



Registrar

National Electric Power Regulatory Authority

Islamic Republic of Pakistan

NEPRA Tower, Attaturk Avenue (East), G-5/1, Islamabad.
Tel: +92-51-9206500, Fax: +92-51-2600026
Web: www.nepra.org.pk, E-mail: registrar@nepra.org.pk

No. NEPRA/DG(M&E)/LAD-35/ 3467

March 20, 2024

Chief Executive Officer,
Sukkur Electric Power Company Limited (SEPCO),
Administration Block, Thermal Power Station,
Old Sukkur

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

Please find enclosed herewith, the Order of the Authority (total 10 pages) in the subject matter for information and compliance.

Enclosure: Order of the Authority (total 10 Pages)

(Engr. Mazhar Iqbal Ranjha)

✓



National Electric Power Regulatory Authority

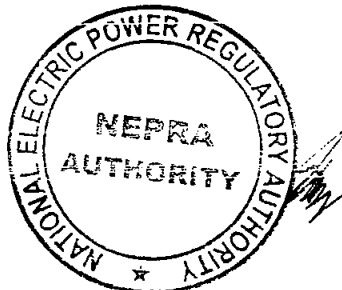
ORDER

IN THE MATTER OF EXPLANATION ISSUED TO SEPCO UNDER REGULATIONS 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. Sukkur Electric Power Company Limited (SEPCO) (the "Licensee") was granted a Distribution License (No. 21/DL/2011) by the National Electric Power Regulatory Authority (the "Authority") on August 18, 2011, 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 reminders dated July 06, 2022, and August 02, 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 August 12, 2022.
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

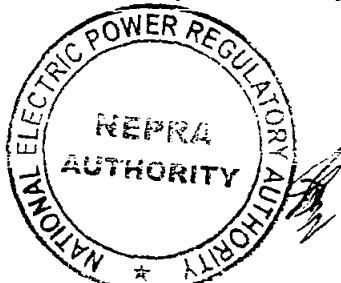


that the Licensee should provide a mechanism on how they will efficiently perform the execution task within the minimum possible time. A letter dated October 28, 2022 containing all above directions was also sent to the Licensee.

5. In addition to above, NEPRA Regional Office, Sukkur, 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 25, 2022, submitted its response against the aforementioned directions & queries of the Authority. The Licensee interalia, stated that it has deployed all Directorates of PD (Construction) to check the feeder/pole-wise status of earthing rods, either installed or not installed. Accordingly, eighty-eight (88) feeders have been surveyed/completed by PD (Construction), and the remaining are under process. Additionally, the Licensee vide the said letter also committed that it is trying its best to complete 100% of the project job for the execution of earthing/grounding of poles/structures up to the end of 2023. The detail of HT/LT 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		
894,117	506,875	335,257	171,618	387,241	272,450	114,791	607,708	286,409

7. In this regard, it was observed that, since October 2022, the said survey had still not been completed by the Licensee, which depicted that the progress on Licensee's part is very poor. If the survey had not been completed despite the lapse of almost six months, then how the Licensee will execute earthing/grounding of 286,409 Nos. of HT/LT structures by end of 2023? The Licensee's submitted plan seemed unrealistic and impractical which showed its non-seriousness towards execution of earthing on a war footing basis.
8. Moreover, vide NEPRA's letter dated January 31, 2023, the Licensee was again directed to submit its revised plan in the light of observations highlighted by NEPRA. Meanwhile, Member (Technical), NEPRA during the visit of the Licensee's Headquarters on January 28, 2023, expressed serious concerns about the non-execution of earthing/grounding of poles/structures by the Licensee. In response, the Licensee vide its letter dated February 22, 2023, submitted that the available stock of earthing rods is 180 numbers only, and procurement of 10,000 earthing rods is under process. The availability of 180 earthing rods and procurement of only 10,000 rods as compared to 286,409 poles/structures again shows the Licensee's intentions towards timely completion of this task and subsequent inculcating a safety culture. Furthermore, the Licensee has shown its inability to fast-track its procurement process by giving reasons



that the suppliers are least interested to participate in material procurement due to the economic condition of the country. The argument put forward by the Licensee does not seem justified as it has not provided any detail that how many times it has tried to award contracts and in which newspapers, it published the same. Additionally, if the Licensee will award the contract in bulk rather than in a very small quantity i.e., 10,000, then potential bidders may participate and take risks as the contract will be of bigger size.

