



REGISTRAR

# National Electric Power Regulatory Authority

Islamic Republic of Pakistan

NEPRA Tower, Attaturk Avenue (East) G-5/1, Islamabad

Phone: 9206500, Fax: 2600026

Website: [www.nepra.org.pk](http://www.nepra.org.pk), Email: [info@nepra.org.pk](mailto:info@nepra.org.pk)

No. NEPRA/DG(M&E)/LAD-06/

38604

December 19, 2023

Chief Executive Officer  
Multan Electric Power Co. Ltd.  
MEPCO Headquarter, Khanewal Road  
Multan.

Subject: **ORDER IN THE MATTER OF EXPLANATION ISSUED TO MEPCO UNDER REGULATION 4(1) AND 4(2) OF NEPRA (FINE) REGULATIONS, 2021 ON ACCOUNT OF FAILURE TO EXECUTE EARTHING/GROUNDING OF HT/LT POLES/STRUCTURES IN ITS SERVICE TERRITORY**

Enclosed please find herewith the Order of the Authority dated 19.12.2023 (09 Pages) in the subject matter for compliance.

**Encl:** As Above

  
(Syed Zavar Haider)



## National Electric Power Regulatory Authority

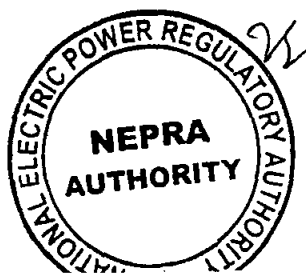
### ORDER

**IN THE MATTER OF EXPLANATION ISSUED TO MEPCO UNDER  
REGULATION 4(1) AND 4(2) OF NEPRA (FINE) REGULATIONS, 2021, ON  
ACCOUNT OF FAILURE TO EXECUTE EARTHING/GROUNDING OF HT/LT  
POLES/STRUCTURES IN ITS SERVICE TERRITORY.**

1. Multan Electric Power Company Limited (MEPCO) (the "Licensee") was granted a Distribution License (No. 06/DL/2002) by the National Electric Power Regulatory Authority (the "Authority") on 25.04.2002, for providing Distribution Services in its Service Territory as stipulated in its Distribution License, pursuant to section 21 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 ("NEPRA Act").

#### **Background:**

2. During the investigation conducted by NEPRA with respect to Fatal Accidents in DISCOs, it was observed that the distribution facilities of DISCOs such as poles/structures lack earthing/grounding which is one of the major causes of the occurrence of fatal accidents. The Authority while taking notice of such serious safety hazards directed the Licensee vide letter dated June 07, 2022, followed by reminder dated July 06, 2022, to submit the data pertaining to the total number of poles/structures, number of poles/structures already earthed/grounded, and number of poles/structures to be earthed/grounded. Accordingly, the Licensee submitted the required information vide its letter dated July 18, 2022, and email dated August.
3. The Authority after carefully examining the data submitted by the Licensee called CEO of the Licensee vide letter dated September 26, 2022, for a meeting/hearing via Zoom at NEPRA Head Quarter with the direction to come up with a comprehensive plan along with specific timelines pertaining to execution of earthing/grounding of HT/LT poles/structures in its service territory, in order to avoid fatal accidents in future. The Authority also directed that the Licensee shall submit the response to specific queries/questions including, SOP of the Licensee pertaining to earthing/grounding of the poles/structures, scope of earthing in the contracts at the time of their installation, checking of poles/structures grounding at the time of handing over of the system from construction to operation departments, tackling these hazards in the absence of proper earthing/grounding, and time required to execute the earthing/grounding of 100% of the remaining poles/structures.
4. Accordingly, the said meeting/hearing was held on October 04, 2022, wherein, the Authority directed the Licensee to submit complete details of PCC poles and steel structures with and without earthing/grounding. The Authority further directed the Licensee to submit a comprehensive plan of the execution of earthing/grounding of poles & structures along with concrete timelines. Moreover, the Authority also desired



that the Licensee should provide a mechanism on how they will efficiently perform the execution task within the minimum possible time. A letter dated October 28, 2022, containing all above directions was also issued to the Licensee.

