

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH AT NEW DELHI**

ORIGINAL APPLICATION NO. 725 OF 2022

IN THE MATTER OF:

ANURAG SHARMA

...APPLICANT

VERSUS

STATE OF UTTAR PRADESH & ANR.

...RESPONDENTS

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FILED THROUGH:



**[SANJEEV KUMAR SINGH, SHIGHRA KUMAR
& BHISHM PRATAP SINGH]
(ADVOCATES FOR THE RESPONDENT NO. 2)**

LEGAL VIBES

G-27, FIRST FLOOR,
JANGPURA EXTENSION,

NEW DELHI-110014

PH: 011-43580335/+91 9560306295

EMAIL: legalvibes.lawfirm@gmail.com

NEW DELHI

DATED: 23.08.2024

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH AT NEW DELHI
ORIGINAL APPLICATION NO. 725 OF 2022**

IN THE MATTER OF:-

ANURAG SHARMA

...APPLICANT

VERSUS

STATE OF UTTAR PRADESH & ORS.

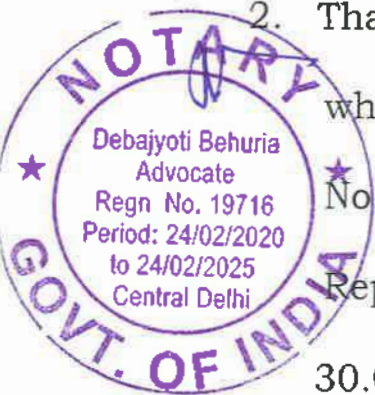
...RESPONDENTS

**ADDITIONAL AFFIDAVIT ON BEHALF OF THE RESPONDENT
NO.2/LPGCL IN COMPLIANCE TO THE ORDER DATED
12.08.2024 OF THIS HON'BLE TRIBUNAL.**

I, Adarsh Kumar Singh, aged about 41 years, presently working as Assistant General Manager at Lalitpur Power Generation Company Limited having its office at B-10, Sector-3, Bajaj Bhawan, Jamna Lal Bajaj Marg, Gautam Budh Nagar U.P-201301, Presently at New Delhi. do hereby solemnly affirm and declare as under:

1. That I am the Authorized Representative of the Respondent No.2/LPGCL in the above-mentioned case and as such conversant with the facts and circumstances of the case and as such am competent and able to depose the same.

2. That the present matter was listed for hearing on 12.08.2024 whereby, this Hon'ble Tribunal after hearing the Respondent No.2/ LPGCL and considering the averments made in the Reply dated 17.12.2022 and additional affidavits dated 30.01.2023, 11.02.2024 and 13.05.2024, was pleased to allow the Respondent No.2/ LPGCL to file an additional



affidavit with regard to disposal of fly ash being done in compliance with the requisite norms and guidelines.

3. As such, the Respondent No.2/ LPGCL is filing the present affidavit. It also craves leave of this Hon'ble Tribunal to refer and rely on the contents of the Reply dated 17.12.2022 and additional affidavits dated 30.01.2023, 11.02.2024 and 13.05.2024 filed by the Respondent No.2 and treat the same as part and parcel of this affidavit as the contents thereof, has not been repeated herein for the sake of brevity and verbosity.
4. The documents being filed along with this affidavit would show and demonstrate a proper disposal of fly ash in low lying areas has been effectuated by the Project Proponent and that the Project Proponatae has complied with all the requisite norms and guidelines.

5. **IT MAY BE NOTED THAT:**

- A. MoEF&CC notification dated **14.09.1999** provides for use of fly ash as land fill to reclaim low lying areas (para 3 thereof). A true copy of the notification dated 14.09.1999 issued by the MoEF&CC is being annexed herewith and marked as **ANNEXURE-R-1**.
- B. MoEF&CC notification dated **28.07.2003** prohibits any agency, person or organisation within a radius of 100 KMs



of Thermal Power Plant from reclaiming and compacting low lying area with soil. It specifically directs that only pond ash shall be used for compaction (para 2(g) thereof).

A true copy of the notification dated 28.07.2003 issued by the MoEF&CC is being annexed herewith and marked as

ANNEXURE-R-2.

- C. MoEF&CC notification dated **03.11.2009** provides “no agency, person or organisation shall within a radius of 100 km of a coal or lignite based TPP shall undertake or approve or allow reclamation and compaction of low-lying areas with soil; only fly ash shall be used for compaction and reclamation...” (emphasis Supplied. A true copy of the notification dated 03.11.2009 issued by the MoEF&CC is being annexed herewith and marked as **ANNEXURE-R-3.**

- D. The EC dated 31.03.2011, amended EC dated 20.05.2014 and the amended EC dated 30.05.2016 were issued in favour of the Project Proponent. A true copy of the Environment Clearance Certificate dated 31.03.2011 issued by the Ministry of Environment and Forest to the Project Proponent is being annexed herewith and marked as **ANNEXURE-R-4.** A true copy of the amended EC dated 20.05.2014 issued to the Project Proponent is being annexed herewith and marked as **ANNEXURE-R-5.** A true copy of the amended EC dated 30.05.2016 issued to the



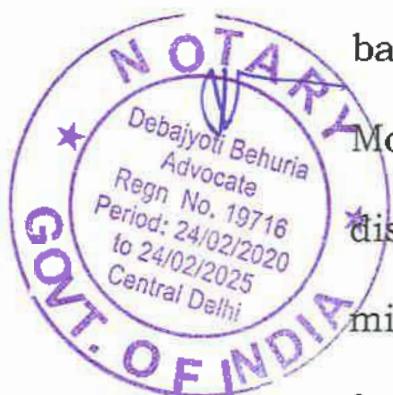
Project Proponent is being annexed herewith and marked as **ANNEXURE-R-6.**

E. NTPC ash policy dated **10.03.2015** laid down a framework at Para 14.5 read with Annexure- E and Annexure-1 and Appendix-1. The said framework laid down the manner and method in which the low-lying area was required to be reclaimed /developed using fly ash. A true copy of the NTPC ash policy dated 10.03.2015 is being annexed herewith and marked as **ANNEXURE-R-7.**

F. That CPCB guidelines for disposal/utilization of fly ash dated March, 2019 prescribed a very exhaustive manner (Para 5) in which the fly ash would be used for reclamation of low-lying areas. A true copy of the CPCB guidelines for disposal/utilization of fly ash dated March, 2019 is being annexed herewith and marked as **ANNEXURE-R-8.**

G. MoEF&CC notification dated 28.08.2019 gave a background of all the earlier fly ash notification issued by MoEF&CC. It also noted that now the guidelines for disposal of fly ash in reclamation of low-lying areas and mines has been prepared by CPCB. The notification further recorded that

"...the Ministry hereby stipulates the following condition in the existing environmental clearances of TPP and coal mines which have valid EC accorded by the Ministry/ SEIAA, that will replace the existing conditions (specific and general)



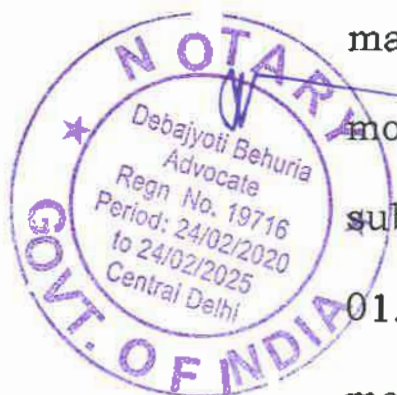
which prohibited the use of fly ash in abandoned mines, low-lying areas, soil conditioner in agriculture.

...i to xiii...”

A true copy of the notification dated 28.08.2019 issued by the MoEF & CC is being annexed herewith and marked as **ANNEXURE-R-9.**

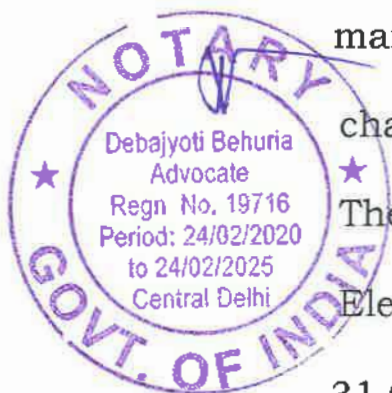
H. MoEF&CC notification dated 28.08.2019 thus, subsumed all the earlier notifications and the EC conditions and approved the guidelines prepared by CPCB for disposal of fly ash in reclamation of low-lying areas.

I. The Project Proponent has placed before this Hon'ble Tribunal its monthly (aggregated yearly) fly ash generation and utilization regularly being submitted to CEA regularly for the years 2019-20 to 2023-24. A true copy of the chart of month wise ash generation and utilization regularly submitted to Central Electricity Authority for the period 01.04.2019 to 31.03.2020 is being annexed herewith and marked as **ANNEXURE-R-10.** A true copy of the chart of month wise ash generation and utilization regularly submitted to Central Electricity Authority for the period 01.04.2020 to 31.03.2021 is being annexed herewith and marked as **ANNEXURE-R-11.** A true copy of the chart of month wise ash generation and utilization regularly submitted to Central Electricity Authority for the period 01.04.2021 to 31.03.2022 is being annexed herewith and



marked as **ANNEXURE-R-12**. A true copy of the chart of month wise ash generation and utilization regularly submitted to Central Electricity Authority for the period 01.04.2022 to 31.03.2023 is being annexed herewith and marked as **ANNEXURE-R-13**. A true copy of the chart of month wise ash generation and utilization regularly submitted to Central Electricity Authority for the period 01.04.2023 to 31.03.2024 is being annexed herewith and marked as **ANNEXURE-R-14**.

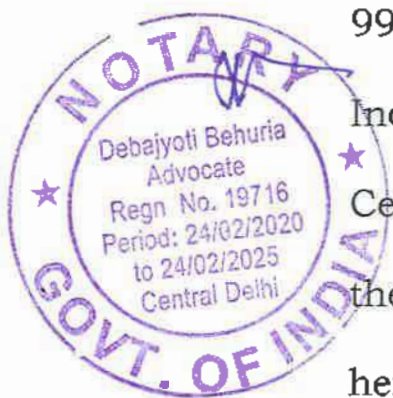
- J. The Project Proponent has also placed before this Hon'ble Tribunal a list (year wise) of ash disposal facility/mode of disposal of fly ash at the Thermal Power Plant regularly being submitted to CEA for the years 2019-20 to 2023-24. A true copy of the yearly chart of ash disposal facility/mode of disposal at the Thermal Power Plant regularly submitted to Central Electricity Authority for the period 01.04.2019 to 31.03.2020 is being annexed herewith and marked as **ANNEXURE-R-15**. A true copy of the yearly chart of ash disposal facility/ mode of disposal at the Thermal Power Plant regularly submitted to Central Electricity Authority for the period 01.04.2020 to 31.03.2021 is being annexed herewith and marked as **ANNEXURE-R-16**. A true copy of the yearly chart of ash disposal facility/ mode of disposal at the Thermal Power Plant regularly submitted to Central Electricity Authority



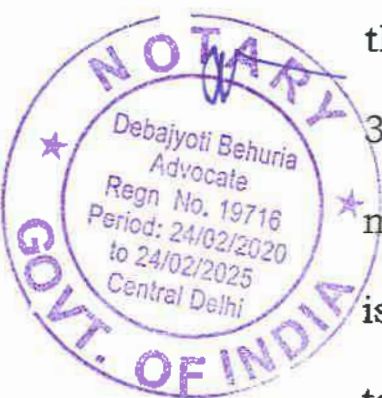
for the period 01.04.2021 to 31.03.2022 is being annexed herewith and marked as **ANNEXURE-R-17**. A true copy of the yearly chart of ash disposal facility/ mode of disposal at the Thermal Power Plant regularly submitted to Central Electricity Authority for the period 01.04.2022 to 31.03.2023 is being annexed herewith and marked as **ANNEXURE-R-18**. A true copy of the yearly chart of ash disposal facility/ mode of disposal at the Thermal Power Plant regularly submitted to Central Electricity Authority for the period 01.04.2023 to 31.03.2024 is being annexed herewith and marked as **ANNEXURE-R-19**.

- K. It may be pertinent to note here that ash is being utilized for reclamation of low-lying area for past more than three decades. A CEA report of august 2022 shows that ash utilization has increased from 0.65 million tons in 1998-99 to 35.57 million tons in 2021-22. A chart showing all India ash utilization in reclamation of low-lying areas in Central Electricity Authority Report of August, 2022 for the period of 1998-99 to 2021-22 is being annexed herewith and marked as **ANNEXURE-R-20**.

