



Registrar

National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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No. NEPRA/SA(M&E)/LAD-01/ **16323**

October 08, 2025

Chief Executive Officer,
K-Electric Limited (KEL),
KE House, Punjab Chowrangi,
39-B, Sunset Boulevard, Phase-II,
Defence Housing Authority,
Karachi

SUBJECT: **ORDER OF THE AUTHORITY IN THE MATTER OF SHOW CAUSE NOTICE
ISSUED TO K-ELECTRIC LIMITED UNDER REGULATION 4(8) & 4(9) OF THE
NEPRA (FINE) REGULATIONS, 2021**

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

Enclosure: **As above**


(Wasim Anwar Bhinder)

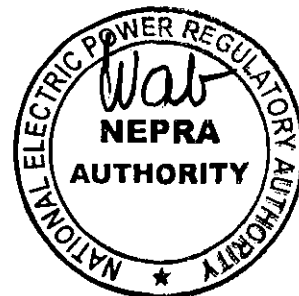


National Electric Power Regulatory Authority

In the matter of Show Cause Notice issued to K-Electric Limited under Regulation 4(8) & 4(9) of the NEPRA (Fine) Regulations, 2021

Order

1. The National Electric Power Regulatory Authority (herein after referred to as the "Authority" or the "NEPRA") established under Section 3 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (herein after referred to as the "NEPRA Act") is mandated to regulate the provisions of electric power services.
2. Pursuant to Section 15 of the NEPRA Act (now section 14B after promulgation of Regulation of Generation, Transmission and Distribution of Electric Power Amendment Act 2018), the Authority has granted a Generation License (No. GL/04/2002, dated 18/11/2002) to KE (hereinafter referred to as the "Licensee") to engage in the generation business as stipulated in its Generation License.
3. Pursuant to Section 14B(4) of the NEPRA Act, in the case of a generation facility connecting directly or indirectly to the transmission facilities of the national grid company, the licensee shall make the generation facility available to the national grid company for the safe, reliable, non-discriminatory, economic dispatch and operation of the national transmission grid and connected facilities, subject to the compensation fixed by the Authority for voltage support and uneconomic dispatch directed by the national grid company.
4. According to Rule 10(6) of the NEPRA Licensing (Generation) Rules, 2000, a licensee is obligated at all times to comply with the provisions of the Grid Code, including, but not limited to, matters relating to the availability of net capacity, outages, maintenance, and operation of its generation facilities. The licensee is further required to furnish the National Grid Company with all information reasonably necessary for the discharge of its functions.
5. Clause OC 8.1.1 of Grid Code, 2005 deals with the procedures for the restoration of power supplies following a Total Shutdown or a Partial Shutdown of the System and the re-synchronization of specific parts of the System that have been Islanded.
6. Clause OC 8.1.4 of Grid Code, 2005 states that OC 8 applies to the System Operator, NTDC, distribution companies, Operators of the power plants, and Users of the System. Contingency arrangement are required to be established by the System Operator with each Externally-connected Party/Consumers.