5. In addition to above, NEPRA Regional Office, Multan, also reported and affirmed that in past contracts, the scope of earthing/grounding was only included in Steel Structures. However, in the latest contracts, the scope of earthing/grounding was included in both the Steel Structures and PCC poles and the same is present in the field too. The Regional Office further highlighted that Steel Structures installed in the past had earthing/grounding, however, the same has become ineffective due to deterioration and change of moisture contents at the sites over the passage of time. The same was also endorsed by the Licensee in its submitted replies.
6. In response to NEPRA's letter dated October 28, 2022, the Licensee vide its letter dated November 08, 2022, submitted its reply. The Licensee submitted that work for earthing/grounding through outsourcing has been initiated. It is pertinent to highlight here that the Licensee shared a revised number of poles/structures i.e. 1,773,544 which is much higher than the previous number i.e. 1,113,517. The submission of a revised number with a difference of more than 6 Lac poles/structures again shows the inefficiency of the Licensee, that being a distribution company it has not the proper idea that how many poles/structures are in operation in its distribution system. The Licensee wasted considerable time to determine the exact number of poles/structures, which raises serious concerns over the Licensee's performance.
7. The Licensee vide the aforementioned letter dated November 08, 2022, also submitted a month/phase-wise execution plan regarding earthing/grounding of poles/structures which will be completed within four (04) years time. The same was reviewed and noted that the plan is segregated into four phases. The first three phases will be executed within two years, whereas, the 4th phase will be completed by next two years which seems quite high time period. Accordingly, some observations were communicated to the Licensee vide email dated December 26, 2022. A zoom meeting was also held with the Licensee on December 23, 2022, wherein the Licensee was directed to re-submit its plan in light of observations highlighted by NEPRA. However, the Licensee did not submit the response, within the considerable time period.
8. The detail of poles/structures already earthed or to be earthed as submitted by the Licensee is as under:

Total Number of HT/LT Poles/ Structures	Details of HT Poles/Structures			Details of LT Poles/Structures			Total Number of HT/LT Poles/ Structures have Earthing	Total Number of HT/LT Poles/ Structures to be Earthed
	Total Number of HT Poles/ Structures	HT Poles/ Structures have Earthing	HT Poles/ Structures to be Earthed	Total Number of LT Poles/ Structures	LT Poles/ Structures have Earthing	LT Poles/ Structures to be Earthed		
1,225,635	744,048	37,202	706,846	481,587	74,916	406,671	112,118	1,113,517

9. After repeated telephonic calls, the Licensee submitted its response vide its letter dated February 22, 2022, whereby the Licensee claimed that upto February 20, 2023, the earthing of 193,957 No. of structures have been completed, however, 705,542 No. of structures are expected to be completed by December 2023, as per the earlier submitted



plan. A revised plan has also been submitted by the Licensee, citing the non-participation of earthing material suppliers as the reason. The same has been reviewed and noted with concern that the Licensee has again changed the total number of poles/structures i.e. 1,947,802, which is very alarming. Further, the Licensee has not considered the observations of NEPRA communicated to the Licensee vide email as mentioned above, and has not responded to any one of them. All this indicates the seriousness of the Licensee towards inculcating a safety culture in its service territory. The Licensee is trying to mislead the Authority by submitting different numbers rather than any concrete ones. The Licensee should have realized that operation of poles/structures without earthing/grounding in the field is highly dangerous and can lead to the occurrence of fatal accidents at any time.

10. It is a matter of record that despite repeated and continuous correspondence, the Licensee has failed to produce any specific number of HT/LT poles/structures along with its concrete plan indicating specific timelines. The Licensee also failed to submit the so-far progress for executing the earthing/grounding of HT/LT poles/structures as per its original phase wise plan. The Licensee should have understood that the operation of poles/structures without earthing/grounding in the field is highly dangerous and can lead to the occurrence of fatal accidents at any time.
11. Therefore, the Authority decided to initiate legal proceedings against the Licensee under NEPRA Fine Regulations, 2021.