- L. The Project Proponent has secured specific permission for using fly ash for land reclamation purposes from the Regional Officer, UPPCB under letter dated 19.04.2017 and it has also obtained permission from the Office of the

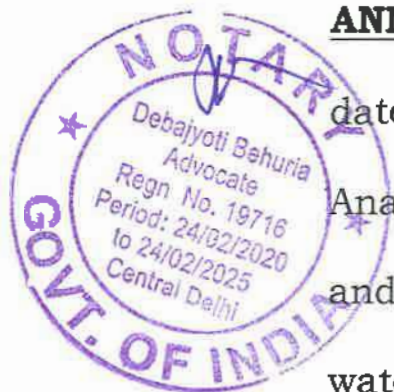


District Magistrate, Lalitpur under letter dated 03.12.2019. It has also obtained CTE from UPPCB from the year 2021 (i.e., from year when procedure for issuance of CTE began) till date. A true copy of the letter dated 03.12.2019 issued by the District Magistrate, Lalitpur is being annexed herewith and marked as **ANNEXURE-R-21**. A true copy of the letter dated 19.04.2017 issued by the Regional Officer, UPPCB is being annexed herewith and marked as **ANNEXURE-R-22**. A true copy of the CTE issued to the Project Proponent for the period 14.07.2021 to 13.07.2023 is being annexed herewith and marked as **ANNEXURE-R-23**. A true copy of the CTE issued to the Project Proponent for the period 06.05.2022 to 31.12.2026 is being annexed herewith and marked as **ANNEXURE-R-24**. A true copy of the CTE issued to the Project Proponent for the period 29.12.2022 to 31.12.2024 is being annexed herewith and marked as **ANNEXURE-R-25**. A true copy of the CTE issued to the Project Proponent for the period 31.05.2023 to 31.12.2024 is being annexed herewith and marked as **ANNEXURE-R-26**. A true copy of the CTE issued to the Project Proponent for the period 21.10.2023 to 31.12.2027 is being annexed herewith and marked as **ANNEXURE-R-27**. A true copy of the CTE issued to the Project Proponent for the period 01.03.2024 to 28.02.2026 is being annexed herewith and marked as **ANNEXURE-R-**

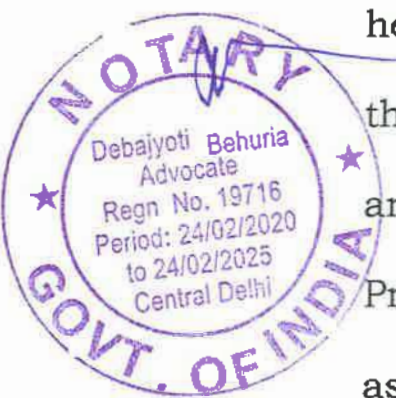


28. A true copy of the CTE issued to the Project Proponent for the period 20.06.2024 to 31.12.2028 is being annexed herewith and marked as **ANNEXURE-R-29.** A true copy of the chart showing hectarage of land reclaimed using fly ash under CTE permissions is being annexed herewith and marked as **ANNEXURE-R-30.**

M. The Project Proponent has also placed before this Hon'ble Tribunal ground water study reports prepared by the Institute for Resource Analysis and Policy, Hyderabad for the year 2021 to 2024. A true copy ground water study report dated December, 2021 prepared by the Institute for Resource Analysis and Policy, Hyderabad is being annexed herewith and marked as **ANNEXURE-R-31.** A true copy ground water study report dated 31.10.2022 prepared by the Institute for Resource Analysis and Policy, Hyderabad is being annexed herewith and marked as **ANNEXURE-R-32.** A true copy ground water study report dated 26.09.2023 prepared by the Institute for Resource Analysis and Policy, Hyderabad is being annexed herewith and marked as **ANNEXURE-R-33.** A true copy ground water study report dated 26.06.2024 prepared by the Institute for Resource Analysis and Policy, Hyderabad is being annexed herewith and marked as **ANNEXURE-R-34.**

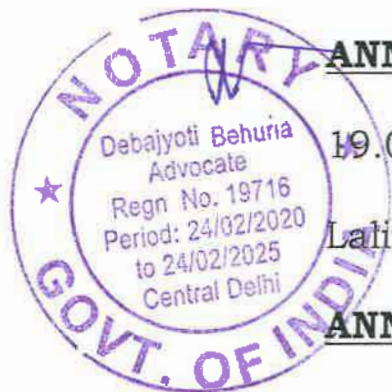


N. The Project Proponent has also placed before this Hon'ble Tribunal the ground water test report for the year 2019 to 2024 of the areas in and around the Thermal Power Plant. A true copy of the ground water test report for year 2019 of the areas in and around the Thermal Power Plant obtained by the Project Proponent is being annexed herewith and marked as **ANNEXURE-R-35**. A true copy of the ground water test report for year 2020 of the areas in and around the Thermal Power Plant obtained by the Project Proponent is being annexed herewith and marked as **ANNEXURE-R-36**. A true copy of the ground water test report for year 2021 of the areas in and around the Thermal Power Plant obtained by the Project Proponent is being annexed herewith and marked as **ANNEXURE-R-37**. A true copy of the ground water test report for year 2022 of the areas in and around the Thermal Power Plant obtained by the Project Proponent is being annexed herewith and marked as **ANNEXURE-R-38**. A true copy of the ground water test report for year 2023 of the areas in and around the Thermal Power Plant obtained by the Project Proponent is being annexed herewith and marked as **ANNEXURE-R-39**. A true copy of the ground water test report for year 2024 of the areas in and around the Thermal Power Plant obtained by the Project Proponent is



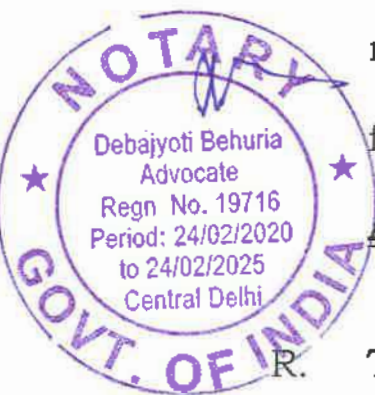
being annexed herewith and marked as **ANNEXURE-R-40.**

- O. The Project Proponent has also placed before this Hon'ble Tribunal Environmental status information with regard to the agriculture, fishery, veterinary and impact on general health. A true copy of the letter dated 02.08.2024 issued by the Chief Medical Officer, Lalitpur is being annexed herewith and marked as **ANNEXURE-R-41.** A true copy of the letter dated 31.07.2024 issued by the Medical Superintendent, Community Health Centre, Lalitpur is being annexed herewith and marked as **ANNEXURE-R-42.** A true copy of the letter dated 22.07.2024 issued by the District Magistrate, Lalitpur is being annexed herewith and marked as **ANNEXURE-R-43.** A true copy of the letter dated 19.07.2024 issued by the Chief Veterinary Officer, Lalitpur is being annexed herewith and marked as **ANNEXURE-R-44.** A true copy of the letter dated 19.07.2024 issued by the Assistant Director Fishery, Lalitpur is being annexed herewith and marked as **ANNEXURE-R-45.**



- P. It is submitted the Project Proponent is in full compliance with the guidelines issued by the CPCB in March, 2019 and all other directions and stipulations as applicable for reclamation of low-lying areas using fly ash.

Q. For ease of comprehension the Project Proponent has enclosed herewith a PowerPoint representation showing process of the land reclamation by using fly ash. The Project proponent has also given an exemplar list of documents used in the said reclamation. A true copy of an exemplar application/request by concerned land owner for reclamation of his low-lying land is being annexed herewith and marked as **ANNEXURE-R-46**. A true copy of an exemplar agreement with the concerned land owner is being annexed herewith and marked as **ANNEXURE-R-47**. A true copy of an exemplar declaration/NOC by the Village Panchayat is being annexed herewith and marked as **ANNEXURE-R-48**. A true copy of an exemplar khasra/khatauni of the concerned land is being annexed herewith and marked as **ANNEXURE-R-49**. A PowerPoint representation showing process of land reclamation using fly ash is being annexed herewith and marked as **ANNEXURE-R-50**.



R. The Project Proponent has also placed before this Hon'ble Tribunal six tabulated charts showing cross referencing of pages in the existing pleadings with respect to the following headings: Low-lying area; Legacy fly ash; Fly ash in cement; Fly ash not used in bricks; Tree Plantation; and CSR/CER expenditure. True copies of the six tabulated charts showing cross referencing of pages in the existing

pleadings with respect to the following headings: Low-lying area; Legacy fly ash; Fly ash in cement; Fly ash not used in bricks; Tree Plantation; and CSR/CER expenditure is being annexed herewith and marked as **ANNEXURE-R-51 (Colly)**.

S. It is stated with the utmost respect that the Project Proponent has a robust environmental compliance unit at the Thermal Power Plant, and it is due to its tireless efforts and compliance that there is no legacy fly ash.

6. That the present affidavit has been filed by the Respondent No.2/ LPGCL bona fide and in the interest of justice and accordingly may be taken on record. That the Annexures annexed to the present affidavit are true copies of their respective originals.

Adarsh
DEPONENT

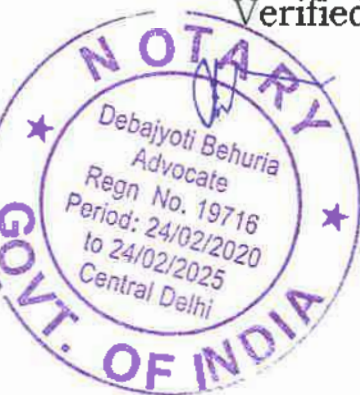
I identified the deponent who has signed in my presence.

VERIFICATION:

I, the deponent the abovenamed do hereby verify that the contents of my above affidavit are true and correct to best of my knowledge and beliefs and nothing material has been concealed therefrom. That the contents of Paras 01 to 6 are true and correct, and the legal submissions are on legal advice received and believed to be correct and no part of it is false and nothing material has been concealed therefrom:

23 AUG 2024

Verified at New Delhi on this ___ day of August, 2024.



...RTIFIED THAT THE DEPONENT
Shri/Smt./Km.....
3/o, V/o, D/o.....
No.....
identified by Shri/Smt.....
I do Solemnly affirm and declare that I have read and explained to him the contents of the affidavit which have been read & explained to him are true and correct to this knowledge.

23 AUG 2024
[Signature]
Notary Public

Adarsh
DEPONENT



भारत का राजपत्र

The Gazette of India

असाधारण

EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 563]
No. 563]

नई दिल्ली, मंगलवार, सितम्बर 14, 1999/भाद्र 23, 1921
NEW DELHI, TUESDAY, SEPTEMBER 14, 1999/BHADRA 23, 1921

पर्यावरण एवं वन मंत्रालय

अधिसूचना

नई दिल्ली, 14 सितम्बर, 1999

का.आ. 763(अ).— पर्यावरण (संरक्षण) नियम, 1986 के नियम 5 के उपनियम (3) द्वारा यथाअपेक्षित एक प्रारूप अधिसूचना जिसमें कतिपय निदेश अंतर्विष्ट हैं, भारत सरकार के पर्यावरण और वन मंत्रालय की अधिसूचना सं. का.आ. 453(अ), तारीख 22 मई, 1998 द्वारा प्रकाशित किए गए थे जिसमें उन व्यक्तियों से, जिनके उससे प्रभावित होने की संभावना थी, आक्षेप और सुझाव उस तारीख से जिसको उक्त अधिसूचना की राजपत्रित प्रतियां जनता को उपलब्ध करा दी जाती हैं, साठ दिन की अवधि की समाप्ति के पूर्व, आमंत्रित किए गए थे ;

और उक्त राजपत्र की प्रतियां जनता को उसी तारीख को उपलब्ध करा दी गई थी ;

और उक्त प्रारूप अधिसूचना की बाबत जनता से प्राप्त आक्षेपों और सुझावों पर केन्द्रीय सरकार द्वारा सम्यक् रूप से विचार कर लिया गया है ;

और पर्यावरण का संरक्षण, उपरिमृदा संरक्षण और भूमि पर कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्रों से निरस्यारित फ्लाइंग एश का संनिक्षेपण और व्ययन करने का निवारण करना आवश्यक है ;

और ईंटों के विनिर्माण के लिए उपरिमृदा के उत्खनन को निर्बंधित करने की तथा कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्रों से पचास किलोमीटर के त्रिनिर्दिष्ट व्यास के भीतर भवन निर्माण सामग्री के विनिर्माण में और सन्निर्माण क्रिया कलाओं में फ्लाइंग एश के उपयोग को सम्प्रवर्तित करने की आवश्यकता है ;

और माननीय दिल्ली उच्च न्यायालय ने सेंटर फार पब्लिक इन्ड्रेस्ट लिटिगेशन दिल्ली बनाम युनियन आफ इन्डिया की सिविल रिट याचिका संख्यांक 2145/99 में अपने 25 अगस्त, 1999 के आदेश द्वारा केन्द्रीय सरकार को फ्लाइंग एश की बाबत अन्तिम अधिसूचना 26 अक्टूबर, 1999 को या उससे पूर्व प्रकाशित करने का निदेश दिया है ;

अतः, अब, केन्द्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उपधारा (2) के खंड (v) के साथ पठित उसकी उपधारा (1) और धारा 5 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, तथा माननीय दिल्ली उच्च न्यायालय के उपरिस्थित आदेशों के अनुसरण में निम्नलिखित निर्देश जारी करती है जो इस अधिसूचना के प्रकाशन की तारीख को प्रवृत्त होंगे, अर्थात् :-