7. Clause OC 8.2.1 of Grid Code, 2005 states that a total shutdown of the System is a situation when there is no internal generation online and operation and there is no power supply available from external-connections. The restoration of power supply from such a situation is a Black start recovery. A partial shutdown is when there is no online operating generation or External Connection to a part of the System Operator to instruct Black Start Recovery procedures to restore supplies to that part of the system.
8. Clause OC 8.2.2 of Grid Code states that during restoration of power supplies following a Total Shutdown or Partial Shut Down of the System, it may be necessary to operate the system outside normal frequency and voltage as stated in OC 4. It may also be necessary for the System Operator to issue instructions that are contrary to the balancing mechanism or code, and also to normal contractual obligations in order to ensure restoration of supplies.
9. Clause OC 8.2.3 of Grid Code states that following a total Shutdown of the System designated power plants that have the ability to Start Up without any External Connection to the system shall be instructed to commence Black Start recovery procedures. These procedures, which are to be agreed in advance, may include the restoration of blocks of focal load demand that can be restored in agreement with the local distribution company. Local procedures may include the restoration of power supplies via Embedded Generators. The System Operator has the responsibility for the re-energization of the interconnected transmission system, and the re-synchronization of the stem blocks of islanded blocks of locally restored supplies.
10. The present proceedings originate from the major power system breakdown that occurred on 23.01.2023 at 07:34:43:800 hours, which plunged the entire country into darkness. The system was fully restored after approximately 20 hours, on 24.01.2023. Taking serious cognizance of this unprecedented incident, NEPRA, in exercise of its regulatory mandate, constituted an Inquiry Committee ("IC") to probe into the matter. The IC undertook visits to power houses, grid stations, sites, and offices, and during the course of its inquiry, examined the matter in detail by recording statements of the concerned officials and collecting relevant documents, with a view to arriving at a fair and just conclusion.
11. The IC noticed that prior to the event, the Licensee was running synchronized with NTDC. Major portion of its network, including all its generation, was connected with North Karachi Industrial sub-station (NKI) and the other portion with 220 kV NTDC Jhimpir-II grid station. The Licensee's total load was 1246 MW, out of which 708 MW import from NTDC (NKI-521MW and Jhimpir II-187MW), and the remaining 538 MW from its own generation (BQPS III-498MW and SNPC-40MW). The IC further observed that upon isolation from NKI at 07:34:15:250 Hrs, the Licensee faced deficiency of 521 MW, however, the NKI-KE Cross Trip Scheme operated which rejected the load of 283 MW from the Licensee's network. Since the power deficit was still there, the under frequency scheme operated through which 341 MW was rejected. Thus, a total of 624 MW was rejected against a short fall of 521 MW, and the Licensee's system ought to have sustained. However, Unit 10 (249 MW) of BQPS-III tripped on 'Combustion Chamber Acceleration'



which has not been substantiated by any credible technical justification, thereby leading to the tripping of Unit 20 (239 MW) of BQPS III and SNPC (40 MW) to trip on over loading.

12. The IC also noted that the Licensee started its restoration at 0832 Hrs on 23.01.2023 through Tapal Power Plant, BQPS-II and KCCPP simultaneously as the same are equipped with black start facility. At 1000 Hrs, restoration from Gul Ahmed Power Plant was also started. However, all power plants with black start facility (except Gul Ahmed) could not sustain in island mode and tripped multiple times which severely hampered the restoration process. The details of the tripping are as follows:

Tapal:

S.No.	Synchronization Date & Time	Tripping Date & Time
1.	0832 Hrs on 23.01.2023	1251 Hrs on 23.01.2023
2.	1423 Hrs on 23.01.2023	1622 Hrs on 23.01.2023
3.	1643 Hrs on 23.01.2023	1734 Hrs on 23.01.2023
4.	Back feed via Baldia	1859 Hrs on 23.01.2023
5.	2107 Hrs on 23.01.2023	-

BQPS-II:

- i. At 1000 Hrs on 23.01.2023: GT-3 attempted but failed
- ii. At 1100 Hrs on 23.01.2023: GT-3 became unavailable due to technical issue
- iii. At 2043 Hrs on 23.01.2023: GT-3 tripped

KCCPP:

- i. At 0900 Hrs on 23.01.2023: GT-4 attempted but failed
- ii. At 1100 Hrs on 23.01.2023: GT-4 attempted but failed
- iii. At 1234 Hrs on 23.01.2023: Plant attempted but failed
- iv. At 1859 Hrs on 23.01.2023: Plant tripped

Repeated failed attempts on the black start facilities of most of the power plants in the Licensee's fleet and their frequent tripping indicates the lack of mock testing of the black start facility by the Licensee. The mock testing is a crucial step for the preparation of the Licensee and all relevant stakeholders to handle a blackout scenario, as it ensures the healthiness of black start facility.

13. In view of the above, the Authority observed that the Licensee has, prima facie, failed to perform its operations and discharge its responsibilities in accordance with Section 14B(4) of the NEPRA Act, Rule 10(6) of the NEPRA Licensing (Generation) Rules, 2000 and Clauses OC 8.1.1, 8.1.4, 8.2.1 8.2.2 & 8.2.3 of the Grid Code. In view of the foregoing, the Authority decided to initiate legal proceedings against the Licensee under the NEPRA (Fine) Regulations, 2021 (hereinafter referred to as the "Fine Regulations, 2021").