**Explanation:**

12. In view thereof, an Explanation was served to the Licensee under Regulation 4(1) and 4(2) of NEPRA (Fine) Regulation, 2021, vide NEPRA's letter dated April 27, 2023, on account of violation of Performance Standards, Distribution Code, Power Safety Code, and other applicable documents. The salient points of the Explanation are as under:

2. *WHEREAS, pursuant to section 21(2)(f) of the NEPRA Act, the Licensee is required to follow the performance standards laid down by the Authority for the distribution and transmission of electric power, including safety; and*

3. *WHEREAS, pursuant to Rule 4(g)(ii), Overall Standards 7-Safety of NEPRA Performance Standards (Distribution) Rules:*

*"A distribution company shall ensure that its distribution facilities do not cause any leakage of electrical current or step potential beyond a level that can cause harm to human life, as laid down in the relevant IEEE/IEC Standards; prevent accessibility of live conductors or equipment; and prevent development of a situation due to breakdown of equipment which results in voltage or leakage current that can cause harm to human life, property and general public including without limitation, employees and property of the distribution company."*

4. *WHEREAS, according to clause SR 4 Safety Management Criteria of Distribution Code:*

*"A distribution company shall ensure that its distribution facilities do not cause any leakage of Electrical Current or Step Potential beyond a level*



*that can cause harm to human life, as laid down in the relevant IEEE/IEC Standards; prevent accessibility of live conductors or equipment; and prevent development of a situation due to breakdown of equipment which results in voltage or leakage current that can cause harm to human life, property and general public including without limitation, employees and property of the distribution company."*

5. **WHEREAS**, as per clause DDC 4, Design Code- Earthing of Distribution Code:

*"...The earthing of a distribution transformer, the neutral, and body of the transformer should be connected to ground rods as per IEC and PSI Standards Design Specifications. Earthing of Consumer Service and its meter shall be as per design standards adopted by the Licensees; and consistent with IEC, and IEEE Standards. The earth resistance of the distribution transformers and HT/LT structures/poles shall not be more than  $2.5\Omega$  and  $5\Omega$  respectively."*

6. **WHEREAS**, pursuant to clause PR 1 Protection System Practices and System Co-ordination of Distribution Code:

*"The Licensee shall follow suitable and necessary provisions regarding protection system practices and co-ordination such as the following but not limited to achieve the aims of proper functioning of the distribution system of the Licensee at all times:*

*h. ...Provide protective earthing devices."*

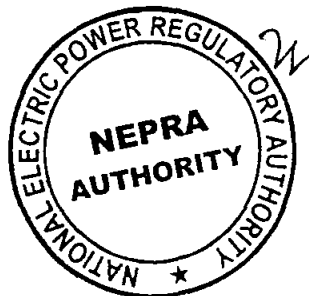
7. **WHEREAS**, as per clauses 12.2.4 and 12.2.5 of Chapter 12 of the Consumer Service Manual:

*"12.2.4. The earthing systems installed shall be dimensioned and regularly tested to ensure protection from shock hazards.*

*12.2.5. The steel structure installed on the public places shall be earthed at one point through steel/copper conductor, in accordance with the DISCO laid down procedures."*

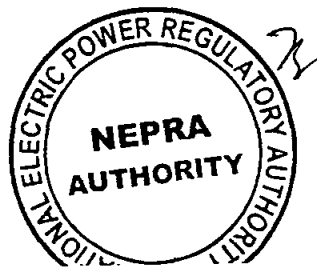
8. **WHEREAS**, during the investigation conducted by NEPRA with respect to fatal accidents in DISCOs, it was observed that the distribution facilities of DISCOs particularly HT/LT poles/structures lack earthing/grounding which is one of the major causes of the occurrence of fatal accidents. The Authority took notice of such serious safety hazards and directed to obtain data from all the DISCOs including the Licensee, with respect to the total number of HT/LT poles/structures, the number of HT/LT poles/structures already earthed/grounded, and the number of HT/LT poles/structures to be earthed/grounded. The same was obtained vide Licensee's letter dated August 17, 2022, and the detail is as under:

*Sd/-*



Total Number of HT/LT Poles/ Structures	Details of HT Poles/Structures			Details of LT Poles/Structures			Total Number of HT/LT Poles/ Structures have Earthing	Total Number of HT/LT Poles/ Structures to be Earthed
	Total Number of HT Poles/ Structures	HT Poles/ Structures have Earthing	HT Poles/ Structures to be Earthed	Total Number of LT Poles/ Structures	LT Poles/ Structures have Earthing	LT Poles/ Structures to be Earthed		
1,225,635	744,048	37,202	706,846	481,587	74,916	406,671	112,118	1,113,517

9. **WHEREAS**, a hearing/meeting on the matter was also held on October 04, 2022, wherein the representatives from all DISCOs including CEO MEPCO participated. During hearing/meeting, the Authority directed all DISCOs along with the Licensee to submit complete details of PCC Poles and steel structures with and without earthing/grounding. The Authority further directed the Licensee to submit a comprehensive plan of the execution of earthing/grounding of poles/structures along with concrete timelines. Moreover, the Authority desired that DISCOs should provide a mechanism on how they will efficiently perform the execution task within the minimum possible time. However, the Licensee did not submit anything in this regard; and
10. **WHEREAS**, vide NEPRA's letter dated October 28, 2022, the Licensee was again directed to submit the said information. In response, the Licensee vide its letter dated November 08, 2022, submitted its reply, wherein, the Licensee submitted that work for earthing/grounding through outsourcing has been initiated. The Licensee further submitted that within two years all the HT/LT poles/structures would be earthed properly. It is pertinent to highlight here that the Licensee shared a revised number of poles/structures i.e. 1,773,544 which is much higher than the previous number i.e. 1,113,517. Submission of a revised number with a difference of more than 6 Lac poles/structures again shows the inefficiency of MEPCO, that being a distribution company it has not the proper idea that how many poles/structures are in operation in its distribution system. The Licensee wasted almost four (04) months to determine the exact number of poles/structures, which raises serious concerns over the Licensee's performance; and
11. **WHEREAS**, the Licensee vide its letter dated November 08, 2022, further submitted a month/phase-wise execution plan regarding earthing/grounding of poles/structures which will be completed within four (04) years time. The same was reviewed and noted that the plan is segregated into four phases. The first three phases will be executed within two years, whereas, the 4th phase will be completed by next two years which seems quite high time period. Accordingly, some observations were communicated to the Licensee vide email dated December 26, 2022. A zoom meeting was also held with the Licensee on December 23, 2022, wherein the Licensee was directed to re-submit its plan in light of observations highlighted by NEPRA. However, the Licensee did not submit the response, within the considerable time period; and
12. **WHEREAS**, after repeated telephonic calls, the Licensee submitted its response vide its letter dated February 22, 2022, whereby the Licensee



claimed that upto February 20, 2023, the earthing of 193,957 No. of structures have been completed, however, 705,542 No. of structures are expected to be completed by December 2023, as per the earlier submitted plan. A revised plan has also been submitted by the Licensee, citing the non-participation of earthing material suppliers as the reason. The same has been reviewed and noted with concern that the Licensee has again changed the total number of poles/structures i.e. 1,947,802, which is very alarming. Further, the Licensee has not considered the observations of NEPRA communicated to the Licensee vide email as mentioned above, and has not responded to any one of them. All this indicates the seriousness of the Licensee towards inculcating a safety culture in its service territory. The Licensee is trying to mislead the Authority by submitting different numbers rather than any concrete ones. The Licensee should have realized that operation of poles/structures without earthing/grounding in the field is highly dangerous and can lead to the occurrence of fatal accidents at any time; and

