 300 mm height.	Each	310000.00
	Incoming feeder for 400A TPN MCCB with 400 Amps. TPN Al. Bus bars with color coded heat shrinkable PVC sleeves, RYB indicating lamps with individual MCB control. Suitable Multifunction meter with CT's		

	<p>OUTGOING Feeder for 1 No. of main pumps :- 1 Nos.250A TP MCCB with 100 HP Star delta starter with over load relay, single phase preventer and indicating lamps with ON / OFF push buttons. 1 No. Auto manual selector switch.Feeder for 1 No. of Jockey pump :- 1 No. 100A TP MCCB with 15 HP star delta starter with over load relay, single phase preventer and indicating lamps with ON / OFF push buttons. 1 No. Auto manual selector switch. Feeder for 1 No. DIESEL ENGINE MAIN PUMP :- a) 20Amps DP MCB - 4 Nos. b) Battery charger with transformer with rectifier resistance DC ammeter, DC voltmeter, Trickle / booster / off selector switch - 2 Nos. c) 1 set of indicating lamps for the following : 1. phase indication 2. battery charger on 3. over load relay 4. DC supply on 5. control switch on 6. Engine fails to start 7. Pump on 8. Low oil pressure 9. High water temperature 10. Auto manual selector switch d) 1 sets of push button stations for the following : 1. Engine Start 2. Engine Stop 3. Engine - hooter ACK 4. Engine - fault reset e) Selector switches (Engine control, mode selector)-1 No. f) Auxiliary relays / contactors / timer for sequence operating for starting and stopping of the engine - 1 set. g) Hooter for audio alarm (Industrial type) - 1 No.</p>		
15.152	<p>Supplying Installing testing and commission of Electrical Booster pump Control panel for fire fighting system consisting of Feeder For 1 No. of Booster pumps :-1 no of 32 A TPN MCCB (50 KA with 12.5 HP DOL starter with over load relay, single phase preventer ON / OFF push buttons. 1 No. Auto manual selector switch. 1 set of RYB indicating lamps with individual HRC Control Fuses 1 set of RYB indicating lamps with individual HRC Control Fuses 1 no 16 sq.mm 0-800Amps. Ammeter with selector switch and Suitable rated current transformers 1 No.0-800 96 sq. mm Voltmeter and selector Switch</p>	Each	35000.00
15.153	<p>Scrubbing, removing and applying of one coat of red oxide primer and final two coats of Signal Red paint on existing GI pipes 250 mm Nominal Bore ---- etc.,complete with all leads And lifts as per specifications and as directed by the Engineer-in-charge .</p>	Mtr	350.00
15.154	<p>Scrubbing, removing and applying of one coat of red oxide primer and final two coats of Signal Red paint on existing GI pipes 200 mm Nominal Bore ---- etc.,complete with all leads And lifts as per specifications and as directed by the Engineer-in-charge .</p>	Mtr	300.00
15.155	<p>Scrubbing, removing and applying of one coat of red oxide primer and final two coats of Signal Red paint on existing GI pipes 150 mm Nominal Bore ---- etc.,complete with all leads And lifts as per specifications and as directed by the Engineer-in-charge .</p>	Mtr	250.00
15.156	<p>Scrubbing, removing and applying of one coat of red oxide primer and final two coats of Signal Red paint on existing GI pipes 100 mm Nominal Bore ---- etc.,complete with all leads And lifts as per specifications and as directed by the Engineer-in-charge .</p>	Mtr	175.00
15.157	<p>Scrubbing, removing and applying of one coat of red oxide primer and final two coats of Signal Red paint on existing GI pipes 80 mm Nominal Bore ---- etc.,complete with all leads And lifts as per specifications and as directed by the Engineer-in-charge .</p>	Mtr	150.00

15.158	Scrubbing, removing and applying of one coat of red oxide primer and final two coats of Signal Red paint on existing GI pipes 65 mm Nominal Bore ---- etc.,complete with all leads And lifts as per specifications and as directed by the Engineer-in-charge .	Mtr	125.00
15.159	Scrubbing, removing and applying of one coat of red oxide primer and final two coats of Signal Red paint on existing GI pipes 50 mm Nominal Bore ---- etc.,complete with all leads And lifts as per specifications and as directed by the Engineer-in-charge .	Mtr	75.00
15.16	Scrubbing, removing and applying of one coat of red oxide primer and final two coats of Signal Red paint on existing GI pipes 40 mm Nominal Bore ---- etc.,complete with all leads And lifts as per specifications and as directed by the Engineer-in-charge .	Mtr	50.00
15.161	Scrubbing, removing and applying of one coat of red oxide primer and final two coats of Signal Red paint on existing GI pipes 32 mm Nominal Bore ---- etc.,complete with all leads And lifts as per specifications and as directed by the Engineer-in-charge .	Mtr	40.00
15.162	Scrubbing, removing and applying of one coat of red oxide primer and final two coats of Signal Red paint on existing GI pipes 25 mm Nominal Bore ---- etc.,complete with all leads And lifts as per specifications and as directed by the Engineer-in-charge .	Mtr	30.00
15.163	Supply, erection, testing and commissioning of 1" GI/MS collar. ---- etc.,complete with all leads And lifts as per specifications and as directed by the Engineer-in-charge .	Nos	110.00
15.164	Refilling of existing Fire Extinguisher for ABC Powder based MAP 50, 1Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	448.00
15.165	Refilling of existing Fire Extinguisher for ABC Powder based MAP 50, 2Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	672.00
15.166	Refilling of existing Fire Extinguisher for ABC Powder based MAP 50, 4Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	874.00
15.167	Refilling of existing Fire Extinguisher for ABC Powder based MAP 50, 6Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	1165.00
15.168	Refilling of existing Fire Extinguisher for ABC Powder based MAP 50, 9Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	1680.00