1. ईटों के विनिर्माण और अन्य सन्निर्माण क्रिया कलापों के फ्लाई एश, बोटम एश या पॉड एश का उपयोग :-
- (1) कोई व्यक्ति, कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्रों से पचास किलोमीटर के व्यास के भीतर सन्निर्माण क्रिया कलापों में उपयोग के लिए मृदा में भार दर भार के आधार पर (फ्लाई एश, बोटम एश या पॉड एश) के कम-से-कम पच्चीस प्रतिशत मिश्रण के बिना मिट्टी, ईटों या टाइलों या ब्लोकों का विनिर्माण नहीं करेगा ।
 - (2) ऊपर पैरा (1) के अनुसार एश की विनिर्दिष्ट मात्रा के उपयोग को सुनिश्चित करने के लिए, यथास्थिति सम्बद्ध राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति का क्षेत्रीय अधिकारी प्राधिकारी होगा । इसका अनुपालन न किए जाने की दशा में उक्त प्राधिकारी ईट भट्टा की स्थापना के लिए जारी अनुमति आदेश को रद्द करने के अतिरिक्त उक्त खनन पट्टा रद्द किए जाने के लिए जिला प्रशासन से अनुरोध करेगा । उक्त खनन पट्टा रद्द करने का विनिश्चय सम्यक् सुनवाई के पश्चात् किया जाएगा । उक्त प्राधिकारी को वास्तविक एश के उपयोग का सत्यापन करने हेतु समर्थ बनाने के लिए तापीय विद्युत संयंत्र प्रत्येक ईट भट्टे को उपलब्ध कराई गई एश का मासिक अभिलेख बनाए रखेगा ।
 - (3) उक्त विद्युत संयंत्र द्वारा यथा प्रमाणित पर्याप्त मात्रा में तापीय विद्युत संयंत्र से एश की अनुपलब्धता की दशा में सम्बद्ध राज्य/संघ राज्यक्षेत्र की सरकार ऊपर पैरा (1) के अधीन अनुबंध को समुचित रूप से उपान्तरित (त्यजन/शिथिल) करेगा ।
 - (4) प्रत्येक कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र एक विवाद निपटारा समिति का गठन करेगा जिसमें तापीय विद्युत संयंत्र का महाप्रबंधक और अखिल भारतीय ईट और टाइल विनिर्माण संघ का प्रतिनिधि होगा । ऐसी समिति बिना कोई समय गंवाए एश की अबाध लदाई और परिवहन सुनिश्चित करेगी । किसी अनसुलझे विवाद की बाबत कार्रवाई राज्य/संघ राज्यक्षेत्र की सरकार द्वारा स्थापित की जाने वाली किसी राज्य/संघ राज्यक्षेत्र स्तर की समिति द्वारा की जाएगी, जिसमें राज्य प्रदूषण नियंत्रण बोर्ड/प्रदूषण नियंत्रण समिति के सदस्य सचिव, राज्य/संघ राज्यक्षेत्र सरकार के विद्युत मंत्रालय के प्रतिनिधि और अखिल भारतीय ल विनिर्माण संघ के प्रतिनिधि होंगे ।

राज्य/संघ राज्यक्षेत्र द्वारा एश का उपयोग -

सभी कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र नीचे दिए गए विद्युत संयंत्रों में उत्पादित एश का उपयोग करेंगे, अर्थात् :-

- (1) प्रत्येक कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र, इस अधिसूचना के प्रकाशन की तारीख से कम-से-कम दस वर्ष के लिए एश आधारित भवन सामग्री जैसे सीमेंट, कंक्रीट, ब्लाक, ईटें, पैनल या किसी अन्य सामग्री के विनिर्माण के प्रयोजनों के लिए या सड़कों, तटबंधों, बांधों, नहरों के सन्निर्माण के लिए या किसी अन्य सन्निर्माण क्रियाकलापों के लिए बिना किसी संदाय या किसी अन्य प्रतिफल के एश उपलब्ध कराएगा ।
- (2) प्रत्येक कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र जिसे ऐसी पर्यावरणीय अनापत्ति शर्तों के अधीन आरंभ किया गया है, जिसमें संपूर्ण फ्लाई एश का उपयोग करने के लिए कार्य योजना अनुबद्ध की गई हो, इस अधिसूचना के प्रकाशन से नौ वर्ष की अवधि के भीतर योजना के अनुसार भूमि पर फ्लाई एश के सन्निक्षेपण और व्ययन को बंद कर देगा । ऐसी कार्य योजना में विद्युत संयंत्र में उत्पादित सम्पूर्ण एश का नवें वर्ष की समाप्ति तक उपयोग करने में समर्थ बनाने के लिए इस अधिसूचना के प्रकाशन से तीन वर्ष के भीतर तीस प्रतिशत फ्लाई एश के उपयोग के साथ आगामी छह वर्षों में उपयोग में उत्तरोत्तर प्रति वर्ष कम-से-कम दस प्रतिशत की और वृद्धि की व्यवस्था होगी । इस संबंध में पांच वर्ष के पश्चात् प्रगति का पुनरावलोकन किया जाएगा ।

- (3) ऊपर पैरा (2) के अंतर्गत न आने वाले प्रत्येक कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र, इस अधिसूचना के प्रकाशन की तारीख से पन्द्रह वर्ष की अवधि के भीतर, विद्युत संयंत्रों द्वारा तैयार की जाने वाली कार्य योजना के अनुसार फ्लाई एश के उपयोग को बंद कर देंगे। ऐसी कार्य योजना में विद्युत संयंत्र में उत्पादित संपूर्ण फ्लाई एश का उपयोग करने में समर्थ बनाने के लिए, इस अधिसूचना के प्रकाशन की तारीख से तीन वर्ष के भीतर फ्लाई एश के बीस प्रतिशत के उपयोग के साथ आगामी बारह वर्षों के लिए उत्तरोत्तर प्रति वर्ष उपयोग में वृद्धि की व्यवस्था होगी।
- (4) इस अधिसूचना के पैरा 2 के उपपैरा (2) और (3) के अधीन कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्र द्वारा तैयार की गई सभी कार्य योजनाएं, इस अधिसूचना के प्रकाशन की तारीख से छह मास की अवधि के भीतर केन्द्रीय प्रदूषण नियंत्रण बोर्ड, संबद्ध राज्य प्रदूषण नियंत्रण बोर्ड/समिति तथा पर्यावरण और वन मंत्रालय के संबद्ध क्षेत्रीय कार्यालय को भेजी जाएंगी।
- (5) केन्द्रीय और राज्य सरकार अभिकरण, राज्य विद्युत बोर्ड, नेशनल थर्मल पावर कारपोरेशन और तापीय विद्युत संयंत्रों के प्रबंधक, उत्पादन क्रियाकलापों के प्रयोजनों के लिए भूमि, विद्युत और जल की व्यवस्था करेंगे और उस क्षेत्र के समीप जहां विद्युत संयंत्र में फ्लाई एश का उत्पादन होता है, एश आधारित उत्पादन एककों की स्थापना और संवर्धन करने के लिए एश उत्पादन क्षेत्र तक पहुंचने की व्यवस्था करेंगे।
- (6) कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्रों द्वारा इस अधिसूचना के उपबंधों की अनुपालना के बारे में जानकारी देने वाली क्रियान्वयन रिपोर्ट केन्द्रीय प्रदूषण नियंत्रण बोर्ड, संबद्ध राज्य प्रदूषण नियंत्रण बोर्ड/समिति तथा पर्यावरण और वन मंत्रालय के संबद्ध क्षेत्रीय कार्यालय को प्रति वर्ष 30 अप्रैल तक भेजी जाएगी।

3. एश आधारित उत्पादों के उपयोग के लिए विनिर्देश-

- (1) एश आधारित उत्पादों जैसे सीमेंट, कंक्रीट, ब्लॉक, ईटों, पैनल या किसी अन्य सामग्री का विनिर्माण या सन्निर्माण क्रियाकलापों जैसे सड़कें बिछाना, तटबंधों में एश का उपयोग या ढलाऊँ क्षेत्रों को उपयोगी बनाने के लिए भूमिभरण के रूप में उपयोग जिसके अंतर्गत खाली पड़ी खानों या गडबों की पृष्ठभूमि भरना भी है या कोई अन्य उपयोग भारतीय मानक ब्यूरो, भारतीय खान ब्यूरो, भारतीय सड़क कांग्रेस, केन्द्रीय भवन अनुसंधान संस्थान, रूड़की, केन्द्रीय सड़क अनुसंधान संस्थान, नई दिल्ली, भवन सामग्री और प्रौद्योगिकी संवर्धन परिषद्, नई दिल्ली, केन्द्रीय लोक निर्माण विभाग, राज्य लोक निर्माण विभाग और अन्य केन्द्रीय तथा राज्य अभिकरणों द्वारा अधिकथित विनिर्देशों और मार्गदर्शक सिद्धांतों के अनुसार किया जाएगा।
- (2) केन्द्रीय लोक निर्माण विभाग, राज्य/संघ राज्यक्षेत्रों की सरकारों के लोक निर्माण विभाग, विकास प्राधिकरण, आवासन बोर्ड, भारतीय राजमार्ग प्राधिकरण और अन्य सन्निर्माण अभिकरण, जिसके अंतर्गत वे भी हैं जो प्राइवेट सेक्टर में हैं, इस अधिसूचना के प्रकाशन की तारीख से चार मास की अवधि के भीतर अपने-अपने विनिर्देशों और सन्निर्माण उपयोजनाओं की अनुसूचियों में, जिसके अंतर्गत समुचित मानक और आचार संहिता है, एश और एश आधारित उत्पादों का उपयोग विहित करेंगे।
- (3) सभी स्थानीय प्राधिकरण, इस अधिसूचना के प्रकाशन की तारीख से चार मास की अवधि के भीतर, अपनी-अपनी भवन उपविधियों और विनियमों में, भवन सामग्री, सड़कों, तटबंधों में या किसी अन्य उपयोग के लिए एश और एश आधारित उत्पादों का उपयोग और सन्निर्माण तकनीकें विहित करेंगे।

[फा०सं० 16-2/95-एच एस एम डी]

बी. राजगोपालन, संयुक्त सचिव

THE GAZETTE OF INDIA

EXTRAORDINARY

PART II -- Section 3 -- Sub-section (ii)

MINISTRY OF ENVIRONMENT AND FORESTS

NOTIFICATION

New Delhi, the 14th September, 1999

S.0.763(E).- Whereas a draft notification containing certain directions was published, as required by subrule (3) of rule 5 of the Environment (Protection) Rules, 1986 under the notification of the Government of India in the Ministry of Environment and Forests number S.O. 453(E) dated 22nd May, 1998 inviting objections and suggestions from all persons likely to be affected thereby, before the expiry of the period of sixty days from the date on which the copies of the Gazette of India containing the said notification are made available to the public;

And, whereas, copies of the said Gazette were made available to the public on the same date;

And, whereas, the objections and suggestions received from the public in respect of the said draft notification have been duly considered by the Central Government;

Where as it is necessary to protect the environment, conserve top soil and prevent the dumping and disposal of fly ash discharged from coal or lignite based thermal power plants on land;

And, whereas, there is a need for restricting the excavation of top soil for manufacture of bricks and promoting the utilisation of fly ash in the manufacture of building materials and in construction activity within a specified radius of fifty kilometers from coal or lignite based thermal power plants;

And, Whereas, the Hon'ble High Court of Judicature, Delhi vide its order dated 25th August, 1999 in CWP No. 2145/99 Centre for Public Interest Litigation, Delhi v/s Union of India directed that the Central Government to publish the final notification in respect of fly ash on or before 26th October, 1999;

Now, therefore, in exercise of the powers conferred by sub-section (1), read with clause (v) of sub-section (2) of section 3 and section 5 of the Environment (Protection) Act, 1986 (29 of 1986); and in pursuance of the orders of the Hon'ble High Court, Delhi stated above, the Central Government hereby issues the following directions which shall come into force on the date of the publication of this notification, namely:-

1. Use of fly ash, bottom ash or pond ash in the manufacture of bricks and other construction activities.-

(1) No person shall within a radius of fifty kilometers from coal or lignite based thermal power plants, manufacture clay bricks or tiles or blocks for use in construction activities without mixing at least 25 per cent of ash (fly ash, bottom ash or pond ash) with soil on weight to weight basis. '

(2) The authority for ensuring the use of specified quantity of ash as per para (1) above shall be the concerned Regional Officer of the State Pollution Control Board or the Pollution Control Committee as the case may be. In case of non-compliance, the said authority, in addition to cancellation of consent order issued to establish the brick kiln, shall move the district administration for cancellation of mining lease. The cancellation of mining lease shall be decided after due hearing. To enable the said authority to verify the actual use of ash, the thermal power plant shall maintain month-wise records of ash made available to each brick kiln.

(3) In case of non-availability of ash from thermal power plant in sufficient quantities as certified by the said power plant, the stipulation under para (1) shall be suitably modified (waived/ relaxed) by the concerned State/Union Territory Government.

(4) Each coal or lignite based thermal power plant shall constitute a dispute settlement committee which shall include the General Manager of the thermal power plant and a representative of All India Brick and Tile Manufacture's Federation (AIBTMF). Such a committee shall ensure unhindered loading and transport of ash without any undue loss of time. Any unresolved dispute shall be dealt with by a State/Union Territory level committee to be set up by State/Union Territory Government comprising Member Secretary of the State Pollution Control Board/Pollution Control Committee, representatives of Ministry of Power in the State/Union Territory Government and a representative of AIBTMF.