9. The Licensee vide its letter dated February 22, 2023, submitted that it has completed a fresh survey and accordingly, the revised figures of HT/LT unearthed structures are 174,995. The Licensee further submitted that it is committed to complete the job by the end of 2024 upto the extent of structures only. However, the Licensee did not submit any figures/numbers regarding PCC poles, which were required to be earthed too. The submission of the revised number of structures by the Licensee shows that it had completed the survey after a lapse of seven months. Whereas, the Licensee submitted in its earlier letter that it will execute earthing by the end of 2023. All these statements clearly indicated that the Licensee did not have any plan to execute this important task. 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. The Licensee was trying to mislead the Authority by manipulating the facts and hiding its inefficiencies.
10. Therefore, the Authority decided to initiate legal proceedings against the Licensee under NEPRA Fine Regulations, 2021.

Explanation:

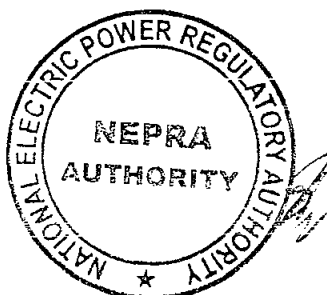
11. In view thereof, an Explanation was served to the Licensee under Regulation 4(1) and 4(2) of NEPRA (Fine) Regulation, 2021, vide NEPRA's letter dated April 27, 2023, on account of violation of Performance Standards, Distribution Code, Power Safety Code, and other applicable documents. The salient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

3. *"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*

4. *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."

5. *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."

6. **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 2.5Ω and 5Ω respectively."

7. **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."

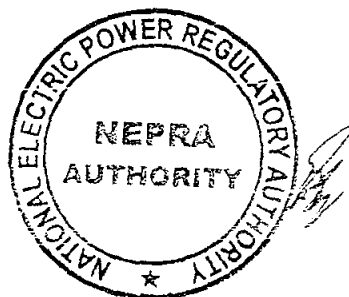
8. **WHEREAS**, as per clauses 12.2.4 and 12.2.5 of Chapter 12 of the Consumer Service Manual:

"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."

9. **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 12, 2022, and the detail is as under:

Q. 12

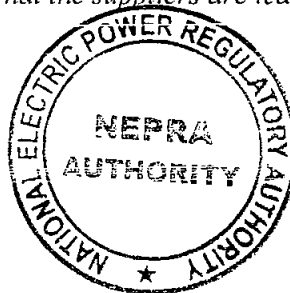


Total Number of HT/LT Poles/Structures	Details of HT Poles/Structures			Details of LT Poles/Structures			Total Number of HT/LT Poles/Structures have Earthing	Total Number of HT/LT Poles/Structures to be Earthed
	Total Number of HT Poles/Structures	HT Poles/Structures have Earthing	HT Poles/Structures to be Earthed	Total Number of LT Poles/Structures	LT Poles/Structures have Earthing	LT Poles/Structures to be Earthed		
894,117	506,875	335,257	171,618	387,241	272,450	114,791	607,708	286,409

10. **WHEREAS**, a hearing/meeting on the matter was also held on October 04, 2022, wherein the representatives from all DISCOs including CEO SEPCO 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 failed to do so; and

11. **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 25, 2022, submitted its reply, wherein, the Licensee inter alia, stated that it has deployed all Directorates of PD (Construction) to check the feeder/pole-wise status of earthing rods, either installed or not installed. Accordingly, eighty-eight (88) feeders have been surveyed/completed by PD (Construction), and the remaining are under process. Additionally, the Licensee vide the said letter also committed that it is trying its best to complete 100% of the project job for the execution of earthing/grounding of poles/structures up to the end of 2023. In this regard, it is observed that since October 2022, the said survey has still not been completed by the Licensee, which depicts that the progress on Licensee's part is very poor. If the survey has not been completed despite the lapse of almost six months, then how the Licensee will execute earthing/grounding of 286,409 Nos. of HT/LT poles/structures by end of 2023? The Licensee's submitted plan seemed unrealistic and impractical which showed its non-seriousness towards execution of earthing on a war footing basis; and