13. **WHEREAS**, it is a matter of record that despite repeated and continuous correspondence, the Licensee has failed to produce any specific number of HT/LT poles/structures along with its concrete plan indicating specific timelines. The Licensee also failed to submit the so-far progress for executing the earthing/grounding of HT/LT poles/structures as per its original phase wise plan. Hence, it can be said that the Licensee has, prima facie, violated Section 21(2)(f) of the NEPRA Act, Article 11 of the Distribution License read with Rule 4(g) of the NEPRA Performance Standards (Distribution) Rules, Clause 4 of Safety Requirements, Clause 4 of Design Code & Clause 1 of Protection Requirements of the Distribution Code and Clause 12.2 of Chapter 12 of the Consumer Service Manual; and"
13. The Licensee vide its letter dated May 12, 2023, submitted its response. The summarized points of the same are below:
- a) "The first tentative figures were submitted on 17.08.2022, in response of your office letter No. NEPRA/DG(M&E)/LAD-08/9131-39 dated 07.06.2022.
  - b) On 04.10.2022, in hearing/meeting on the matter, it was directed to submit the complete detail of PC poles and steel structures with and without earthing/grounding. The NEPRA Authority further directed the MEPCO to submit a comprehensive plan of execution of earthing/grounding of poles and structures. In response of above hearing on 04.10.2022, MEPCO submitted that total No. of HT/LT poles /structures are 1947802 Nos. after detailed survey. From above mentioned Nos. of structures 194137 were already grounded/earthed. However, the earthing of said structures were not completely satisfactory. A comprehensive plan was submitted to your office vide this office letter No. 85779-81/CE/O&M (Distn) dated 08.11.2022.
  - c) The steel structures are most risky and requires more detail working as per different water level and more time for earthing. Previously there was no



*any practice of grounding/earthing of PCC poles. As per above plan 486,320 Nos. were steel structures, and were given first priority as phase-I & phase-II to be completed by the end of July 2023. Out of 486320 Nos. HT/LT steel structures, the Company has already earthed/confirmed earthing of 194137 Nos. steel structure. Remaining 2,92,183 Nos. steel structures will be earthed by the end of 2023.*

*d) The change in the plan was occurred due to non-availability of material, escalation of prices and non-participation of bidders/contractors. The revised plan was submitted to your good office vide No. 13442-44/CE(O&M)/Dist/MEPCO dated 22-02-2023. No. of Poles/Structures was same.*

*e) It is further clarified that there are total 14,61,482 HT/LT PC Poles out of which there are 12,41,352 No. are of H-type PC poles having no provision for earthing. For remaining 220129 No. of poles (which are PC Spun poles) job of earthing of poles would be completed by next 12-months i.e by the end of 2024."*

#### **Hearing:**

14. Furthermore, in order to satisfy the requirement of law, the Authority decided to provide an opportunity of a hearing to the Licensee in light of Regulation 4 (5) of NEPRA (Fine) Regulations, 2021, before further proceeding in the matter. Accordingly, the said hearing was held on July 19, 2023, wherein, CEO of the Licensee alongwith his team made following submissions:

(i) Earlier, there was no SOP regarding earthing of PCC poles, however, when NEPRA directed MEPCO to execute the same, the survey of PCC was carried out.

(ii) MEPCO's updated number regarding HT/LT Poles/Structures is 1,947,802. Out of total poles/structures there are 1,241,352 number of H-Type HT/LT PCC Poles, which do not have provision and requirement of earthing. From the remaining 706,450 poles/structures there are 482,313 number of HT/LT Steel Structures.

(iii) The HT/LT Steel Structures are on MEPCO's first priority for execution of earthing/grounding.

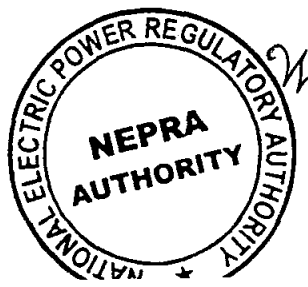
(iv) As far as the status of earthing of HT/LT Steel Structures is concerned, MEPCO has executed 224,137 no of structures by date, however, the remaining 220,129 will be completed by December 2023.

(v) A Special budget of 1200M has been explicitly allocated for this purpose and MEPCO is executing the earthing on a war footing basis through outsourcing at Circle level.