2. Utilisation of ash by Thermal Power Plants.

All coal or lignite based thermal power plants shall utilise the ash generated in the power plants as follows: -

(1) Every coal or lignite based thermal power plant shall make available ash, for at least ten years from the date of publication of this notification, without any payment or any other consideration, for the purpose of manufacturing ash-based products such as cement, concrete blocks, bricks, panels or any other material or for construction of roads, embankments, dams, dykes or for any other construction activity.

(2) Every coal or lignite based thermal power plant commissioned subject to environmental clearance conditions stipulating the submission of an action plan for full utilisation of fly ash shall, within a period of nine years from the publication of this notification, phase out the dumping and disposal of fly ash on land in accordance with the plan. Such an action plan shall provide for thirty per cent of the fly ash utilisation, within three years from the publication of this notification with further increase in utilisation by atleast ten per cent points every year progressively for the next six years to enable utilisation of the entire fly ash generated in the power plant atleast by the end of ninth year. Progress in this regard shall be reviewed after five years.

(3) Every coal or lignite based thermal power plant not covered by para (2) above shall, within a period of fifteen years from the date of publication of this notification, phase out the utilisation of fly ash in accordance with an action plan to be drawn up by the power plants. Such action plan shall provide for twenty per cent of fly ash utilisation within three years from the date of publication of this notification, with further increase in utilisation every year progressively for the next twelve years to enable utilisation of the entire fly ash generated in the power plant.

(4) All action plans prepared by coal or lignite based thermal power plants in accordance with sub-para (2) and (3) of para 2 of this notification, shall be submitted to the Central Pollution Control Board/Committee and concerned, State Pollution Control Board/Committee and concerned regional office of the Ministry of Environment and Forests within a period of six months from the date of publication of this notification.

(5) The Central and State Government Agencies, the State Electricity Boards, the National Thermal Power Corporation and the management of the thermal power plants shall facilitate in making available land, electricity and water for manufacturing activities and provide access to the ash lifting area for promoting and setting up of ash-based production units in the proximity of the area where ash is generated by the power plant.

(6) Annual implementation report providing information about the compliance of provisions in this notification shall be submitted by the 30th day of April every year to the Central Pollution Control Board, concerned State Pollution Control Board/Committee and the concerned Regional Office of the Ministry of Environment and Forests by the coal or lignite based thermal power plants.

3. Specifications for use of ash-based products.-

(1) Manufacture of ash-based products such as cement, concrete blocks, bricks, panels or any other material or the use of ash in construction activity such as in road laying, embankments or use as

landfill to reclaim low lying areas including back filling in abandoned mines or pitheads or for any other use shall be carried out in accordance with specifications and guidelines laid down by the Bureau of Indian Standards, Indian Bureau of Mines, Indian Road Congress, Central Building Research institute, Roorkee, Central Road Research Institute, New Delhi, Building Materials and Technology Promotion Council, New Delhi, Central Public Works Department, State Public Works Departments and other Central and State Government agencies.

(2) The Central Public Works Department, Public Works Departments in the State/Union Territory Governments, Development Authorities, Housing Boards, National Highway Authority of India and other construction agencies including those in the private sector shall also prescribe the use of ash and ash-based products in their respective schedules of specifications and construction applications, including appropriate standards and codes of practice, within a period of four months from the publication of this notification.

(3) All local authorities shall specify in their respective building by-laws and regulations the use of ash and ash-based products and construction techniques in building materials, roads, embankments or for any other use within a period of four months from the date of publication of this notification.

[F. No. 16-2/95-HSMD]

V RAJAGOPALAN, Jt.. Secy.

भाग II - खण्ड 3 (ii)

ख. सड़क या फ्लाई ओवर संरचनाओं, जो भारतीय सड़क कांग्रेस (आई आर सी) द्वारा

अधिकथित विनिर्देशों के अन्तर्गत नहीं आते हैं, के लिए आवश्यक विनिर्देश/

मार्गदर्शी सिद्धांत बनाएंगे।"।

[फा. सं. 16-2/95-एच एस एम डी]

डॉ. बी. राजगोपालन, संयुक्त सचिव

टिप्पणी : मूल अधिसूचना, भारत का राजपत्र, असाधारण, भाग II, खण्ड 3, उपखण्ड (ii) में का.आ. 763(अ) दिनांक 14-9-1999 द्वारा प्रकाशित की गई है।

MINISTRY OF ENVIRONMENT AND FORESTS

NOTIFICATION

New Delhi, the 27th August, 2003

S.O. 979(E).—Whereas a draft of certain amendments to the Government of India in the Ministry of Environment and Forests notification number S.O.763 (E) dated 14th September, 1999 (hereinafter referred to as the said notification) which the Central Government proposes to make under sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii) dated the 6th November, 2002 *vide* S.O. 1164 (E), dated the 5th November, 2002 inviting objections and suggestions from all persons likely to be affected thereby before the expiry of sixty days from the date on which copies of the Gazette containing the said draft amendments were made available to the public.

And, whereas copies of the said Gazette were made available to the public on 27th November 2002;

And, whereas all the objections and suggestions received from all persons likely to be affected thereby in respect of the said draft notification have been duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following amendments to the said notification, namely: -

AMENDMENTS

1. In the said notification, in the preamble, for the words "fifty kilometers", the words "one hundred kilometres" shall be substituted.

2. In the said notification, in paragraph 1, -
- (a) in sub-paragraph (1), for the words "fifty kilometers", the words "one hundred kilometres" shall be substituted;
- (b) after sub-paragraph (1), the following sub-paragraphs shall be inserted, namely: -

"(1A) Every construction agency engaged in the construction of buildings within a radius of fifty to one hundred kilometres from a coal or lignite based thermal power plant shall use fly ash bricks or blocks or tiles or clay fly ash bricks or cement fly ash bricks or blocks or similar products or a combination or aggregate of them in such construction as per the following minimum percentage (by volume) of the total bricks, blocks and tiles, as the case may be, used in each construction project, namely:-

- (i) 25 per cent by 31st August 2004;
- (ii) 50 per cent by 31st August 2005;
- (iii) 75 per cent by 31st August, 2006; and
- (iv) 100 per cent by 31st August 2007.

In respect of construction of buildings within a radius of 50 kilometres from a coal or lignite based thermal power plant the following minimum per centage (by volume) of use of bricks, blocks and tiles shall apply: -

- (i) 50 per cent by 31st August 2004;
- (ii) 100 per cent by 31st August 2005.

(1B) The provisions of sub-paragraph (1A) shall be applicable to all construction agencies such as Housing Boards and those in the private sector

builders of apartments, hotels, resorts and cottages and the like. It shall be the responsibility of the construction agencies either undertaking the construction or approving the design or both to ensure compliance of the provisions of sub-paragraph (1A) and to submit such returns as may be called for and compliance reports to the State Government or Union territory Administration";

(c) for sub-paragraph (2), the following sub-paragraphs shall be substituted, namely:-

"(2) The authority for ensuring the use of specified quantity of ash as per sub-paragraph (1) shall be the concerned Regional Officer of the State Pollution Control Board or the Pollution Control Committee, as the case may be.

(2A) The concerned State Government shall be the enforcing and monitoring authority for ensuring compliance of the provisions of sub-paragraph (1A).";

(d) in sub-paragraph (3), for the words, brackets and figure "under para (1)" the words, brackets and figure "under sub-paragraph (1)" shall be substituted;

(e) after sub-paragraph (3), the following sub-paragraphs shall be inserted, namely:-

"(3A) A decision on the application for manufacture of fly ash bricks, block, and tiles and similar other fly ash based products shall be taken within thirty days from the date of receipt of the application by the competent authority. A decision on consent to establish the brick kiln shall be taken by the Pollution Control Board or the Pollution Control Committee, as the case may be, within a period of thirty days from the date of receipt of application by it.

(3B) In case of non-compliance of the provisions of sub-paragraph (1) of paragraph 1, the competent authority, in addition to cancellation of consent order issued to establish the brick kiln, shall move the district administration for cancellation of the mining lease.

(3C) All authorities sanctioning or renewing any land, soil or clay mining lease shall not grant such lease or extension of lease or renewal to clay brick, block or tile manufacturing unit within a radius of one hundred kilometres of the coal or lignite based thermal power plant in cases where the manufacturer does not mix a minimum of 25 per cent by weight of fly ash or pond ash in the manufacture of bricks or blocks or tiles. The cancellation of mining lease shall be decided by the district administration after giving the holder of such lease an opportunity of being heard. To enable the competent authority to verify the actual use of ash, the thermal power plant shall maintain month-wise records of ash made available to each brick kiln.

(3D) It shall be sufficient compliance of this notification if within twelve months from the date of issue of this notification, manufacturers of clay bricks, blocks and tiles located within a radius of 50 to 100 kilometres of a coal or lignite based thermal power plant comply with the provisions of sub-paragraphs (1) and (2)."

(f) in sub-paragraph (4), after brackets and letters "(AIBTMF)", the words "or a representative of local brick kiln owners association, federation, group." shall be inserted;

(g) after sub-paragraph (4), the following sub-paragraphs shall be inserted, namely: -

"(5) No agency, person or organization shall, within a radius of 100 kilometres of a thermal power plant undertake construction or approve design for construction of roads or flyover embankments in contravention of the guidelines specifications issued by the Indian Road Congress (IRC) as contained in IRC

specification No. SP: 58 of 2001. Any deviation from this direction can only be agreed to on technical reasons if the same is approved by Chief Engineer (Design) or Engineer-in-Chief of the concerned agency or organization or on production of a certificate of "Pond ash not available" from the thermal power plant(s) (TPPs) located within 100 kilometres of the site of construction. This certificate shall be provided by the TPP within two working days from the date of making a request for ash.

(6) Soil required for top or side covers of embankments of roads or flyovers shall be excavated from the embankment site and if it is not possible to do so, only the minimum quantity of soil required for the purpose shall be excavated from soil borrow area. In either case, the topsoil should be kept or stored separately. Voids created due to soil borrow area shall be filled up with ash with proper compaction and covered with topsoil kept separately as above. This would be done as an integral part of embankment project within the time schedule of the project.

(7) No agency, person or organization shall within a radius of 100 kilometres of a coal or lignite based thermal power plant allow reclamation and compaction of low-lying areas with soil. Only pond ash shall be used for compaction. They shall also ensure that such reclamation and compaction is done in accordance with the bye-laws, regulations and specifications laid down by the authorities mentioned in sub-paragraph (3) of paragraph 3."

In the said notification, in paragraph 2,

- (a) for the marginal heading "Utilisation of ash by Thermal Power Plants", the marginal heading "Responsibilities of Thermal Power Plants" shall be substituted;

(b) for the opening words, "All coal or lignite based thermal power plants shall utilise the ash generated in the power plants as follows: -", "Every coal or lignite based thermal power plant shall take the following steps to ensure the utilisation of ash generated by it, namely: -";

(c) in sub-paragraph (1), -

(i) after the words "products such as cement, concrete blocks, bricks, panels", the words "or a combination thereof" shall be inserted;

(ii) the following shall be added at the end, namely: -

"The thermal power plants have to ensure availability of fair quantity of ash to each user including brick kilns.";

4. In the said notification, after paragraph 2, the following paragraph shall be inserted, namely: -

"2A. Utilization of fly ash for reclamation of sea.

"Subject to the rules made under the Environment (Protection) Act, 1986. (29 of 1986) reclamation of sea shall be a permissible method of utilization of fly ash."

5. In the said notification, in paragraph 3, the following sub-paragraphs shall be inserted, namely: -

"(2A) All agencies including the Central Public Works Department and State Government agencies concerned with utilization of fly ash for construction purposes shall within three months from the 1st day of September, 2003 make provisions for the use of fly ash and fly ash based bricks, blocks or tiles or aggregates of them in the schedule of approved materials and rates.

(2B) All agencies undertaking construction of roads or fly over bridges including Ministry of Road Transport and Highways (MORTH), National Highways Authority of India (NHAI), Central Public Works Department (CPWD), State Public Works Departments and other State Government Agencies, shall, within three months from the 1st day of September, 2003 -

- a. make provisions in their tender documents, schedules of approved materials and rates as well as technical documents, including those relating to soil borrow area or pit as per sub-paragraph (7) of paragraph 1; and
- b. make necessary specifications/guidelines for road or fly over embankments that are not covered by the specifications laid down by the Indian Road Congress (IRC)."

[F. No. 16-295-HSMD]

Dr. V. RAJAGOPALAN, Jt. Secy.

Footnote:— The principal notification was published in the Gazette of India, Part II Section 3, sub-section (ii) *vide* S.O.763 (E) dated 14.9.1999.