Explanation to the Licensee:

14. Accordingly, an Explanation dated 08.08.2023 was issued to the Licensee under Regulation 4(1) & 4(2) of the Fine Regulations, 2021. The salient features of the Explanation are as follows:

WHEREAS, the National Electric Power Regulatory Authority (herein after referred to as the "Authority" or the "NEPRA") established under Section 3 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (herein after referred to as the "NEPRA Act") is mandated to regulate the provisions of electric power services; and

2. *WHEREAS, pursuant to Section 15 of the NEPRA Act (now section 14B after promulgation of Regulation of Generation, Transmission and Distribution of Electric Power Amendment Act 2018), the Authority has granted a Generation License (No. GL/04/2002, dated 18/11/2002) to KE (hereinafter referred to as the "Licensee") to engage in the generation business as stipulated in its Generation License; and*

3. *WHEREAS, the power system breakdown occurred on 23.01.2023 at 07:34:43:800 Hrs which plunged the whole country into darkness and the system was completely restored on 24.01.2023 after 20 hours approximately. NEPRA, being a regulator of power sector, took serious notice of the above incident and constituted an Inquiry Committee (IC) to probe into the matter. The IC visited power houses, grid stations, sites and offices in the process of inquiry. During the course of inquiry, the matter was examined in detail by inquiring the concerned officials and in the process, relevant documents were also obtained to arrive at the right conclusion; and*

4. *WHEREAS, the IC noticed that prior to the event, the Licensee was running synchronized with NTDC. Major portion of its network, including all its generation, was connected with NKI and the other portion with 220 kV NTDC Jhimpir-II grid station. The Licensee's total load was 1246 MW, out of which 708 MW import from NTDC (NKI-521MW and Jhimpir II-187MW), and the remaining 538 MW from its own generation (BQPS III-498MW and SNPC-40MW); and*

5. *WHEREAS, the IC further observed that upon isolation from NKI at 07:34:15:250 Hrs, the Licensee faced deficiency of 521 MW, however, the NKI-KE Cross Trip Scheme operated which rejected the load of 283 MW from the Licensee's network. Since the power deficit was still there, the under frequency scheme operated through which 341 MW was rejected. Thus a total of 624 MW was rejected against short fall of 521 MW so the Licensee's system should have sustained but Unit 10 (249 MW) of BQPS-III tripped on 'Combustion Chamber Acceleration' which does not seem to be justified. This caused the other Unit 20 (239 MW) of BQPS III and SNPC (40 MW) to trip on over loading; and*

6. *WHEREAS, the IC also noted that the Licensee started its restoration at 0832 Hrs on 23.01.2023 through Tapal Power Plant, BQPS-II and KCCPP simultaneously as the same are equipped with black start facility. At 1000 Hrs, restoration from Gul Ahmed Power Plant was also started. However, all power plants with black start facility (except Gul Ahmed) could not sustain in island mode and tripped multiple times which severely hampered the restoration process. The details of the tripping are as follows:*



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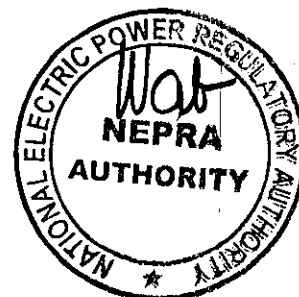
7. *AND WHEREAS, repeated failed attempts on the black start facilities of most of the power plants in the Licensee's fleet and their frequent tripping indicates the lack of mock testing of the black start facility by the Licensee. The mock testing is a crucial step for the preparation of the Licensee and all relevant stakeholders to handle a blackout scenario, as it ensures the healthiness of black start facility; and*

8. *WHEREAS, pursuant to Section 14B (4) of the NEPRA Act, in the case of a generation facility connecting directly or indirectly to the transmission facilities of the national grid company, the licensee shall make the generation facility available to the national grid company for the safe, reliable, non-discriminatory, economic dispatch and operation of the national transmission grid and connected facilities, subject to the compensation fixed by the Authority for voltage support and uneconomic dispatch directed by the national grid company; and*

9. *WHEREAS, according to Rule 10 (6) of the NEPRA Licensing (Generation) Rules, 2000, the licensee shall at all times comply with the provisions of the grid code, including, without limitation, in respect of the availability of the net capacity or in respect of the outages, maintenance and operation of its generation facilities, and shall provide the national grid company with all information reasonably required by the latter to enable it to dispatch the generation facilities of the licensee; and*