#### **Analysis/Findings:**

15. The Licensee has submitted different numbers of Structures/Poles during various correspondences since July, 2022. Now the Licensee after a detailed survey has

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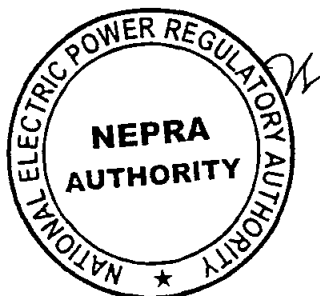




submitted the following numbers for which it has claimed that these are firmed numbers:

Total No. of Poles/Structures	=	1,947,802
Total No. of PCC Poles	=	1,461,482
Total No. of PCC poles not requiring earthing	=	1,241,352
Total No. of PCC Poles requiring earthing	=	220,130
Total No. of Steel Structures	=	486,320
Total No. of Steel Structures have been grounded	=	194,137
Total No. of Steel Structures to be grounded	=	292,183

16. The Licensee has further submitted its first priority is to ground steel structures and therefore, so far it has executed the earthing of 194,137 steel structures. However, the remaining structures will be earthed by end of July, 2023. Later on the Licensee revised its plan and submitted that the earthing/grounding of remaining steel structures will be completed by end of 2023 due to some reasons such as non-availability of material, escalation of prices and non-participation of bidders/contractors. For PCC Poles, the Licensee has submitted that the same will be earthed in next 12 months i.e. end of 2024.
17. The submissions of the Licensee have been considered by the Authority and observes that the Licensee has itself admitted that 220,130 PCC poles and 292,183 steel structures are still required to be earthed. This is very alarming and seems a large number of HT/LT structures/poles which are under hazardous condition and are in operation. The Authority further observes that extension in timeline for execution of earthing of steel structures from July, 2023 to Dec, 2023 by the Licensee itself shows an admittance on its part that the Licensee has failed to fulfill its commitment given in its first plan. However, the reasons given by the Licensee appears to be lame excuses as the Licensee has earthed almost 2lac structures during the same period. If it is so, then how the escalation of prices and non-participation of bidders can be the major reasons for non-achieving the target. This further indicates non-serious attitude of the Licensee towards the rectification of such serious safety hazards in a timely manner. The Licensee should have tightened the timelines rather than extending the same, keeping in view the sensitivity of the matter as it could be highly dangerous in monsoon rains.
18. Moreover, the Authority while considering the submissions of the Licensee is of the view the the Licensee is blowing hot and cool as on one hand it has given the reasons for the extension in plan pertaining to earthing of structures, and on the other hand, it has reduced the overall time of execution from four years to two years. Both arguments are contradictory to each other because ideally if the material is not arranged well in time then the project timelines should have been enhanced. Hence the revised plan submitted by the Licensee again seems unrealistic. Therefore, it can be said that the submissions along with the reasons given by the Licensee are baseless.
19. As far as grounding PCC poles is concerned, the Authority has considered the submissions of the Licensee and is of the opinion that as per plan given by the Licensee, it requires the time of one year to execute the earthing of 220,130 number of PCC poles which seems somehow longer as compared to the Licensee's own plan with respect to steel structures. The Licensee should carry out the exercise of earthing of PCC poles in parallel to steel structures and should complete the both in minimum possible time.



20. The submissions made in response to the Explanation are evasive and the Licensee fails to recognize this imperative obligation.

21. **Decision**

After due deliberations and taking into account the submissions/arguments made by the Licensee during the hearing and in light of the NEPRA Act, NEPRA (Fine) Regulations, 2021, and other applicable documents, the Authority is of the considered opinion that the Licensee has failed to provide any satisfactory reply to the Explanation served to it, therefore, the Authority hereby decides to issue a Show Cause Notice to the Licensee in terms of Regulations 4(8) & (9) of the NEPRA (Fine) Regulations, 2021.

**AUTHORITY**

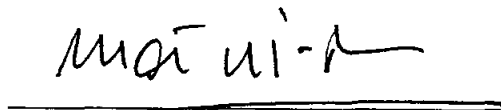
Rafique Ahmed Shaikh  
Member (Technical)



Engr. Maqsood Anwar Khan  
Member (Licensing)



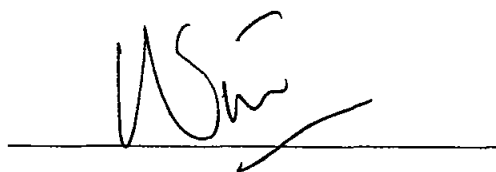
Mathar Niaz Rana (nsc)  
Member (Tariff & Finance)



Amina Ahmed  
Member (Law)



Waseem Mukhtar  
Chairman



Dated 19<sup>th</sup> Dec. 2023