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MINISTRY OF ENVIRONMENT AND FORESTS
NOTIFICATION

New Delhi, the 3rd November, 2009

S.O. 2804(E).—WHEREAS, by notification of the Government of India in the Ministry of Environment and Forests number S.O. 763(E), dated the 14th September, 1999 (hereinafter referred to as the said notification) issued under sub-section (1), clause (v) of sub-section (2) of section 3 and section 5 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government, issued directions for restricting the excavation of top soil for manufacture of bricks and promoting the utilisation of fly ash in the manufacture of building materials and in construction activity within a specified radius of one hundred kilometers from coal or lignite based thermal power plants;

AND WHEREAS, the term "fly ash" means and includes all categories or groups of coal or lignite ash generated at the thermal power plant and collected by Electrostatic Precipitator (ESP) or bag filters or other similar suitable equipments; bottom ash is the ash collected separately at the bottom of the boiler; pond ash is the mixture of ESP Fly ash and bottom ash, but, for the purpose of this notification, the term "fly ash" means and includes all ash generated such as Electrostatic Precipitator (ESP) ash, dry fly ash, bottom ash, pond ash and mound ash as the objective is to utilise all the ashes;

AND WHEREAS, there is a need for restricting the excavation of top soil for manufacture of bricks and for other works which involve use of top soil and promoting utilisation of fly ash produced by coal or lignite based thermal power plants including captive power plants and co-generation plants in the manufacture of building materials and construction activity;

AND WHEREAS, it was observed that there was a gradual increase in the use of fly ash in the manufacture of fly ash bricks or products from about 1.5 million tonne in 2002-2003 to 3.19 million tonne in 2006-2007 which needs to be further encouraged for achieving the ultimate objective of conservation of top soil and minimise environmental pollution caused due to fly ash;

AND WHEREAS, it is observed that construction agencies are yet to achieve their targets of utilization of fly ash based products even after the 31st August, 2007, the date prescribed for 100% utilisation of fly ash based products in the said notification of 1999 and it is also observed that many thermal power stations or plants are also yet to achieve the targets drawn up in their action plans;

AND WHEREAS, the representations of the brick kiln owners were considered with regard to transporting of fly ash over a long distance and also the logistics involved including the energy cost;

AND, WHEREAS, the issue has been examined by the Government of India in the Ministry of Environment and Forests;

AND WHEREAS, the Central Government is of the opinion that the said notification should be amended;

AND WHEREAS, clause (a) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986 provides that whenever the Central Government considers that prohibition or restrictions of any industry or carrying on any processes or operation in any area should be imposed, it shall give notice of its intention to do so;

AND WHEREAS, a draft of amendment to the Government of India, Ministry of Environment and Forests notification no. S.O.763 (E), dated the 14th September, 1999 duly amended vide notification No. S.O. 979 (E), dated the 27th August, 2003 (hereinafter referred to as the said notification) which the Central Government proposes to make under subsection (1) clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii) dated the 6th November, 2008 *vide* S.O. 2623 (E), inviting objections and suggestions from all persons likely to be affected thereby before the expiry of sixty days from the date on which copies of the Gazette containing the said draft amendments were made available to the public.

AND WHEREAS, copies of the said Gazette were made available to the public on the day of 6th November 2008;

AND WHEREAS, the objections and suggestions received from various persons or agencies likely to be affected thereby in respect of the said draft notification have been duly considered by the Central Government in the Ministry of Environment and Forests;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following amendments to the said notification, namely: -

AMENDMENTS

1. Throughout the said notification, save as otherwise expressly provided and unless the context otherwise requires, for the word "ash" wherever it occurs, the words "fly ash" shall be substituted.

2. In the said notification, in paragraph 1,—

(a) for sub-paragraph (1), the following shall be substituted, namely:-

"(i) use of fly ash based products in construction activities";

(b) for sub-paragraphs (1A) and (1B), the following sub-paragraphs shall respectively be substituted, namely:-

"(1A) Every construction agency engaged in the construction of buildings within a radius of hundred kilometers from a coal or lignite based thermal power plant shall use only fly ash based products for construction, such as: cement or concrete, fly ash bricks or blocks or tiles or clay fly ash bricks, blocks or tiles or cement fly ash bricks or bricks or blocks or similar products or a combination or aggregate of them, in every construction project.

(1B) The provisions of sub-paragraph (1A) shall be applicable to all construction agencies of Central or State or Local Government and private or public sector and it shall be the responsibility of the agencies either undertaking construction or approving the design or both to ensure compliance of the provisions of sub-paragraph (1A) and to submit annual returns to the concerned State Pollution Control Board or Pollution Control Committee, as applicable";

(c) after sub-paragraph (1B), the following sub-paragraph shall be inserted, namely:—

“(1C) Minimum fly ash content for building materials or products to qualify as “fly ash based products” category shall be as given in the Table I below:

Table I

Serial Number	Building Materials or Products	Minimum % of fly ash by weight
(1)	(2)	(3)
1.	Fly ash bricks, blocks, tiles, etc. made with fly ash, lime, gypsum, sand, stone dust etc. (without clay).	50% of total input materials
2.	Paving blocks, paving tiles, checker tiles, mosaic tiles, roofing sheets, pre-cast elements, etc. wherein cement is used as binder.	Usage of PPC (IS-1489: Part-1) or PSC (IS-455) or 15% of OPC (IS-269/8112/12269) content.
3.	Cement.	15% of total raw materials
4.	Clay based building materials such as bricks, blocks, tiles, etc.	25% of total raw materials.
5.	Concrete, mortar and plaster.	Usage of PPC (IS-1489: Part-1) or PSC (IS-455) or 15% of OPC (IS-269/8112/12269) content.

(d) in sub-paragraph (2), for the brackets and number “(1)”, the brackets, number and letter “(1C)” shall be substituted and the number of sub-paragraph (2) shall be substituted by 1(D);

(e) in paragraph (2A), the paragraph 1(A) shall be substituted by 1(A) and 1(B) and the amended paragraph 2(A) is to be numbered as 1(E);

(f) for sub-paragraphs (3) and (3A), the following sub-paragraphs shall respectively be substituted, namely:—

“(3) In case of non-availability of fly ash from thermal power plants in sufficient quantities as certified by the said power plants, within 100 km of the site, the stipulation under sub-paragraph (1A) shall be suitably modified (waived or relaxed) by the concerned State Government or Union territory Government level monitoring committee mentioned elsewhere in this notification.

(3A) A decision on the application for manufacture of fly ash bricks, blocks and tiles and similar other fly ash based products shall be taken within thirty days from the date of receipt of the application by the concerned State Pollution Control Board or Pollution Control Committee.”;

(g) sub-paragraphs (3B), (3C) and (3D) shall be omitted;

h) for sub-paragraphs (4) and (5), the following sub-paragraphs shall be substituted, namely:-

“(4) Each coal or lignite based thermal power plant shall constitute a dispute settlement committee which shall include the General Manager of the thermal power plant and a representative of the relevant Construction and fly ash Brick Manufacturing Industry Association or Body, as the case may be and such a Committee shall ensure unhindered loading and transport of fly ash in an environmentally sound manner without any undue loss of time. Any unresolved dispute shall be dealt with by the concerned State or Union territory Government level monitoring committee mentioned elsewhere in this notification.

(5) No agency, person or organization shall, within a radius of hundred kilometers of a thermal power plant undertake construction or approve design for construction of roads or flyover embankments with top soil; the guidelines or specifications issued by the Indian Road Congress (IRC) as contained in IRC specification No. SP: 58 of 2001 as amended from time to time, regarding use of fly ash shall be followed and any deviation from this direction can only be agreed to on technical reasons if the same is approved by Chief Engineer (Design) or Engineer-in-Chief of the concerned agency or organisation or on production of a certificate of “fly ash not available” from the thermal power plant(s) (TPPs) located within hundred kilometers of the site of construction and this certificate shall be provided by the TPP within two working days from the date of receipt of a request for fly ash, if fly ash is not available”;

(i) in sub-paragraph (6), for the words “Voids created due to soil borrow area shall be filled up with ash with proper compaction and covered with topsoil kept separately as above and this would be done as an integral part of embankment project within the time schedule of the project”, the words “Voids created at soil borrow area shall be filled up with fly ash with proper compaction and covered with topsoil kept separately as above and this would be done as an integral part of embankment project” shall be substituted;

(j) for sub-paragraph (7), the following sub-paragraphs shall be substituted, namely:—

“(7) No agency, person or organisation shall within a radius of hundred kilometers of a coal or lignite based thermal power plant undertake or approve or allow reclamation and compaction of low-lying areas with soil; only fly ash shall be used for compaction and reclamation and they shall also ensure that such reclamation and compaction is done in accordance with the specifications and guidelines laid down by the authorities mentioned in sub-paragraph (1) of paragraph 3.

(8)(i) No person or agency shall within fifty kilometers (by road) from coal or lignite based thermal power plants, undertake or approve stowing of mine without using at least 25% of fly ash on weight to weight basis, of the total stowing materials used and this shall be done under the guidance of the Director General of Mines Safety (DGMS);

Provided that such thermal power stations shall facilitate the availability of required quality and quantity of fly ash as may be decided by the expert committee referred in sub-paragraph (10) for this purpose.

(ii) No person or agency shall within fifty kilometers (by road) from coal or lignite based thermal power plants, undertake or approve without using at least 25% of fly ash on volume to volume basis of the total materials used for external dump of overburden and same percentage in upper benches of back filling of opencast mines and this shall be done under the guidance of the Director General of Mines Safety (DGMS);

Provided that such thermal power stations shall facilitate the availability of required quality and quantity of fly ash as may be decided by the expert committee referred in sub-paragraph (10) for this purpose.

(9) The provisions contained in clauses (i) and (ii) of sub-paragraph (8) shall be applicable to all mine agencies under Government, public and private sector and to mines of all minerals or metals or items and it shall be the responsibility of agencies either undertaking or approving the external dump of overburden, backfilling or stowing of mine or all these activities to ensure compliance of provisions contained in clauses (i) and (ii) of sub-paragraph (8) and to submit annual returns to the concerned State Pollution Control Board or Pollution Control Committee as applicable.

(10) The Ministry of Coal for this purpose shall constitute an expert committee comprising of representatives from Fly Ash Unit, Department of Science and Technology, Ministry of Science and Technology, Director General of Mines Safety (DGMS), Central Mine Planning and Design Institute Limited (CMPDIL), Ministry of Environment and Forests, Ministry of Power, Ministry of Mines and the Central Institute of Mining and Fuel Research (CIMFR), Dhanbad; the Committee shall also guide and advise the back filling or stowing in accordance with the provisions contained in sub-paragraphs (8) (i), 8 (ii) and (9), and specifications and guidelines laid down by the concerned authorities as mentioned in sub-paragraph (1) of paragraph 3.

(11) The concerned State Government or Union territory Government shall be the enforcing and monitoring authority for ensuring compliance of the provisions of sub-paragraphs (8) (i) and (8) (ii);

3. in the said notification, ~~the~~ paragraph 2,—

(a) for sub-paragraphs (1), (2) and (3), the following sub-paragraphs shall be substituted, namely:—

“(1) All coal or lignite based thermal power stations would be free to sell fly ash to the user agencies subject to the following conditions, namely:—

(i) the pond ash should be made available free of any charge on “as is where is basis” to manufacturers of bricks, blocks or tiles including clay fly ash product manufacturing unit(s), farmers, the Central and the State road construction agencies, Public Works Department, and to agencies engaged in backfilling or stowing of mines.

(ii) at least 20% of dry ESP fly ash shall be made available free of charge to units manufacturing fly ash or clay-fly ash bricks, blocks and tiles on a priority basis over other users and if the demand from such agencies falls short of 20% of quantity, the balance quantity can be sold or disposed of by the power station as may be possible;

Provided that the fly ash obtained from the thermal power station should be utilized only for the purpose for which it was obtained from the thermal power station or plant failing which no fly ash shall be made available to the defaulting users.

(2) All coal and, or lignite based thermal power stations and, or expansion units in operation before the date of this notification are to achieve the target of fly ash utilization as per the Table II given below:

Table II

Serial Number	Percentage Utilization of Fly Ash	Target Date
(1)	(2)	(3)
1.	At least 50% of fly ash generation	One year from the date of issue of this notification.
2.	At least 60% of fly ash generation	Two years from the date of issue of this notification.
3.	At least 75% of fly ash generation	Three years from the date of issue of this notification.

4.	At least 90% of fly ash generation	Four years from the date of issue of this notification.
5.	100% fly ash generation	Five years from the date of issue of this notification.

The unutilised fly ash in relation to the target during a year, if any, shall be utilized within next two years in addition to the targets stipulated for those years and the balance unutilized fly ash accumulated during first five years (the difference between the generation and the utilization target) shall be utilized progressively over next five years in addition to 100% utilization of current generation of fly ash.

(3) New coal and, or lignite based thermal power stations and, or expansion units commissioned after this notification to achieve the target of fly ash utilization as per Table III given below:

Table III

Serial Number	Fly ash utilization level	Target date
(1)	(2)	(3)
1.	At least 50% of fly ash generation	One year from the date of commissioning.
2.	At least 70% of fly ash generation	Two years from the date of commissioning.
3.	90% of fly ash generation	Three years from the date of commissioning.
4.	100% of fly ash generation	Four years from the date of commissioning.

The unutilised fly ash in relation to the target during a year, if any, shall be utilized within next two years in addition to the targets stipulated for these years and the balance unutilized fly ash accumulated during first four years (the difference between the generation and utilization target) shall be utilized progressively over next five years in addition to 100% utilization of current generation of fly ash.”;

(b) in sub-paragraph (4), for the words “six months”, the words “four months” shall be substituted;

(c) for sub-paragraph (6), the following sub-paragraphs shall be substituted, namely:—

“(6) The amount collected from sale of fly ash and fly ash based products by coal and/or lignite based thermal power stations or their subsidiary or sister concern unit, as applicable should be kept in a separate account head and shall be utilized only for development of infrastructure or facilities, promotion and facilitation activities for use of fly ash until 100 percent

fly ash utilization level is achieved; thereafter as long as 100% fly ash utilization levels are maintained, the thermal power station would be free to utilize the amount collected for other development programmes also and in case, there is a reduction in the fly ash utilization levels in the subsequent year(s), the use of financial return from fly ash shall get restricted to development of infrastructure or facilities and promotion or facilitation activities for fly ash utilization until 100 percent fly ash utilisation level is again achieved and maintained.