15.169	Refilling of existing Fire Extinguisher for ABC Powder based MAP 90, 2Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	806.00
15.17	Refilling of existing Fire Extinguisher for ABC Powder based MAP 90, 4Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	1053.00
15.171	Refilling of existing Fire Extinguisher for ABC Powder based MAP 90, 6Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	1411.00
15.172	Refilling of existing Fire Extinguisher for ABC Powder based MAP 90, 9Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	2016.00
15.173	Refilling of existing Fire Extinguisher for ABC Powder based MAP 90, 25Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	3920.00
15.174	Refilling of existing Ceiling mounted Fire Extinguisher Mono Ammonium Phosphate Powder 90, 5kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	1904.00
15.175	Refilling of existing Ceiling mounted Fire Extinguisher Mono Ammonium Phosphate Powder 90, 10kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	2912.00
15.176	Refilling of existing Fire Extinguisher for Powder based 1Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	784.00
15.177	Refilling of existing Fire Extinguisher for Powder based 2Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	1008.00
15.178	Refilling of existing Fire Extinguisher for Powder based 4Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	1232.00
15.179	Refilling of existing Fire Extinguisher for Lite metal fires SPM-TEC 4Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	3472.00

15.18	Refilling of existing Fire Extinguisher for Lite metal fires SPM-TEC 6Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	3920.00
15.181	Refilling of existing Fire Extinguisher for Lite metal fires SPM-TEC 9Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	4144.00
15.182	Refilling of existing Fire Extinguisher for Heavy metal fires SPM-PYRO 4Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	4144.00
15.183	Refilling of existing Fire Extinguisher for Heavy metal fires SPM-PYRO 6Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	4368.00
15.184	Refilling of existing Fire Extinguisher for Heavy metal fires SPM-PYRO 9Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	4928.00
15.185	Refilling of existing Fire Extinguisher for Clean Agent HCFC 123, 2Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	851.00
15.186	Refilling of existing Fire Extinguisher for Clean Agent HCFC 123, 4Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	1456.00
15.187	Refilling of existing Fire Extinguisher for Clean Agent HCFC 123, 6Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	2016.00
15.188	Refilling of existing Ceiling Mounted Fire Extinguisher for Clean Agent HCFC 123, 5Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	3696.00
15.189	Refilling of existing Ceiling Mounted Fire Extinguisher for Clean Agent HCFC 123, 10Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	4144.00
15.19	Refilling of existing Fire Extinguisher for Clean Agent HCFC 123, 9Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	3360.00

15.191	Refilling of existing CO2 Squeeze grip Fire Extinguisher 2Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	560.00
15.192	Refilling of existing CO2 Squeeze grip Fire Extinguisher 4.5Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	829.00
15.193	Refilling of existing CO2 Wheel Type Fire Extinguisher 4.5Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	941.00
15.194	Refilling of existing CO2 Wheel Type Fire Extinguisher 6.5Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	1008.00
15.195	Refilling of existing CO2 Wheel Type Fire Extinguisher 22.5Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	4368.00
15.196	Refilling of existing CO2 Aluminium Fire Extinguisher 2Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	717.00
15.197	Refilling of existing CO2 Aluminium Fire Extinguisher 4.5Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	1008.00
15.198	Refilling of existing Aqueous Film-Forming Foam Fire Extinguisher 9 Ltr. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	1030.00
15.199	Refilling of existing Aqueous Film-Forming Foam Fire Extinguisher 50 Ltr. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	4928.00
15.2	Refilling of existing Water type Fire Extinguisher Stored Pressure, 9 Ltr. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	717.00
15.201	Refilling of existing Water type Fire Extinguisher 45 Ltr. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	3696.00

15.202	Refilling of existing Hydro Pyroquell Sytem Fire Extinguisher 21tr. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	806.00
15.203	Refilling of existing Hydro Pyroquell Sytem Fire Extinguisher 31tr. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	941.00
15.204	Refilling of existing Hydro Pyroquell Sytem Fire Extinguisher 61tr. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	1030.00
15.205	Refilling of existing Green mist Fire Extinguisher 21tr. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	3360.00
15.206	Refilling of existing Green mist Fire Extinguisher 31tr. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	3808.00
15.207	Refilling of existing Green mist Fire Extinguisher 61tr. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	7168.00
15.208	Refilling of existing CQRS Direct Low Pressue System Fire Extinguisher 2 Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	4816.00
15.209	Refilling of existing CQRS Direct Low Pressue System Fire Extinguisher 4 Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	9632.00
15.21	Refilling of existing CQRS Direct Low Pressue System Fire Extinguisher 6 Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	14448.00
15.211	Refilling of existing CQRS Direct Low Pressue System Fire Extinguisher 9 Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	21672.00
15.212	Refilling of existing CQRS Direct high Pressue System Fire Extinguisher 2 Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	4816.00

15.213	Refilling of existing CQRS Direct high Pressue System Fire Extinguisher 4.5 Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	10836.00
15.214	Refilling of existing CQRS Direct high Pressue System Fire Extinguisher 6.5 Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	15652.00
15.215	Refilling of existing CQRS Direct high Pressue System Fire Extinguisher 22.5 Kg. The refilling rate shall include cost of all lead and lifts, transportation, loading, unloading, fixing and all other incidental charges etc. complete as per specification and directions of the engineer in charge of the work.	Each	54180.00