



Registrar

National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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No. NEPRA/DG(M&E)/LAD-02/ 3460

March 20, 2024

Chief Executive Officer,
Islamabad Electric Supply Company (IESCO),
Street No. 40, G-7/4,
Islamabad

Subject: **ORDER OF THE AUTHORITY IN THE MATTER OF EXPLANATION ISSUED TO IESCO 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 09 pages) in the subject matter for information and compliance.

Enclosure: Order of the Authority (total 09 Pages)

(Engr. Mazhar Iqbal Ranjha)



National Electric Power Regulatory Authority

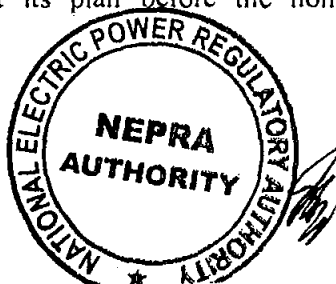
ORDER

**IN THE MATTER OF EXPLANATION ISSUED TO IESCO 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. Islamabad Electric Supply Company Limited (IESCO) (the "Licensee") was granted a Distribution License (No. 01/DL/2023) by the National Electric Power Regulatory Authority (the "Authority") on April 06, 2023, for providing Distribution Services in its Service Territory as stipulated in its Distribution License, pursuant to section 20 and 21 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 ("NEPRA Act").

Background:

2. The Authority during hearing dated February 03, 2022, in the matter of the Show Cause Notice issued to the Licensee on account of fatal accidents, observed that some of the fatal accidents occurred due to lack of earthing of HT/LT poles. Therefore, the Authority directed the Licensee to submit a comprehensive plan indicating the total number of HT/LT poles to be earthed along with specific timelines.
3. In pursuance to the directions of the Authority, the Licensee vide its letter No. dated February 25, 2022, submitted its response, which contained circle wise survey report of its poles/structures except Attock circle. The submitted survey report revealed the total number of 441,413 HT/LT poles are required to be earthed. Moreover, with regard to Islamabad Circle, the Licensee's report also showed that the 16,494 number of distribution boxes are also required to be grounded. However, the Licensee's report neither mentioned any plan for the execution of earthing/grounding of all remaining HT/LT poles along with distribution boxes nor any specific timelines.
4. Therefore, NEPRA vide letter dated March 10, 2022, directed the Licensee to submit the complete information as the survey report doesn't include the details of LT poles/structures of Attock Circle. The Licensee was further directed to submit a concrete plan pertaining to the execution of earthing/grounding of all the remaining HT/LT poles/structures along with D-boxes in Islamabad City. In response, the Licensee vide its letter dated March 29, 2022, submitted the requisite information, including the details of Attock Circle. The Licensee further committed that the completion of earthing of HT/LT poles will take tentatively one year and earthing/securing of distribution boxes in Islamabad Circle will be completed by the end of this year i.e. December 31, 2022.
5. The Authority considered the submissions of the Licensee and called the Licensee at NEPRA Headoffice to present its plan before the honorable Authority for its



consideration. Accordingly, the Licensee presented its execution plan with respect to earthing/grounding of HT/LT poles/structures before the Authority on April 29, 2022. During the presentation, the Licensee again committed the timelines for earthing of Distribution Boxes in Islamabad circle and HT/LT poles/structures in all other circles by December 31, 2022, and June 2023 respectively. During the presentation, the Licensee was categorically directed by the Authority to submit the monthly progress reports pertaining to the execution and completion of earthing/grounding of the Licensee's distribution system.