12. **WHEREAS**, vide NEPRA's letter dated January 31, 2023, the Licensee was again directed to submit its revised plan in the light of observations highlighted by NEPRA. Meanwhile, Member (Technical), NEPRA during the visit of SEPCO on January 28, 2023, expressed serious concerns about the non-execution of earthing/grounding of poles/structures by the Licensee. In response, the Licensee vide its letter dated February 22, 2023, submitted that the available stock of earthing rods is 180 numbers only, and procurement of 10,000 earthing rods is under process. The availability of 180 earthing rods and procurement of only 10,000 rods as compared to 286,409 poles/structures again shows the Licensee's intentions towards inculcating a safety culture. Moreover, the Licensee has shown its inability to fast-track its procurement process by giving reasons that the suppliers are least interested to participate



in material procurement due to the economic condition of the country. The argument put forward by the Licensee does not seem justified as it has not provided any detail that how many times it has tried to award contracts and in which newspapers, it published the same. Moreover, if the Licensee will award the contract in bulk rather than in a very small quantity i.e., 10,000, then potential bidders can participate and take risks as the contract will be of bigger size; and

13. WHEREAS, the Licensee vide its letter dated February 22, 2023, has submitted that it has completed a fresh survey and accordingly the revised figures of HT/LT unearthed structures are 174,995. The Licensee has further submitted that it is committing to complete the job by the end of 2024 upto the extent of structures only. However, the Licensee has not submitted any figures/numbers regarding PCC poles, which are required to be earthed too. The submission of the revised number of poles/structures by the Licensee shows that it has completed the survey after a lapse of five months. Whereas, the Licensee submitted in its earlier letter that it will execute earthing by the end of 2023. All these statements clearly indicate that the Licensee does not have any plan to execute this important task. 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. The Licensee is trying to mislead the Authority by hiding its inefficiencies; and

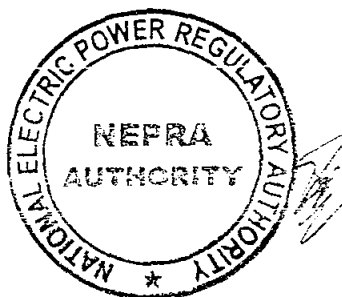
14. WHEREAS, as per the report submitted by the NEPRA Regional Office, Sukkur upon instruction of honorable Member (Technical), the scope of earthing/grounding has always been included in the awarded contracts of structures. However, the same is missing in the field at various places. In this regard, the Licensee is required to clarify its position regarding the missing earthing/grounding of structures despite the scope being included in the awarded contracts. A copy of the said report is attached herewith; and

15. WHEREAS, it is a matter of record that despite repeated and continuous correspondence, the Licensee has failed to produce any concrete plan indicating specific timelines for executing the earthing/grounding of HT/LT PCC poles & steel structures on a war-footing basis. 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

12. The Licensee vide its letter dated June 27, 2023, submitted its reply. The summarized points of the same are below:

"In compliance to NEPRA letter dated 31.01.2023, the details of HT/LT structures having earthing or to be earthed were already submitted and the same is hereby again submitted:

Handwritten signature/initials.



<i>Names of Circles</i>	<i>Total HT Structures</i>	<i>Earthed</i>	<i>To be Earthed</i>	<i>Total LT Structures</i>	<i>Earthed</i>	<i>To be Earthed</i>
<i>Sukkur</i>	<i>247948</i>	<i>145886</i>	<i>102062</i>	<i>145871</i>	<i>63349</i>	<i>82522</i>
<i>Larkana</i>	<i>62901</i>	<i>44031</i>	<i>18870</i>	<i>79398</i>	<i>55579</i>	<i>23819</i>
<i>Dadu</i>	<i>54304</i>	<i>53218</i>	<i>1086</i>	<i>68580</i>	<i>67208</i>	<i>1372</i>
<i>Total</i>	<i>365153</i>	<i>243135</i>	<i>122018</i>	<i>293849</i>	<i>186136</i>	<i>107713</i>