(7) Annual implementation report (for the period 1st April to 31st March) providing information about the compliance of provisions in this notification shall be submitted by the 30th day of April, every year to the Central Pollution Control Board, concerned State Pollution Control Board or Committee and the concerned Regional Office of the Ministry of Environment and Forests by the coal or lignite based thermal power plants, and also be made a part of the annual report of the thermal power plant as well as thermal power plant wise information be provided in the annual report of thermal power producing agency owning more than one thermal power plant.”;

4. in the said notification, in paragraph 3,—

(a) in sub-paragraph (2), for the words “schedules of specifications and construction applications, including appropriate standards and codes of practice, within a period of four months from the publication of this notification”, the words “tender documents, schedules of specifications and construction applications including appropriate standards and codes of practice within a period of four months from the publication of this notification” shall be substituted;

(b) for sub-paragraph (2A), the following sub-paragraph shall be substituted, namely:—

“(2A) Building construction agencies both in public and private shall prescribe the use of fly ash and fly ash-based products in their respective tender documents, schedules of specifications and construction applications, including appropriate standards and codes of practice and make provisions for the use of fly ash and fly ash based bricks, blocks or tiles or aggregates of them in the schedule of approved materials and rates within a period of four months from the publication of this notification.”;

(c) for sub-paragraphs (2B) and (3), the following sub-paragraphs shall be substituted, namely:—

“(2B) All agencies undertaking construction of roads or fly over bridges and reclamation and compaction of low lying areas, including Department of Road Transport and Highways (DORTH), National Highways Authority of India (NHAI), Central Public Works Department (CPWD), State Public Works Departments and other State Government Agencies, shall within a period of four months from the publication of this notification:-

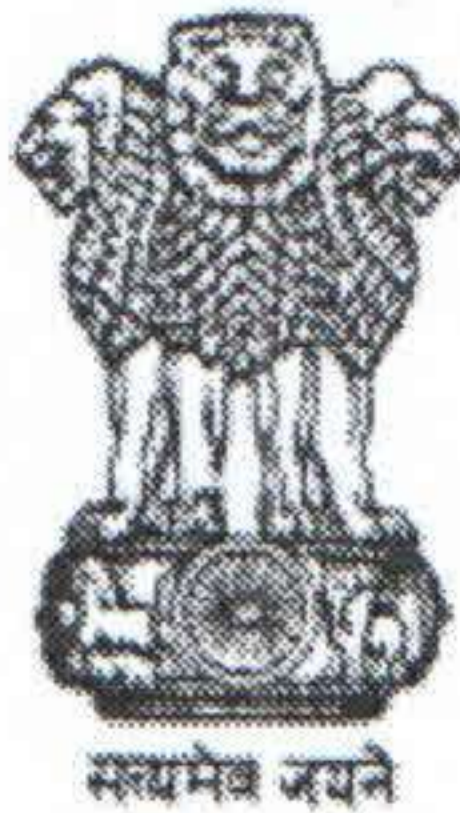
- (a) make provisions in their tender documents, schedules of approved materials and rates as well as technical documents for implementation of this notification, including those relating to soil borrow area or pit as per sub-paragraph (6) of paragraph 1; and
 - (b) make necessary specifications or guidelines for road or fly over embankments that are not covered by the specifications laid down by the Indian Road Congress (IRC).
- (3) All local authorities shall specify in their respective tender documents, building bye-laws and regulations, the use of fly ash and fly ash-based products and construction techniques in building materials, roads embankments or for any usage with immediate effect.
- (4) The Central Electricity Authority and other approving agencies may permit the land area for emergency ash pond or fly ash storage area up to 50 hectares for a 500 MW unit, based on 45% ash content coal, or in the same proportion for units in other capacities taking into account the ash content in coal or lignite to be used.
- (5) All Financial institutions and agencies which fund construction activities shall include a clause in their loan or grant document for compliance of the provisions of this notification.
- (6) A Monitoring committee shall be constituted by the Central Government with Members from Ministry of Coal, Ministry of Mines, Ministry of Power, Central Pollution Control Board, Central Electricity Authority, Head Fly Ash Unit of Department of Science and Technology and Building Material Technology Promotion Council to monitor the implementation of the provisions of the notification and submit its recommendations or observations at least once in every six months to the Secretary, Ministry of Environment and Forests. Concerned Advisor or Joint Secretary in the Ministry of Environment and Forests will be the convener of this committee.

(7) For the purpose of monitoring the implementation of the provisions of this notification the State Governments or Union territory Government shall constitute a Monitoring Committee within three months from the date of issue of this notification under the Chairmanship of Secretary, Department of Environment with representatives from Department of Power, Department of Mining, Road and Building Construction Department and State Pollution Control Board and this Committee would deal with any unresolved issue by Dispute Settlement Committee as prescribed in sub-paragraph (4) of paragraph 1, in addition to monitoring and facilitating implementation of this notification at the respective State Government or Union territory level and this Committee would also be empowered to suitably modify (waive or relax) the stipulation under sub-paragraph (1) in case of non-availability of fly ash in sufficient quantities from thermal power plant as certified by the said power plants and the Committee will meet at least once in every quarter.

[F. No. 9-8/2005-HSMD]

G. V. SUBRAHMANYAM, Scientist 'G'

Foot Note :—The principal notification was published in the Gazette of India, Part II, Section 3, Sub-section (ii) *vide* notification number S.O. 763(E), dated the 14th September, 1999 and was amended *vide* notification number S.O. 979(E), dated the 27th August, 2003.



ANNEXURE-R-4

BY SPEED POST

J-13012/118/2009-IA.II (T)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan
 CGO Complex, Lodi Road
 New Delhi-110 003
 Tele/ fax: 011- 2436 3973
 E-mail: plahujarai@yahoo.com

Dated: March 31, 2011.

To

M/s Lalitpur Power Generation Company Ltd.
 B-10, Sector-3
Noida- 201 301

Sub: 3x660 MW Imported Coal Based Thermal Power Plant at villages Mirchwara and Buraugaon, in Mahroni Taluk, in Lalitpur Distt., in Uttar Pradesh - reg. Environmental Clearance.

Sir,

The undersigned is directed to refer to your letters dated 21.12.2010 and 19.01.2011 on the subject mentioned above. The Ministry of Environment & Forests has examined the application.

2. It has been noted that the proposal is for setting up of 3x660 MW Imported Coal Based Thermal Power Plant at villages Mirchwara and Buraugaon, in Mahroni Taluk, in Lalitpur Distt., in Uttar Pradesh. Land requirement will be 1038 acres, which is single crop agricultural land. The co-ordinates of the site are at Latitude 24°47'05" N to 24°48'26"N and Longitude 78°38'01" E to 78°39'38" E. Indigenous coal linkage have also been applied for and is yet to be obtained. Imported coal will be obtained from Indonesia. Coal requirement will be 8.51 MTPA for indigenous coal or 6.70 MTPA for Imported coal. Ash and Sulphur contents in indigenous coal will be 40% and 0.5% respectively. In case of imported coal the ratio will be 10% and 0.7% respectively. Ash pond/dyke area requirement will be 103 acres. The co-ordinates of ash pond site are at Latitude 24°46'46"N to 24°47'06"N and Longitude 78°38'58" E to 78°39'38" E. About 2.72 MTPA of Fly Ash will be generated for indigenous coal and about 0.536 MTPA for imported coal, which will be supplied to cement manufacturer viz. M/s Dalmiya Cement Ltd. and others. Stack height of 275m will be installed. Water requirement of 48.67 MCM will be sourced from Rajghat Dam reservoir through a pipeline at a distance of 50 km. There are no national parks, wildlife sanctuaries, heritage sites, tiger/biosphere reserves etc. within 10 km of the site. Public hearing was conducted on 06.09.2010. Cost of the project will be Rs 12295.8 Crores.

3. The project has been considered in accordance with the provisions of the EIA notification issued by the Ministry of Environment & Forests vide S.O. 1533 (E), dated September 14, 2006.

4. Based on the information submitted by you, as at Para 2 above and others and presentation made before the Expert Appraisal Committee (Thermal Power) in its 17th Meeting held during February 7-8, 2011, by you and your consultant M/s Vimta Labs, Hyderabad, the Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA notification dated September 14, 2006, subject to the compliance of the following Specific and General conditions:

A. Specific Conditions:

- (i) Vision document specifying prospective plan for the site shall be formulated and submitted to the Ministry within **six months**.
- (ii) Coal transportation to plant site shall be by rail. The project proponent shall take up the matter with the Railways and shall submit action taken and implementation status to the Ministry from time to time.
- (iii) Existing de-generated water bodies (if any) in the study area shall be regenerated at the project proponent's expenses in consultation with the state govt.
- (iv) Hydrogeology of the area shall be reviewed annually from an institute/ organization of repute to assess impact of surface water and ground regime (especially around ash dyke). In case and deterioration is observed specific mitigation measures shall be undertaken and reports/ data of water quality monitored regularly and maintained shall be submitted to the Regional Office of the Ministry.
- (v) Source of water for meeting the requirement during lean season shall be specified and submitted to the Regional Office of the Ministry **within three** months.
- (vi) No ground water shall be extracted for use in operation of the power plant even in lean season.
- (vii) No water bodies (including natural drainage system) in the area shall be disturbed due to activities associated with the setting up / operation of the power plant.
- (viii) Minimum required environmental flow suggested by the Competent Authority of the State Govt. shall be maintained in the Channel/ Rivers (as applicable) even in lean season.

- (ix) Water requirement shall be restricted to 5000 cum/hr and COC of 5.0 shall be adopted.
- (x) Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg,Cr,As,Pb) and records maintained and submitted to the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.
- (xi) Monitoring surface water quality in the area shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.
- (xii) A well designed rainwater harvesting shall be put in place before commissioning of the plant. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology/design within a period of three months from the date of this clearance and details shall be furnished. The design of rain water harvesting shall comprise of rain water collection from the built up and open area in the plant premises. Action plan and road map for implementation shall be submitted to the Ministry within six months.
- (xiii) Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.
- (xiv) Provision for installation of FGD shall be provided for future use.
- (xv) The project proponent shall undertake measures and ensure that no fugitive fly ash emissions take place at any point of time.
- (xvi) Stack of 275 m height shall be installed and provided with continuous online monitoring equipments for SO_x, NO_x and PM_{2.5} & PM₁₀. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack may also monitored on periodic basis.
- (xvii) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm³.
- (xviii) Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.

- (xix) Utilisation of 100% Fly Ash generated shall be made from 4th year of operation. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.
- (xx) Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.
- (xxi) Ash pond shall be lined with HDP/LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.
- (xxii) Sulphur and ash contents in the imported coal to be used in the project shall not exceed 0.7 % and 10 % respectively at any given time. In case of variation of coal quality at any point of time fresh reference shall be made to the Ministry for suitable amendments to environmental clearance condition wherever necessary.
- (xxiii) Green Belt consisting of 3 tiers of plantations of native species around plant and at least 100 m width shall be raised. Wherever 100 m width is not feasible a 50 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not less than 2500 per ha with survival rate not less than 80 %.
- (xxiv) At least three nearest village shall be adopted and basic amenities like development of roads, drinking water supply, primary health centre, primary school etc shall be developed in co-ordination with the district administration.
- (xxv) The project proponent shall also adequately contribute in the development of the neighbouring villages. Special package with implementation schedule for providing potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.
- (xxvi) CSR scheme shall be identified based on need based assessment in and around the villages within 5.0 km of the site and in constant consultation with the village Panchayat and the District Administration. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Income generating projects consistent with the traditional skills of the people shall be undertaken. Development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. Vocational training programme

for possible self employment and jobs shall be imparted to identify villagers free of cost.

- (xxvii) An amount of Rs 49.10 Crores shall be earmarked as one time capital cost for CSR programme as committed by the project proponent. Subsequently a recurring expenditure of Rs 9.8 Crores per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within six month along with road map for implementation.
- (xxviii) It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time

B. General Conditions:

- (i) The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. Arrangements shall be made that effluents and storm water do not do not get mixed.
- (ii) A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.
- (iii) Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.
- (iv) Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.
- (v) First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
- (vi) Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 85 dBA from source. For people working in the high noise area, requisite personal protective equipment like earplugs/ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non noisy/less noisy areas.