6. The matter was continuously pursued by NEPRA, and in response to the aforementioned NEPRA letters, progress reports were acquired from the Licensee which were being vigilantly monitored.
7. Moreover, as per the progress report submitted by the Licensee vide its letter dated June 08, 2023, the Licensee submitted that the target of D-Boxes earthing has been attained within the due date, however, due to unavoidable circumstances, the earthing of HT/LT poles has not been completed within due date. Furthermore, the Licensee also attached a copy of its letter dated May 29, 2023 addressed to NEPRA, wherein the total number of poles has been increased to 822,173 from 717,686 and the remaining number of poles/structures which are required to be earthed are also increased to 457,025 from 445,306. The Licensee executed earthing for only 80,068, poles/structures so far, whereas around 376,957 poles/structures were still required to be earthed, despite the expiry of deadline committed by the Licensee itself. This illustrated that the progress was very poor as the Licensee only carried out approximately 21% of earthing work in one year which seemed not sufficient from the safety point of view. That further depicted that the Licensee was lacking far behind in achieving its self-committed targets within the stipulated time i.e. June 30, 2023. The matter was taken up with the Licensee regarding its failure to meet deadlines. In response, the Licensee submitted that due to some unavoidable circumstances, it could not complete its earthing project.
8. Keeping in view the poor progress by the Licensee and subsequent failure of its own commitment in the matter of earthing of HT/LT structures/poles, the Authority decided to initiate legal proceedings against the Licensee under NEPRA Fine Regulations, 2021.

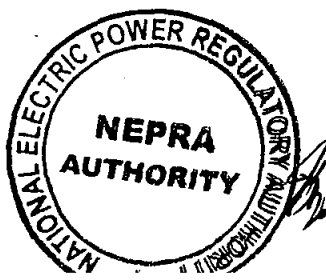
Explanation:

9. 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 July 06, 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(b) 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:

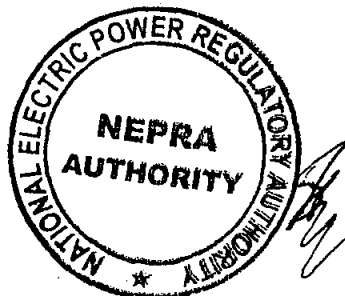
"The Licensee shall follow suitable and necessary provisions regarding protection system practices and co-ordination such as the following but not limited to achieve the aims of proper functioning of the distribution system of the Licensee at all times:

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:

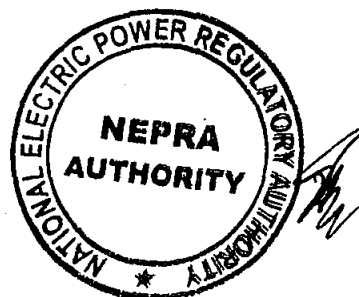
"12.2.4. The earthing systems installed shall be dimensioned and regularly tested to ensure protection from shock hazards.

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 hearing dated February 03, 2022, in the matter of the Show Cause Notice issued to IESCO on account of fatal accidents, it was observed that the distribution facilities of the Licensee 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 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; and
10. **WHEREAS**, in pursuance to the directions of the Authority, the Licensee vide its letter No. dated February 25, 2022, submitted its response, which contained circle wise survey report of its poles/structures except Attock circle. The submitted survey report revealed the total number of 441,413 HT/LT poles are required to be earthed. Regarding Islamabad Circle, the Licensee's report also showed that the 16,494 number of distribution boxes are also to be grounded. However, IESCO's report neither mentioned any plan for the execution of earthing/grounding of all remaining HT/LT poles along with distribution boxes nor any specific timelines; and
11. **WHEREAS**, NEPRA vide letter dated March 10, 2022, directed IESCO to submit the complete information as the survey report doesn't include the details of LT poles/structures of Attock Circle. The Licensee was further directed to submit a concrete plan pertaining to the execution of earthing/grounding of all the remaining HT/LT poles/structures along with D-boxes in Islamabad City. In response, the Licensee vide its letter dated March 29, 2022, submitted the requisite information, including the details of Attock Circle. The Licensee has further committed that the completion of earthing of HT/LT poles will take tentatively one year and earthing/securing of distribution boxes in Islamabad Circle will be completed by the end of this year i.e. December 31, 2022; and
12. **WHEREAS**, the Authority considered the submissions of the Licensee and called the Licensee at NEPRA Headoffice to present its plan before the honorable Authority for its consideration. Accordingly, the Licensee presented its execution plan with respect to earthing/grounding of HT/LT poles/structures before the Authority on April 04, 2022. During the presentation, the Licensee again committed the timelines for earthing of Distribution Boxes in Islamabad circle and HT/LT poles/structures in all other circles by December 31, 2022, and June 2023 respectively. The Authority considered the same and directed the Licensee to submit the monthly progress report in this regard; and
13. **WHEREAS**, accordingly, the Licensee vide its letter dated May 18, 2022, submitted the following details of its distribution facilities to be earthed/grounded:

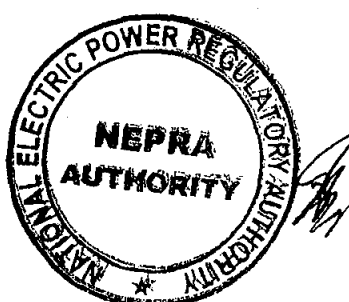
Distribution Boxes		
Total Number	Already have Earthing	Required to be Earthed
18767	2273	16494



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		
717,686	312,860	134,895	177,661	404,826	137,081	267,645	271,976	445,306

14. **WHEREAS**, Meanwhile, the Licensee vide its different letters submitted monthly progress reports pertaining to the execution of said work as per the directions of the Authority. Moreover, as per the latest progress report submitted by the Licensee vide its letter dated June 08, 2023, the Licensee has submitted that the target of D-Boxes earthing has been attained within the due date, however, due to unavoidable circumstances, the earthing of HT/LT poles has not been completed within due date. Moreover, the Licensee also attached a copy of its letter dated May 29, 2023 addressed to NEPRA, wherein the total number of poles has been increased to 822,173 from 717,686 and the remaining number of poles/structures which are required to be earthed are also increased to 457,025 from 445,306. Further, the Licensee has executed earthing for only 80,068, poles/structures so far, whereas around 376,957 poles/structures are still required to be earthed; and
15. **WHEREAS**, the aforementioned submissions of the Licensee reveal that its progress is very much poor as it has only carried out 21% of earthing work in one year which seems not sufficient from the safety point of view. It further appears that the Licensee is lacking far behind in achieving its self-committed targets within the stipulated time i.e. earthing/grounding of total number of HT/LT poles by June 30, 2023. Hence it can be obviously said that either the plan submitted by the Licensee was not realistic or the progress of the Licensee in this regard is unsatisfactory and IESCO is not serious about the rectification of such dangerous hazards from their distribution system; and
16. **WHEREAS**, it is a matter of record that despite repeated and continuous correspondence, the Licensee has never mentioned about its unavoidable circumstances due to which it could not complete its earthing project. Further, the Licensee has three times changed its number of total HT/LT poles/structures which shows that the Licensee has still not properly completed its survey. Hence, it can be said that the plans/timelines submitted by the Licensee are not realistic and concrete. Therefore, the Licensee has, prima facie is in violation of 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"
10. The Licensee vide its letter dated September 14, 2023, submitted its response. The summarized points of the same are below:

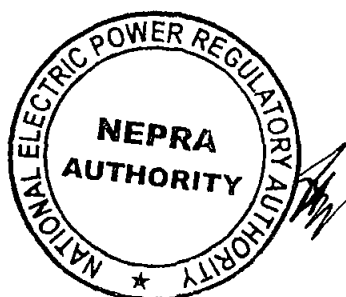
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8. "... IESCO knows its responsibility about the installation and inspection of earthing of various components of its distribution system. Safety Directorate of IESCO pays regular visits to the field offices and the latter are trained about the checking of earth resistance and installation of earth rods. Earthing of various components of distribution systems is an essential ingredient of every technical training.
9. During personal hearing on February 3, 2022, in the matter of show cause notice served upon IESCO, we highlighted several measures which were taken for saving of lives of the public. During the hearing, we had emphasized the removal hazardous points from our network. Those hazards were created by the encroachment of IESCO's lines by the buildings constructed in the vicinity of our lines (in violation of laws). That program had been started in January 2019 and many precious lives have been saved up to this point of time. Likewise, we also informed the august authority about our future planning of earthing the HT/LT poles and distribution boxes.
10. IESCO submitted its survey report about the HT/LT poles and distribution boxes which required earthing in response to the directives of the authority.
11. Subsequently, we submitted the survey report of Attock Circle about the HT/LT poles where earthing was missing.
12. IESCO also committed before the honorable authority to complete the earthing of distribution boxes and HT/LT poles before December 31, 2022, and June 30, 2023 respectively.
13. We agree with the august authority on the point of the data provided by IESCO given in the corresponding para of the show cause letter.
14. The Survey regarding HT/LT Poles/Structures was carried out in March- April 2022 and the total No. of HT Installed Poles was found 717,686 and the No. of Poles to be earth was 445,306, but due to extension/expansion in distribution network in last 14 Months the No. of Installed Poles has increased from 717,686 to 822,173. By the passage of time the earthing of some Poles have deteriorated resulting into an increase in the remaining No. of Poles which is required to be earthed has also been increased from 445,306 to 457,025. Some of the increase is also caused by counterchecking and reconciliation of data.
15. It is humbly stated that IESCO vide its letter No. 3291-93 Dated May 29, 2023, has given the reasons for delay in the earthing of the HT/LT poles. The primary reasons behind the delay are owing to the economic situation of the country, the vendors were struggling in opening of LCs which led to the delays in delivery of materials to IESCO and acute shortage of staff..."

Hearing:

11. 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 hearing in



the matter was held on December 07, 2023, wherein, CEO IESCO along with his team participated and made the following submissions:

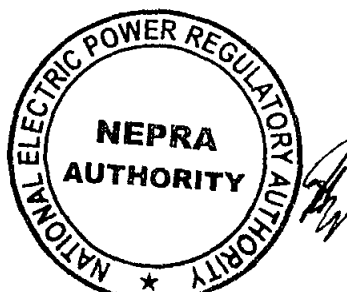
- (i) At present 11,000 employees are working in place of 19,000 employees. Similarly, 3,000 Linemen are working in place of 5,000 employees. Therefore, there is an acute shortage of staff and IESCO has not received any permission regarding the recruitment of the staff.
- (ii) When NEPRA initiated this activity, there were no restrictions on imports, however, later due to import issues, the earthing process got delayed.
- (iii) IESCO has completed the earthing of Distribution Boxes within committed timelines.
- (iv) Similarly, the tenders of the poles/structures also got delayed due to the unavailability of zinc material due to import issues.

Analysis/Findings:

12. The Licensee has submitted that it knows its responsibility about the installation and inspection of earthing of various components of its distribution system. The Safety Directorate of the Licensee pays regular visits to the field offices and the latter are trained about the checking of earth resistance and installation of earth rods. Earthing of various components of distribution systems is an essential ingredient of every technical training.

The Authority has considered the submissions of the Licensee and observes that despite knowing the responsibility, the earthing/grounding of hundreds of thousands of poles/structures is still ineffective which is contributing as severe safety hazard and is leading towards fatalities of precious human lives. It is a matter of record that in FY 2022-23, a total number of twenty-four (24) fatalities (8 Employees and 16 Public Persons) occurred in the Licensee's territory, which is a clear reflection of the Licensee's poor efforts made in the removal of these severe safety hazards. Moreover, the Licensee's claim that its Safety Directorate pays regular visits to field offices which are trained in checking earthing resistance and installation of earth rods is completely unjustified as the tangible implementation on ground is still far behind the targets/timelines. The earthing/grounding of the network is a regular ongoing process which the Licensee was supposed to execute through regular O&M activities, however, it started this process after the matter was taken up by NEPRA which shows its poor commitment to remove this severe safety hazard. The contradiction between the Licensee's claims and actual implementation raises concerns about the Licensee's approach to ensure the safety of public and its employees.