10. *WHEREAS, Clause OC 8.1.1 of Grid Code deals with the procedures for the restoration of power supplies following a Total Shutdown or a Partial Shutdown of the System and the re-synchronization of specific parts of the System that have been Islanded; and*

11. *WHEREAS, Clause OC 8.1.4 of Grid Code states that OC 8 applies to the System Operator, NTDC, distribution companies, Operators of the power plants, and Users of the System.*



Contingency arrangement are required to be established by the System Operator with each Externally-connected Party/Consumers; and

12. *WHEREAS, Clause OC 8.2.1 of Grid Code states that a total shutdown of the System is a situation when there is no internal generation online and operation and there is no power supply available from external-connections. The restoration of power supply from such a situation is a Black start recovery. A partial shutdown is when there is no online operating generation or External Connection to a part of the System Operator to instruct Black Start Recovery procedures to restore supplies to that part of the system; and*

13. *WHEREAS, Clause OC 8.2.2 of Grid Code states that during restoration of power supplies following a Total Shutdown or Partial Shut Down of the System, it may be necessary to operate the system outside normal frequency and voltage as stated in OC 4. It may also be necessary for the System Operator to issue instructions that are contrary to the balancing mechanism or code, and also to normal contractual obligations in order to ensure restoration of supplies; and*

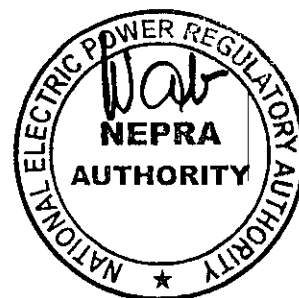
14. *WHEREAS, Clause OC 8.2.3 of Grid Code states that following a total Shutdown of the System designated power plants that have the ability to Start Up without any External Connection to the system shall be instructed to commence Black Start recovery procedures. These procedures, which are to be agreed in advance, may include the restoration of blocks of focal load demand that can be restored in agreement with the local distribution company. Local procedures may include the restoration of power supplies via Embedded Generators. The System Operator has the responsibility for the re-energization of the interconnected transmission system, and the re-synchronization of the stem blocks of islanded blocks of locally restored supplies; and*

15. *WHEREAS, in view of the above, the Licensee has, prima facie, failed to perform its operations and discharge its responsibilities in accordance with Section 14B (4) of the NEPRA Act, Rule 10(6) of the NEPRA Licensing Generation Rules, 2000 and Clauses OC 8.1.1, 8.1.4, 8.2.1 8.2.2 & 8.2.3 of the Grid Code; and*

16. *WHEREAS, the Licensee is required to follow the provisions of NEPRA Act, Rules & Regulations made thereunder, generation license, tariff determinations and other applicable documents and any violation thereof attracts appropriate proceedings against the licensee including but not limited to the imposition of fines under NEPRA (Fine) Regulations, 2021; and*

17. *NOW THEREFORE, in view of the above, Licensee is hereby called upon under Regulation 4(1) and 4(2) of the NEPRA (Fine) Regulations, 2021 to either admit or deny the occurrence of the above-mentioned violations of the Section 14B (4) of the NEPRA Act, Rule 10(6) of the NEPRA Licensing Generation Rules, 2000 and Clauses OC 8.1.1, 8.1.4, 8.2.1 8.2.2 & 8.2.3 of the Grid Code; and in case of your failure to respond within fifteen (15) days of receipt thereof, the Authority shall proceed in accordance with law including but not limited to imposition of fine.*

15. In response, the Licensee submitted its reply vide letter dated 25.08.2023, wherein, the Licensee also requested to provide an opportunity of hearing before proceeding further. Accordingly, the Authority decided to provide an opportunity of hearing to the Licensee, under Regulation 4(5) of the Fine Regulations, 2021. Hearing in the matter was held on 27.11.2023, wherein, the representatives of the Licensee participated and made their submissions. The Authority after detailed deliberations rejected the response submitted by



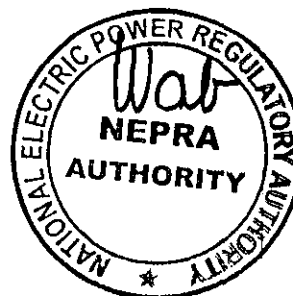
the Licensee against the above Explanation giving reasons for such rejection vide Order dated 05.09.2024.