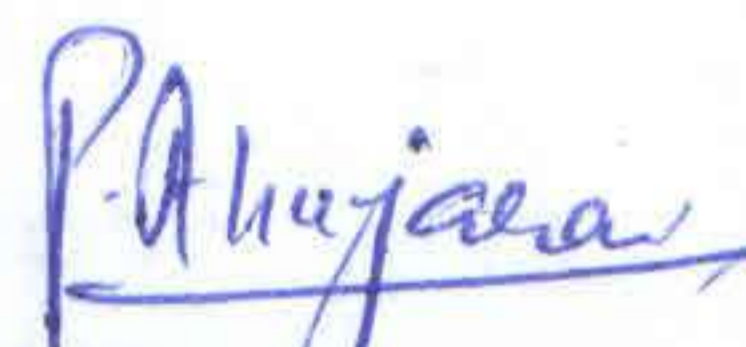
- (vii) Regular monitoring of ambient air ground level concentration of SO₂, NO_x, PM_{2.5} & PM₁₀ and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.
- (viii) Provision shall be made for the housing of construction labour (as applicable) within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- (ix) The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.nic.in>.
- (x) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad / Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.
- (xi) An Environmental Cell comprising of at least one expert in environmental science / engineering, occupational health and social scientist, shall be created at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the head of the organization and he shall be held responsible for implementation of environmental regulations and social impact improvement/mitigation measures.
- (xii) The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM (PM_{2.5} & PM₁₀), SO₂, NO_x (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.

- (xiii) The environment statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.
- (xiv) The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.
- (xv) Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponent will up-load the compliance status in their website and up-date the same from time to time at least six monthly basis. Criteria pollutants levels including NO_x (from stack & ambient air) shall be displayed at the main gate of the power plant.
- (xvi) Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.
- (xvii) The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.
- (xviii) Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Bangalore / CPCB/ SPCB who would be monitoring the compliance of environmental status.

5. The Ministry of Environment and Forests reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry. The Ministry may also impose additional environmental conditions or modify the existing ones, if necessary.

6. The environmental clearance accorded shall be valid for a period of 5 years to start operations by the power plant.
7. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
8. In case of any deviation or alteration in the project proposed including coal transportation system from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.
9. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling) Rules, 1989 and its amendments, the Public Liability Insurance Act, 1991 and its amendments.

Yours faithfully,


(Dr. P.L. Ahujarai)
Scientist 'F'

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary (Environment), Environment Department, Government of Chhattisgarh, Raipur.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, Uttar Pradesh Pollution Control Board, PICUP Bhawan, 3rd Floor, B-Block, Vibhuti Khnad, Gomti Nagar, Lucknow - 226 020.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi- 110032.
6. The Chief Conservator of Forests, Regional Office (WZ), E-5, Kendriya Bhandar, 5th Floor, Sector-H, Aliganj, Lucknow - 226 020.
7. The District Collector, Lalitpur District, Uttar Pradesh.
8. Guard file.
9. Monitoring File.


(Dr. P.L. Ahujarai)
Scientist 'F'

**Government of India
Ministry of Environment & Forests**

Paryavaran Bhawan
CGO Complex, Lodi Road
New Delhi-110 003

Dated: 20th May, 2014

To

M/s Lalitpur Power Generation Company Ltd.
Bajaj Bhawan, B-10, Sector-3,
Jamnalal Bajaj Marg,
Noida- 201 301

Ph: 0120-4045100/555, 2543939/40; Fax; 0120-2543949

Sub: 3x660 MW Imported Coal Based Thermal Power Plant at Villages Mirchwara and Buraugaon, in Mahroni Taluk, in Lalitpur Distt., in Uttar Pradesh by M/s. Lalitpur Power Generation Company Ltd.- reg. amendment in EC for change of source of fuel.

Sir,

This has reference to your letter dated 22.01.2014 requesting for amendment of environmental clearance accorded vide letter of even no. dated 31.03.2011 for the change of source of fuel.

2. The matter was placed before the Expert Appraisal Committee (Thermal Power) in its 11th Meeting held during February 13-14, 2014. In acceptance of the recommendation of the Expert Appraisal Committee (Thermal Power) and in view of the information/clarification furnished by you, with respect to the above mentioned power project, the EC accorded to you vide the above said letter is amended for the change of source of coal from Imported to Domestic for two units aggregating to 1320 MW (Unit 1 (660 MW) and Unit 2 (660 MW)).

3. Further, under Para no.4 of this Ministry's letter of even no. dated 31.03.2011, after the specific condition no. (xxviii), the following conditions shall be added:

(xxix) The source of coal has been changed from imported to domestic coal, resulting in higher generation of fly ash, there by the project proponent should ensure 100% fly ash utilization as per the Notification, 1999 and its amendments thereof. An action plan and its implementation status in compliance to the fly ash utilization shall be submitted to the Regional Office of MoEF on an annual basis.

(xxx) The coal transportation by road shall be through tarpaulin covered trucks for a maximum period of two years and thereafter shall be only through mechanically covered trucks.

- (xxxix) Avenue plantation of 2/3 rows all along the road shall be carried out by the project proponent at its own expenses in consultation with the State Government Authorities.
- (xxxii) Periodic maintenance of the road shall be done by the project proponent at its own expenses and shall also facilitate the traffic control on the road in consultation with the State Government Authorities.
- (xxxiii) Sulphur and ash contents in the domestic coal to be used in the project shall not exceed 0.5 % and 33 % at any given time. In case of variation of coal quality at any point of time, fresh reference shall be made to the Ministry for suitable amendments to environmental clearance condition wherever necessary.
- (xxxiv) A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. Thereafter, mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.
- (xxxv) Harnessing solar power within the premises of the plant particularly at available roof tops shall be undertaken and status of implementation shall be submitted periodically to the Regional Office of the Ministry.
- (xxxvi) Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land.
- (xxxvii) Fly ash shall not be used for agricultural purpose. No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close co-ordination with the State Pollution Control Board.
- (xxxviii) Green belt shall also be developed around the Ash Pond over and above the Green Belt around the plant boundary.
- (xxxix) The project proponent shall formulate a well laid Corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.
4. All other conditions mentioned in this Ministry's letter of even no. dated 31.03.2011 shall remain the same, as applicable.
5. This issues with the approval of the Competent Authority.


(Dr. Saroj)
Director

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
3. The Secretary, Department of Environment, Govt. of Uttar Pradesh.
4. The Chairman, U.P. Pollution Control Board, PICUP Bhawan, 3rd Floor, B-Block, Vibhuti Khand, Gomti Nagar, Lucknow-226010.
5. The Chief Conservator of Forests (C), Ministry of Environment and Forests, Regional Office (Central Region), Kendriya Bhavan, 5th Floor, Sector - H, Aliganj, Lucknow.
6. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
7. The District Collector, District Lalitpur, Govt. of U.P.
8. Guard file.
9. Monitoring file.

(Dr. Saroj)
Director



J-13012/118/2009-IA.II (T)

Government of India

Ministry of Environment, Forest and Climate Change

3rd Floor, Vayu Block,
Indira Paryavaran Bhawan, Jor Bagh Road,
Aliganj, New Delhi-110003

Dated: 30.05.2016

To

M/s. Lalitpur Power Generation Company Ltd.
Bajaj Bhawan, B-10,
Sector-3, Jamnalal Bajaj Marg,
Noida-201301,
Uttar Pradesh.

Tel. No. 0120-4045100/555; Fax: 0120-2543949

Sub: 3x660 MW coal based TPP at Villages Mirchwara & Buraugaon, Taluk Mahroni, District Lalitpur, Uttar Pradesh by M/s. Lalitpur Power Generation Company Ltd.- reg. amendment of EC for change in source of coal for Unit-III and recurring CSR expenditure.

Sir,

This has reference to your online application dated 09.07.2015 and information/documents submitted vide letters dated 13.07.2015, 17.07.2015 and 11.08.2015 on the above subject. It is inter-alia noted that EC for 3 x 660 MW (1,980 MW) was accorded on 31.03.2011 on imported coal (an interim arrangement in the absence of linkage for indigenous coal). An amendment in EC for change in source of coal to indigenous coal for 2 Units was accorded on 20.05.2014.

2. The matter was placed before the Expert Appraisal Committee (Thermal Power) in its 40th Meeting held during 23rd July 2015. In acceptance of the recommendation of the Expert Appraisal Committee (Thermal Power) and in view of the information/clarification furnished by you, with respect to the above mentioned power project, the Ministry accords *amendment in EC for change in source of coal for Unit-III from Imported to Domestic subject to stipulation of the following additional conditions.*

- (i) *The Sulphur and ash content of coal shall not exceed 0.5 % and 34 % respectively. In case of variation of quality at any point of time, fresh reference shall be made to the Ministry for suitable amendments to the environmental clearance.*
- (ii) *The transportation of coal shall be by Rail to the extent feasible. If road transportation of coal from Pit-Head to Railway Siding is unavoidable, the same shall be through mechanically covered trucks to the extent feasible, else through tarpaulin covered trucks.*
- (iii) *Avenue plantation of 2/3 rows all along the road shall be carried out by the project proponent at its own expenses in consultation with the State Government.*
- (iv) *Periodic maintenance of the road shall be done by the project proponent at its own expenses and shall also facilitate the traffic control on the road in consultation with the State Government Authorities.*

3. Further, the specific condition no. (xxvii) of the EC shall be amended as, "An amount of Rs.49.10 crores shall be earmarked as one time capital cost for CSR programme as committed by the project proponent. Subsequently, the recurring

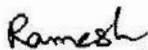
Ramesh

expenditure shall be as per the CSR policy of GoI. Details of the activities to be undertaken in this regard shall be submitted along with the six monthly compliance reports*.

4. All other conditions mentioned in this Ministry's letters of even no. dated 31.03.2011 and its amendment dated 20.05.2014 shall remain the same, as applicable.

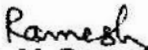
5. This issues with the approval of the Competent Authority.

Yours faithfully,


(Dr. M. Ramesh)
Scientist 'D'

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
3. The Secretary, Environment and Forests Department, Government of Uttar Pradesh.
4. The Chairman, U.P. Pollution Control Board, PICUP Bhawan, 3rd Floor, B-Block, Vibhuti Khand, Gomti Nagar, Lucknow-226010.
5. The Chief Conservator of Forests (C), Ministry of Environment and Forests, Regional Office (Central Region), Kendriya Bhavan, 5th Floor, Sector - H, Aliganj, Lucknow.
6. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
7. The District Collector, District Lalitpur, Govt. of U.P.
8. Guard file/Monitoring file.
9. Website of MoEF&CC


(Dr. M. Ramesh)
Scientist 'D'



A Maharatna Company



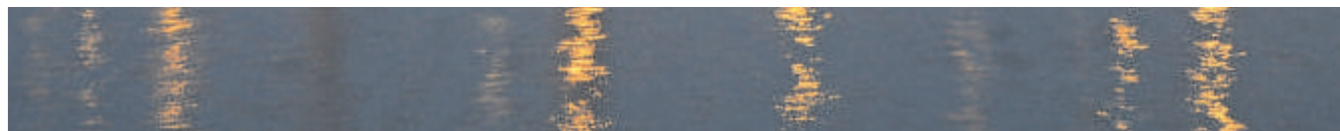
A Maharatna Company

NTPC Limited

(A Govt. of India Enterprise)

Regd. Office: NTPC Bhawan, SCOPE Complex, 7, Institutional Area,
Lodhi Road, New Delhi - 110 003. Website: www.ntpc.co.in

ASH POLICY 2015





M E S S A G E



India is one of the fastest growing economies having third largest coal reserves in the world, close to 300 billion tons. Hence coal is and will remain our main source for primary energy.

The high ash content in coal to the tune of 35-40% coupled with limited capacity of coal washeries at 131.24MMT poses grave challenge of utilizing millions of tons of ash generated. It is, therefore, important for NTPC to manage its inevitable byproduct i.e. ash, while planning to scale up its generation capacity so as to reach 128GW by 2032. Despite our various efforts, Ash Disposal/Utilization continues to remain key concern amongst all stakeholders.

NTPC being the trend setter, has come out with innovative ideas for meeting the challenge of Ash Utilization head-on by resorting to noble concepts in ash utilisation. One important area explored is that of mine filling. Such mines filled up with ash and other earth-toppings are capable of greenery and cultivation, which has been demonstrated by NTPC at its various eco-parks that have been developed on ash. Filled up leveled mines can be returned to its original owners or their descendents, thus removing the major cause of discontent as people feel deprived of their ancestral land at the time of land acquisition. This we believe might bring about revolutionary changes in the dreaded land acquisition process. Thus, reducing opportunity cost of land owners and creating win-win situation for all stake holders.

The '**Ash Policy – 2015**', is a vision document, a green initiative, which provides the ash utilization issue in an integral way from generation to end product. It provides policy framework for ash utilization in the gamut of activities. This document we believe will go a long way and add vistas of opportunities in meeting Ash utilization and making our future cleaner & Greener.

DR. ARUP ROY CHOUDHURY
(Chairman & Managing Director)



F O R E W O R D



NTPC has produced about 57 million tons of Ash last year. Production of ash is inevitable in thermal power plants. Huge quantities of ash being produced by power plants will be an environmental hazard if not handled properly. At the same time, ash has huge potential for productive utilisation like manufacturing of PPC cement, ash bricks, light weight aggregate and artificial sand, and increasing productivity of agriculture land, in addition to back fill in mines, reclamation of low land areas, etc. These areas of ash utilisation can give huge revenue realisation, besides addressing the environmental problems associated with ash disposal.