13. The Licensee has submitted that during hearing dated February 3, 2022, in the matter of show cause notice served upon the Licensee, it highlighted several measures which were taken for saving lives of the public. The Licensee has further submitted that during hearing it had emphasized the removal of hazardous points from its network, which were created due to the encroachment of buildings under the Licensee's lines in violation of laws. The Licensee has also submitted that during hearing it informed the august authority about its future planning of earthing the HT/LT poles and distribution boxes.



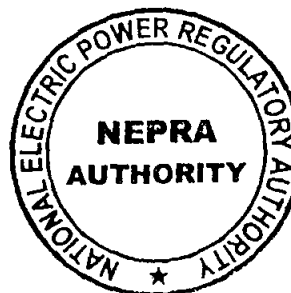
The submissions of the Licensee have been gone through by the Authority and observes that the removal of hazards created by the encroachment of the Licensee's lines is a different chapter and it has nothing to do with earthing/grounding of its network. Although at one end, the Licensee has claimed to make efforts to remove hazards created due to encroachments, however, at the other end, it showed reluctance and inability to remove the hazards created due to ineffective earthing/grounding of its network on a war footing basis. The Licensee should have realized that it is a matter of public safety and its network lacking the earthing/grounding which could contribute to fatal accidents in the future. The Authority further observes that the Licensee has failed to meet with its own plan/timelines given during the hearing/presentation before the Authority. Hence, the submissions of the Licensee seem not justified.

14. The Licensee has submitted that the survey regarding HT/LT Poles/Structures was carried out in March- April 2022, and the total No. of HT/LT installed poles/structures was found 717,686 and the No. of poles/structures to be earth was 445,306. However, due to extension/expansion in the distribution network in the last 14 Months, the No. of installed poles/structures has been increased from 717,686 to 822,173. By the passage of time, the earthing of some poles/structures has been deteriorated resulting in an increase in the remaining No. of poles/structures which is required to be earthed from 445,306 to 457,025. Some of the increase is also caused by counterchecking and reconciliation of data.

The Authority has examined the submissions of the Licensee and observes that the Licensee has itself admitted that the number of poles/structures to be earthed has been increased due to its network expansion. This reveals that the Licensee failed to ensure the provision of earthing/grounding at the time of installation of new network which is a clear question mark on the implementation of the safety standards by the Licensee. In addition to the above, the Licensee has also submitted that the number has been increased due to counterchecking and reconciliation of data which also depicts the seriousness and ability of the Licensee while submitting data to the Regulator. The Licensee should be vigilant and proactive while submitting data to the Regulator, which it has failed to do so.

15. 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.

Overall, it can be said that the Licensee has taken the Authority's order regarding earthing/grounding of the distribution system in a very casual manner as it has not produced significant progress despite a lapse of almost one and half year. This depicts the non-seriousness of the Licensee to inculcate a safety culture in its territory.



16. Decision

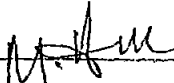
After due deliberations and taking into account the submissions/arguments made by the Licensee during the hearing, the available record, and in light of the NEPRA Act, NEPRA (Fine) Regulations, 2021, and other applicable documents, the Authority is of the considered opinion that the Licensee has failed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

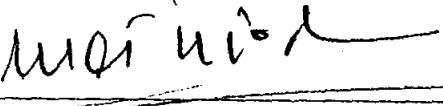
Rafique Ahmed Shaikh
Member (Technical)



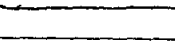
Engr. Maqsood Anwar Khan
Member (Licensing)



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



Amina Ahmed
Member (Law)



Waseem Mukhtar
Chairman



Dated 20/03/2024