On 12.05.2023, after re-surveying, the detail of HT/LT poles having earthing and to be earthed is hereby submitted please:

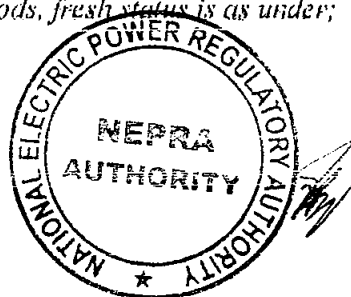
<i>Names of Circles</i>	<i>Total HT Structures</i>	<i>Earthed</i>	<i>To be Earthed</i>	<i>Total LT Structures</i>	<i>Earthed</i>	<i>To be Earthed</i>
<i>Sukkur</i>	<i>247948</i>	<i>146365</i>	<i>101583</i>	<i>145871</i>	<i>63679</i>	<i>82192</i>
<i>Larkana</i>	<i>62901</i>	<i>44031</i>	<i>18870</i>	<i>79398</i>	<i>55579</i>	<i>23819</i>
<i>Dadu</i>	<i>54304</i>	<i>53218</i>	<i>1086</i>	<i>68580</i>	<i>67208</i>	<i>1372</i>
<i>Total</i>	<i>365153</i>	<i>242614</i>	<i>121539</i>	<i>293849</i>	<i>186466</i>	<i>107383</i>

Staff of Project Director Construction SEPCO Larkana has already deployed for installation of earthing rods. P. D Construction has submitted progress of remaining installation of earthing rods i.e., 1162 and completed all feeders emanating from 132 KV City Grid Station Sukkur.

<i>Name of Grid Station</i>	<i>Name of Feeders</i>	<i>HT Structures</i>	<i>LT Structures</i>	<i>Total</i>
<i>132 KV City Grid Station</i>	<i>Queens Road</i>	<i>78</i>	<i>55</i>	<i>133</i>
	<i>Military Road</i>	<i>45</i>	<i>08</i>	<i>53</i>
	<i>Shamsabad</i>	<i>65</i>	<i>38</i>	<i>103</i>
	<i>Clock Tower</i>	<i>30</i>	<i>78</i>	<i>108</i>
	<i>Bunder Road</i>	<i>104</i>	<i>167</i>	<i>271</i>
	<i>Shahi Bazar</i>	<i>104</i>	<i>75</i>	<i>179</i>
	<i>Nishtar Road</i>	<i>49</i>	<i>54</i>	<i>103</i>
	<i>Stadium Road</i>	<i>69</i>	<i>69</i>	<i>138</i>
	<i>Mir Masom Shah</i>	<i>35</i>	<i>00</i>	<i>35</i>
	<i>High Court</i>	<i>39</i>	<i>00</i>	<i>39</i>
<i>Total</i>		<i>618</i>	<i>544</i>	<i>1162</i>

Now further 4,500 earthing rods have been released to XEN Construction Sukkur against installation of remaining HT/LT structures of 39 feeders emanating from 132kV site Grid Station and 132 kV Grid Station Arain Road, Sukkur.

After installation of earth rods, fresh status is as under;



Names of Circles	Total HT Structures	Earthed	To be Earthed	Total LT Structures	Earthed	To be Earthed
Sukkur	247948	146983	100965	145871	64223	81648
Larkana	62901	44031	18870	79398	55579	23819
Dadu	54304	53218	1086	68580	67208	1372
Total	365153	244232	120921	293849	187010	106839

Remaining Survey of earthed and to be earthed, teams of XEN Construction Sukkur, Larkana and Dadu are engaged for re-survey of PCC poles. SEPCO vide letter No. 480-85 dated 22-02-2023 have already committed to complete the job at the end of year 2024."

