

e) Type test report of Monopole in line with MSETCL specification for Monopole

4. Vide your letter under reference (9) you have informed

"a) 132 kV SC line form 132kV Shendra Chikalhana using monopole structure is being constructed using the existing 66kV line corridor but due to severe ROW issue in the existing corridor, the 132kv line profile needs to be modified/changed. Hence the current line profile cannot be confirmed without complete resolution of ROW. So the approval of the profile is not possible at this stage.

b) With the view of the same we have specially designed the monopoles with different cross arm orientations as per the site requirement. This has been discussed with your project team.

c) The specially designed monopole design reports have been submitted at your office. We request you take a review of the same and expedite the approval process, so that the project execution can be completed within the specified time frame."

5. Vide this office email cited at reference (10) this office requested the concern field office to submit their opinion/compliance/recommendation on the letter submitted by M/s Rahul Agencies.

6. Vide Email Cited at reference (11) the Office of Chief Engineer EHV PC O&M Zone Sambhaji Nagar has conveyed

"a) over the period of time, encroachment in our corridor taken place due to urbanization of Aurangabad city. Also, the line is broken at some places. Hence, at present it is very difficult to carry out detail survey for measurement clearance to buildings, newly constructed roads etc. due to severe ROW issues.

b) Therefore, it is required to carry out survey using drones under Police protection & the process for the same is in under progress. Hence at present approval of profile is not possible. Also, it may require to use special type of monopole using different cross arm orientation at the time of execution of work depending upon ROW issues.

c) Therefore, it is requested to consider the same & requested for approval of monopole structure for the construction work of 132 kV SC Shendra-Chikalhana line using monopole structure with ACCC high Ampacity conductor."

7. Based on recommendation received from the Office of Chief Engineer EHV PC O&M Zone Aurangabad, a design discussion meeting was held on 30.08.2023 with design engineer from M/s Valmont.

8. The un vetted copies of Monopole design document submitted by M/s Rahul Agencies were scrutinized during the design discussion meeting with design Engineer of M/s Valmont, in virtual meeting on 30.08.2023. In the said discussion, the design document as detailed in Table-1 was scrutinized..

a) In above mentioned meeting a sample & analysis of Monopole and foundation as detailed in Table-1 was carried out simulation of the same was run on PLS Pole/Impax software and is found within tolerance as per relevant IS code and general Technical Specifications of MSETCL. M/s Rahul Agencies vide email cited at reference (13) has submitted the report of the same.

b) Based on the Design discussion and report thereof this office opined that the un vetted copies of Monopole design documents submitted by M/s Rahul Agencies are generally in line with relevant IS and general technical specification of MSETCL

9. In continuation with point (8) above, vide this office email cited at reference (14) it was informed to submit copies of 132kV S/C Monopole and their foundation duly vetted by IIT/NIT in line with Specification of MSETCL.

10. Vide your letter cited at reference (16) you have submitted duly vetted copies of Monopole design document as detailed in Table-1 .The said copies were vetted by VNIT (Visvesvaraya National Institute of Technology, Nagpur) vide their letter VNIT/AMD/CONS/SVB-RK/3794/3864 Dt.11.08.2023.

Table-1

Sr. No.	Monopole Type	Monopole Drawing	Monopole Foundation drawing
132kV S/C Monopole			
1	P (0 degree -2 degree) +0m/+3m/+6m	SQL118137_P+0m	ST-226-R1
		SQL118137_P+3m	ST-227-R1
		SQL118137_P+6m	ST-228-R1
2	P (0 degree -2 degree) +9m	SQL118137_P+9m	ST-229-R1
3	Q(2 degree -15 degree) +0m /+3m	SQL118137_Q+0m	STR-230-R1
		SQL118137_Q+3m	STR-231-R1
4	Q(2 degree -15 degree) +6m	SQL118137_Q+6m	ST-232-R1
5	R (15 degree -30degree) +0m	SQL118137_R+0M	STR-233-R1
6	S (30 degree -60degree) DE (0 degree -15 degree)+3m	SQL118137_S+3M	STR-234-R1
7	S (30 degree -60degree) / DE (0 degree -15 degree)+6m	SQL118137_S+6M	STR-228-R1
8	DE (60 degree -90degree)) / DE (0 degree -15 degree)+0m	SQL118137_DE+0M	ST-236-R1
9	DE (60 degree -90degree)) / DE (0 degree -15 degree)+3m	SQL118137_DE+3M	ST-237-R1
10	DE (60 degree -90degree)) / DE (0 degree -15 degree)+6m	SQL118137_DE+6M	ST-238-R1

11. M/s Valmont Ltd. has submitted the type test report of the type tests conducted on 220kV D/C Monopole PD. (30 degree – 60 degree)/DE (0 degree – 15 degree), (report no.CPRIBLRMEDTTL21T0015 Dt.31.03.21) at CPRI.

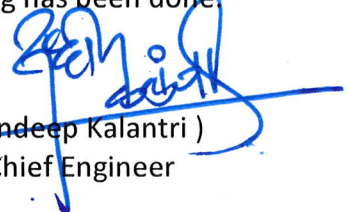
12. M/s Valmont Ltd. has type tested 220kV D/C Monopole PD. (30 degree – 60 degree)/DE (0 degree – 15 degree), (report no.CPRIBLRMEDTTL21T0015 Dt.31.03.21) at CPRI. It is the Monopole with higher voltage, higher degree of deviation thus proving its design methodology and capability. Hence as per MSETCL specification the type test report of the same is accepted as proof of design methodology and made applicable for this work.

13. Considering above mentioned point (8), (10), (11), (12) approved NIT vetting, type test report, design validation, the submitted Monopole and foundation design as detailed in Table-1 are hereby approved in principle **with corrections marked in red ink** for use in subjected work only.

14. The in principle approval is subjected to following conditions

- a) This in principle approval for Monopole and foundation design is processed as per the recommendation received from CE EHV PC O&M Zone MSETCL Sambhaji Nagar vide their email cited at reference (11)
- b) The Monopole design and foundation design for which in principle approval is accorded shall be put in use for subject work only after confirmation/approval of tower profile and tower schedule from concern field office.
- c) After carrying out survey and on finalization of tower schedule if there is need for any Monopole /foundation whose type deviation angle is not mentioned in Table -1 above then you shall design the requisite monopole/foundation in consultation with concerned field office and as per site condition and shall submit it to this office for approval

15. Please note that above mentioned approval is without prejudice to other terms and conditions mentioned in the work order issued for the said work and does not absolve you from your responsibility of meeting all relevant requirement/ statutory obligations while executing the work. Further this office will not be responsible for any consequences due to incorrectness of data submitted to this office on which validation of the said design drawing has been done.


(Sandeep Kalantri)
Chief Engineer

Copy s.w.r. to –

The Director (Operations), MSETCL, CO, Mumbai

Copy f.w.c. to –

The Chief Engineer, EHV PC O&M zone, MSETCL, Vahi

Copy to –

The Superintending Engineer, EHV PC, Sambhaji Nagar

- a) The Monopole design and foundation design for which in principle approval is accorded shall be put in use for subject work only after confirmation/approval of tower profile and tower schedule from concern field office.
- b) The responsibility of adhering to drawings and statutory safety clearances on site will be of the contractor/supervising official. You are requested to verify the soil strata before commencement of the foundation activity.