Show Cause Notice to the Licensee:

16. Accordingly, a Show Cause Notice dated 05.09.2024 was issued to the Licensee under Regulation 4(8) & 4(9) of the Fine Regulations, 2021, based on violations alleged in the Explanation.

Submissions of the Licensee:

17. In response, the Licensee submitted its reply vide letter dated 24.09.2024. The salient features of the response submitted by the Licensee are as follows:
- i. On January 23, 2023, a disturbance in the 500kV NTDC network led to the tripping of two 500kV circuits, resulting in a loss of approximately 500 MW from the National Grid. This caused power disruptions in the KE network, with a cascading effect due to the Cross Trip Scheme, which ejected 630 MW of load. However, the KE system could not stabilize due to oscillations and trips of the remaining generation units, causing a power breakdown. The explanation for this disturbance lies in the interconnected system, where KE's stability is dependent on the NTDC network, which is much larger. Any major disturbance in NTDC naturally impacts KE's system, making it impractical to avoid power interruptions in KE despite its own generation and external IPPs. Additionally, during low demand periods in winter, the system's inertia is low, and disturbances have a greater cascading effect, which was the case during this event.
 - ii. Regarding KCCPP, there were no deficiencies in the initial setup. The plant was commissioned on HSD in 2021, followed by the commissioning of Black Start capability. A mock drill was performed successfully in November 2022. The April 2023 test drill was intended to gather insights into network behavior and reconfigure settings to stabilize the Black Start system, not due to prior deficiencies.
 - iii. In January 2023, during the power breakdown, critical actions were taken at BQPS-II to reduce the restoration time. The alternate supply through PLL, commissioned in September 2022, facilitated the Black Start. However, a mock drill could not be performed due to the complex outage coinciding with the power breakdown.
 - iv. The review of Tapal's Operating Protocols was a precautionary step to ensure no deficiencies would hinder Black Start procedures. The plant comprises small HFO engines with low inertia, making it vulnerable to disturbances after a breakdown, as experienced during the restoration on January 23, 2023.
 - v. Lastly, the explanation notice issued in this matter was time-barred according to Regulation 4(1) of the NEPRA (Fine) Regulation, 2021. Therefore, it is respectfully requested that the Honorable NEPRA Authority dismiss the explanation letter and subsequent proceedings.



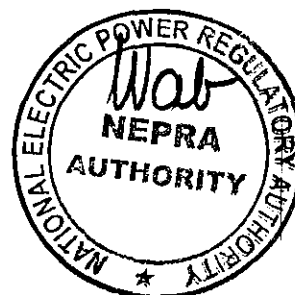
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Hearing:

18. The Authority considered the response submitted by the Licensee and decided to provide an opportunity of hearing to the Licensee under Regulation 4(11) of the Fine Regulations, 2021. Accordingly, hearing in the matter was scheduled for 14.11.2024, however, the same was adjourned upon the Licensee's request. Subsequently, the hearing was held on 20.03.2025 at the NEPRA Head Office, Islamabad, wherein, the representatives of the Licensee participated and made their submissions.

Findings of the Authority:

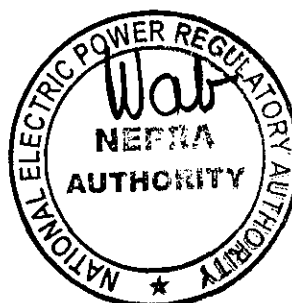
19. The Authority has gone through the submissions of the Licensee and observes that the Licensee's response attempts to justify the power breakdown on 23.01.2023 by attributing the primary cause to disturbances in NTDC's 500 kV network, which led to a cascading failure in its own system. While it is true that interconnected power systems are vulnerable to disruptions in the larger grid, the Licensee's argument that its stability is entirely dependent on NTDC's network raises concerns about its own preparedness as a vertically integrated utility. The claim that it is "impractical" to avoid interruptions despite having its own generation and procurement from external IPPs undermines its responsibility to maintain system resilience. The reference to low system inertia during winter demand periods, while technically valid, does not absolve the Licensee of the obligation to implement robust contingency measures, including adequate load-shedding schemes and dynamic stability controls, to prevent a total collapse. The fact that the entire system failed—rather than isolated pockets—suggests deficiencies in the Licensee's ability to island critical generation or manage sudden deficits autonomously. Hence, the stance adopted by the Licensee is unjustified.
20. On the issue of KCCPP's black start capability, the Licensee has asserted that there were no initial deficiencies, citing a successful mock drill in November 2022. In this regard, the Authority observes that the repeated tripping during the actual event due to activation of under/over voltage trip elements indicates that the mock drill either did not simulate real-world conditions adequately or that corrective actions were not implemented proactively. The April 2023 test drill, framed as a learning exercise, appears reactive rather than preventive, undermining the Licensee's claim of readiness. If the plant's settings required reconfiguration post-event, it implies that the original protocols were either flawed or inadequately tested, contradicting the Licensee's assertion of no deficiencies. Therefore, the argument put forward by the Licensee does not merit consideration.
21. Regarding BQPS-II, the Licensee has submitted that a mock drill could not be conducted due to a coinciding complex outage. In this regard, the Authority observes that the submission of the Licensee is unconvincing. As a critical black start facility, the plant's reliability should not hinge on ideal conditions. The admission of on-the-spot troubleshooting—such as rectifying pump couplings and replacing control cards—highlights a lack of pre-emptive maintenance and preparedness. While the Licensee has mentioned the commissioning of an alternate supply in September 2022, its effectiveness was evidently compromised by unresolved technical vulnerabilities, which should have



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been identified and addressed through regular drills. Hence, the stance adopted by the Licensee is unjustified.

22. Concerning Tapal, the Licensee has submitted that the review of operating protocols was "precautionary". In this regard, the Authority observes that the submission of the Licensee does not align with the repeated tripping observed during restoration. The plant's vulnerability to disturbances due to low inertia underscores the need for more rigorous testing and protocol refinement prior to the incident. The fact that stabilization was achieved only after multiple failed attempts suggests that the Licensee's reliance on Tapal's black start capability was inadequately validated. While small HFO engines are inherently less stable, the Licensee's failure to account for this in pre-event planning reflects a systemic oversight in ensuring black start reliability. Therefore, the argument put forward by the Licensee does not merit consideration.
23. The Licensee has also submitted that NEPRA's notice is deemed time-barred, citing Regulation 4(1) of the NEPRA (Fine) Regulations, 2021. In this regard, the Authority observes that the time lines given are directory in nature and not mandatory. Moreover, as the Authority had initiated correspondence/regulatory action in the matter at the relevant time, and the above Explanation letter and subsequent proceedings are in continuation to that, no question as to time barred action arises even otherwise. Hence, the stance adopted by the Licensee is unjustified.

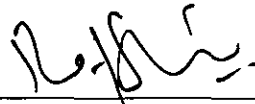


Decision of the Authority:

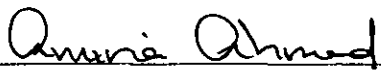
24. Keeping in view the relevant provisions of the NEPRA Act, Rules & Regulations, Grid Code and other applicable documents, submissions of the Licensee, and available record, the Authority observes that the Licensee has failed to perform its operations and discharge its responsibilities in accordance with Section 14B (4) of the NEPRA Act, Rule 10(6) of the NEPRA Licensing (Generation) Rules, 2000 and Clauses OC 8.1.1, 8.1.4, 8.2.1 8.2.2 & 8.2.3 of the Grid Code. Therefore, the Authority decides to impose a fine of twenty five million Rupees on the Licensee.
25. Accordingly, the Licensee is directed to pay the fine of twenty five million Rupees in designated bank of the Authority within a period of fifteen (15) days after the date of issuance of this order and forward a copy of the paid instrument to the Registrar Office for information, failing which the Authority shall recover the amount due under Section 41 of the NEPRA Act read with relevant provisions of the Fine Regulations, 2021 as arrears of the land revenue.

Authority

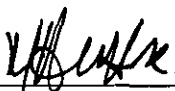
Rafique Ahmed Shaikh
Member (Technical)



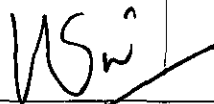
Amina Ahmed
Member (Law)



Engr. Maqsood Anwar Khan
Member (Development)



Waseem Mukhtar
Chairman



Announced on 8th Oct, 2025 at Islamabad.