Hearing:

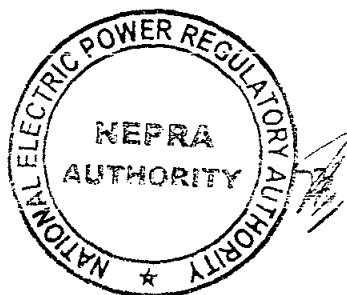
13. Furthermore, in order to satisfy the requirement of law, the Authority decided to provide an opportunity of a hearing to the Licensee in light of Regulation 4 (5) of NEPRA (Fine) Regulations, 2021, before further proceeding in the matter. Accordingly, the said hearing was held on December 27, 2023, during which, CEO of the Licensee along with his team made following submissions:
 - i. Out of a total 229,000 HT/LT remaining Structures, earthing of 9,971 (5%) have been executed to date.
 - ii. The procurement of 50,000 earth rods is under process. The present stock of earth rods is 14,675.
 - iii. The earthing of Structures is delayed due to a shortage of staff. However, SEPCO will complete the earthing process by December 2024, through outsourcing.

Analysis/Findings:

14. The Licensee has earlier submitted that there are a total 229,731 No. of HT/LT structures required to be earthed. However, after six months, it re-surveyed and submitted a revised number of 228,922 HT/LT structures to be earthed. The Licensee has further submitted that out of 228,922, it only executed 1162 HT/LT structures till June 2023. Moreover, during the hearing dated 27.12.2023, the Licensee has submitted that the earthing of around 9,971 number of structures has been executed so far.

In this regard, the Authority has examined the submissions of the Licensee and observes that the submissions of the Licensee itself indicate an admittance of violation of NEPRA laws and subsequent risk/threat in the field. It is pertinent to highlight that NEPRA has taken up this matter since June 2022 and repeatedly directed the Licensee to submit a concrete plan and subsequently provide monthly progress reports. However, after lapse of more than one and a half year, only 9,971 No. of structures have been

[Handwritten signature]



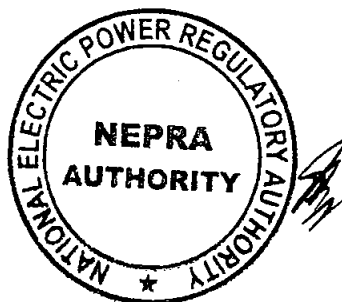
executed so far by the Licensee which seems a very poor progress. Therefore, it can be said that on-ground performance on part of the Licensee is unsatisfactory.

Keeping in view such slow progress, a question arises that how the Licensee will execute the remaining structures i.e. around 220,000 by the end of 2024. The Licensee is just blowing hot and cool and hiding its inefficiencies by showing the commitments on paper only which lacks tangible implementation on ground. Hence, the Licensee is unable to execute the earthing of its system on a war footing basis and seems non-serious towards removal of this serious safety hazard which could lead towards fatal accidents in the future at any time.

15. The Authority further observes that despite the lapse of more than one and a half year, the survey of HT/LT PCC poles has not yet been completed by the Licensee and it has been unable to provide the final number of HT/LT PCC poles, which are required to be earthed.

It is on record that fifty-eight (58) fatalities have occurred in the last five years in the Licensee's service territory and some of them are due to lack of earthing/grounding of HT/LT poles/structures. However, it appears that the Licensee takes it very casual and is not ready to eliminate such severe safety hazard. Long delay in execution of earthing of structures and non-identification of PCC poles to be earthed, clearly show the inefficiencies and inabilities of the Licensee towards inculcating safety culture in its territory.

16. The issue of Safety and the responsibility of the Licensee to take all proactive measures so that such accidents do not occur cannot be over-emphasized. The submissions of the Licensee are evasive and fail to recognize this imperative obligation. The Licensee's inefficiencies, mismanagement, lack of performance, and reckless attitude are criminal and deserve no latitude.



17. Decision

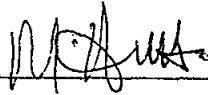
After due deliberations and taking into account the submissions/arguments made by the Licensee during the hearing and in light of the NEPRA Act, NEPRA (Fine) Regulations, 2021, and other applicable documents, the Authority is of the considered opinion that the Licensee has failed to provide any satisfactory 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

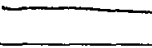
Rafique Ahmed Shaikh
Member (Technical)




Engr. Maqsood Anwar Khan
Member (Licensing)



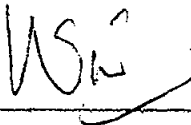
Mathar Niaz Rana (nsc)
Member (Tariff & Finance)



Amina Ahmed
Member (Law)



Waseem Mukhtar
Chairman



Dated 20/03/2024