Manufacturing of clay bricks is creating menace by causing depletion of topsoil and illicit cutting of trees. Moreover, it has been well established that ash bricks are not only stronger but also economical than clay bricks. Therefore manufacturing of ash bricks is the only solution to address this problem. By supplying quality ash bricks at cheaper rates and raising awareness in public about better properties of ash bricks, we can develop wide spread public acceptance for ash bricks.

NTPC, being the industry leader, has to pioneer the better practices for ash utilisation. As a green initiative, NTPC has to venture in a large scale into the production of ash based products.

Ash Policy 2015 aims at 100% utilisation of ash for productive usage along with fulfilling social and environmental obligations as a green initiative and attempting to realise its revenue potential.

I am sure that this policy will go a long way in protecting the nature by judicious ash utilization, and giving a better environment to the future generations.

M.R.P. Rao, IFS
(Chief Vigilance Officer)

March 10, 2015



M E S S A G E



In today's scenario, Ash management is a multi-facet subject. On one side arranging land for ash dyke and its subsequent maintenance based on stringent environmental norms is a big challenge. On the other side use of fly ash as a resource material, in various areas like manufacturing of cement, concrete and other building products, has emerged as a big commercial opportunity. As a result, Fly ash earlier considered to be "industrial waste" has now acquired the status of "useful and saleable commodity".

NTPC (including its JV's) has an Installed coal based capacity of 37,904 MW. Further 22,685 MW and 9,810 MW coal based capacity is under construction and bidding stage respectively.

Effective and sustainable utilization of fly ash is the prime objective of NTPC. To introduce right momentum for fly ash utilization in large quantities, Policy Guidelines for Utilization of Ash was first issued in the year 1993, which were revised / amended from time to time considering the government / regulatory stipulation, changed scenario and enhancing ash utilization. Now, need was felt to focus on fly ash and ash based products business for better revenue realization. The revenue so generated will help for promotional, infrastructure development and facilitation activities to maximize ash utilization in line with MoEF notification. To achieve the above objective, new Policy Guidelines on Ash and Ash based products business have been framed in consultation with stake holders and are being issued as Revision-III for implementation by all NTPC stations.

In the revised policy guidelines provisions for new initiatives such as setting up of large scale automatic fly ash bricks plants, setting up of cement plant by own/ JV, setting up of Light Weight Aggregate plant, use of bottom ash as replacement of sand in ash dyke construction / raising etc have been incorporated for sustainable ash utilization at NTPC stations. HOP's/ RED's have been empowered and made responsible for taking up these activities for maximizing ash utilization at station.

I am sure that the revised guidelines will prove to be important milestone for balancing all the objectives of ash management and will help stations to enhance sustainable ash utilization in line with MoEF gazette notification.

Kaushal Kishore Sharma
Director (Operations)

March 10, 2015



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Our VISION

To be the world's largest and best power producer, powering India's Growth.

Our MISSION

Develop and provide reliable power, related products and services at competitive prices, integrating multiple energy sources with innovative and eco-friendly technologies and contribute to society.

Core Values BE COMMITTED

B	Business Ethics
E	Environmentally & Economically Sustainable
C	Customer Focus
O	Organisational & Professional Pride
M	Mutual Respect & Trust
M	Motivating Self & others
I	Innovation & Speed
T	Total Quality for Excellence
T	Transparent & Respected Organisation
E	Enterprising
D	Devoted

POLICY GUIDELINES ON UTILIZATION OF ASH

1.0 Objective

- To consider ash utilization as an integral process of power generation and make all out efforts so as to maximize ash utilization towards 100% on sustainable basis.
- To facilitate convenient collection of ash for appropriate utilization.
- To promote studies aimed at finding out and evolving innovative methods of ash utilization.
- Increasing fly ash /bottom ash/ pond ash/mound ash utilization at NTPC Power stations by improving ash business process.
- To identify the Potential areas of ash utilisation in the vicinity.
- To facilitate utilization of ash through departmental actions/JVs or other actions by
 - (i) Manufacture / increasing production of fly ash bricks / blocks /tiles/ Light weight aggregate etc for utilization and their marketing for sale,
 - (ii) Equity participation with cement manufacturer/own for setting up fly ash based cement plants and utilizing cement in own construction / upkeep works and also to supply in the market for sale.
- Better revenue realization through fly ash and ash based products business and utilization of this revenue for promotional, infrastructure development and facilitation activities for increasing ash utilization at NTPC station till 100 % ash utilization is achieved in each station as per MoEF Notification 2009.
- To bring about broad based Public awareness and acceptance for ash and ash based products by wide publicity of merits of ash and ash based products and demerits/environment hazards of clay/bricks.

2.0 Terminology

Fly Ash: Ash Extracted from flue gases by any suitable process.

Bottom Ash: Ash collected separately at the bottom of the boiler furnace.

Pond Ash: Fly ash or bottom ash or both mixed in any proportion and conveyed in slurry / paste form and deposited in pond / lagoon.

Mound Ash: Fly ash or bottom ash or both mixed in any proportion and conveyed in dry form and deposited dry.

Cenospheres: Cenosphere is a lightweight, inert, hollow sphere comprised largely of silica and alumina and filled with air and/or gases, float in the lagoons where fly ash is discharged. Cenospheres, lighter than water, are skimmed off of ash ponds, dried and sold for use.

Station/Project/Plant/Site: Any NTPC Unit generating and handling ash.

Adjusted Quantity: The quantity of fly ash which the NTPC is not able to provide to the



buyers due to any reasons including forced outage of the plant, congestion, rain etc. the NTPC accordingly shall adjust the awarded quantity downwardly of each buyer (to be used for the purpose of compensation/ termination).

3.0 Scope and Coverage

3.1 Policy would cover all the existing coal based power stations/units of NTPC and also the future coal based power stations/units.

3.2 The Scope of the policy consists of

- a) Making available dry fly ash with suitable loading system including mechanical loading in railway wagon/ tankers/ bulkers/bags for issue to users/ industries/traders etc.
- b) Marketing and sale of ash and ash based products to domestic users and export to international markets.
- c) Production, transportation and marketing of ash based products like cement / ash bricks/ blocks/ tiles etc.
- d) Various types of facilities, incentives, and encouragement to be provided to prospective entrepreneurs/industry for production and marketing of cement/light weight aggregate/ light weight sand /ash bricks/blocks/tiles / concrete etc.
- e) Utilization of fly ash, bottom ash, pond ash and ash based products within NTPC for in-house construction /upkeep activities.
- f) A vigorous advertising campaign to build up awareness on the beneficial utilization of ash such as use of fly ash in cement/light weight aggregate/light weight sand / mortar, use of ash bricks/blocks/tiles, use of bottom ash as substitute of sand etc.
- g) Utilization of bottom ash & pond ash in the nearby areas of NTPC Stations.
- h) Enhanced revenue realization from harvesting, collection and sale of cenosphere through ash pond auction.
- i) Carrying out/promoting studies and R&D activities for developing innovative methods for new areas of ash utilization and for development of better & cost effective ash based products.
- j) Administrative and financial aspects including budget, delegation of power etc.

4.0 Ash Collection, Storage and Weighing system

- 4.1 NTPC envisages provision of full fly ash collection in dry form along with suitable storage system with facility of separation of fine fly ash & storage of fine ash and coarse fly ash in separate silos; and provision for loading of fly ash into railway wagons/ tankers/ bulkers/bags from silos.
- 4.2 NTPC shall install their own DAES system and shall commission the DAES system along with the commissioning of the main plant.
- 4.3 Provision shall be made for weighing of fly ash loaded into tankers/ railway wagons/ bulkers etc under the silo wherever feasible.
- 4.4 NTPC shall develop standard layout for ash evacuation system for all future thermal



power plants indicating facilities near silo such as access road for easy movement of bulker/larger capacity truck, including railway line for wagon loading, compressed air for cleaning, service water, staff rooms, weighing facility, type of weigh bridge and number of weigh bridge to be installed for weighing empty and filled bulkers/ tankers/wagons so that in a minimum possible time the ash filled truck /bulker/tanker/wagons etc can do exit from plant.

- 4.5 At Existing Thermal Power Plants, to facilitate increased and easy off take of fly ash, rail loading/ railway siding facility, widening/ strengthening of road, new approach road, modification in silo for pneumatic loading of fly ash in railway wagons/ jumbo bags etc shall be developed wherever feasible. This shall be financed from Ash Fund.
- 4.6 For utilization of bottom ash, facility of separate collection and storage should be created at all existing stations. All future power projects should have the facility for separate bottom ash collection and storage.
- 4.7 The NTPC envisages the requirement of efforts for issue of pond ash to users for construction of roads & embankments, structural fills etc. on free of cost basis in line with MoEF notification.

5.0 Development of Ash User Data Base

To develop ash user database, each station should issue notice in regional newspapers inviting all ash users like cement manufacturer, ash brick manufacturer, other ash based entrepreneurs, traders and other potential ash users to register with NTPC with a proforma having details of their area of activity, capacity, quantity of ash required, location details, email ID, telephone number, address and other details.

These ash user data base shall be utilised for enhanced marketing and sale i.e for enhanced utilisation of ash and ash based products.

Further, online web in NTPC station/ units should also be developed for periodic updation of ash user database. The updation and maintenance of data base shall be done by Head of Ash Utilisation Division (AUD) at station/ region/CC.

6.0 Sale of Ash:

- 6.1 Vigorous marketing/ advertisement campaign should be started by all NTPC stations in local news papers, magazines, cinema halls, schools, public places, signboard, notices etc at various places in vernacular language to build up awareness on the beneficial utilization of ash. Emphasis should be given highlighting merits of Ash bricks viz-a-viz demerits of clay bricks.

Stations in association with RHQ should also organize ash users meet for detailed discussions on the issues / constraints in utilization of ash and to understand their suggestions/ difficulties for enhancing utilization of ash. In this meet, representative from all nearby cement industries, asbestos industries, RMC plants, light weight aggregate manufacturers, light weight sand units, ash bricks/ blocks/ tiles manufacturers, traders, existing users etc shall be invited.



- 6.2 For sale of fly ash, demand of Cement manufacturers, Ready Mix Concrete (RMC) units, light weight aggregate, other industries etc. shall be worked out. For this a team (marketing team) consisting members from AU, C&M and Finance department of stations shall be constituted by Head of Project at each project/ Station. The coordinator of this team shall be member of AUD. This team will visit to cement plants/ RMC units/ fly ash based products units / light weight aggregate units etc located within 200-250 km. by road & longer distance through rail of the power plant to assess demand for fly ash in these areas and the available sources of fly ash (including NTPC plant) which can cater their demand. Based on this demand, potential of fly ash which can be sold to cement, RMC and other ash based industries should be worked out. If required, a consultant can also be appointed to get the realistic picture of the market for the ash and ash based products along with constraints and solutions for preparing a practically, relevant action plan for the stations. For better results, the payment to the consultants should be linked to his / their performance i.e increase in percentage of ash utilization / increase in revenue realization from the present condition etc. The payment of consultant can be of two parts i.e first part is base part and second part, the major part should be linked to performance. With this approach, the consultant is expected to give practically viable solution for increased ash utilization alongwith the revenue realization.
- 6.3 Based on the market survey for demand for fly ash etc. and total dry fly ash availability at fly ash silo (keeping 20% of total fly ash produced or as per MOEF gazette notification issued from time to time as reserve quantity for bricks/ blocks tiles) the fly ash sale to cement industries, RMC Industries and other ash based products units etc. should be worked out.
- 6.4 The price band for book building process will be worked out by the same committee constituted at site consisting of members from AU, C&M & Finance considering the market price for fly ash in the vicinity including fly ash sale price in the last contract of the station, if available, transportation/ landed cost of fly ash 'to end users' for maximizing the fly ash utilization.
- 6.5 Sale of fly ash should be for the total demand assessed by the team/ quantity of dry available at silo (which ever is less) through book building process so as to have better price realization. By this process best price for fly ash will be discovered. The broad specification/ guidelines for book building process are given at **Annexure-A**. For sale of fly ash, E-tendering through book building process should be adopted. If required, E-tendering shall either be done by site C&M Department of each station/ project through SRM module of SAP-ERP or by engaging external agencies like MSTC /M-Junction etc. In either case, site C&M shall be the co-ordinator for this tendering process.
- 6.6 After successful bid/ sale of fly ash quantity to end users, traders, etc. if the balance fly ash quantity remain available at silo (after above process and reserving 20% fly ash for brick/ blocks and tiles manufacturers or as per MOEF gazette notification issued to time to time), balance available Fly ash quantity may be issued to any other interested agencies on discovered/prevaling price (after inclusion of price adjustment, if applicable, on the discovered price in subsequent years) on first come first serve basis with display/ notices at Station along with information on NTPC web (*Tender*) site on regular basis. AUD shall maintain a register of such agencies who have been approaching for purchasing fly ash. Proposals shall be initiated by site AUD for these cases with specific name of the vendors



- to whom the sale order shall be issued. The same shall be reviewed by a committee and put up to HOP/ HOS for approval for issue of sale order.
- 6.7 After taking above steps (6.1-6.6), the contract period for sale of fly ash on discovered price may be kept between 12-36 months with a price revision clause based on cement price index after every 12 months. These contract agreements should have well defined termination clause, if the actual lifting of fly ash quantity goes below 80% of awarded/adjusted quantity in any consecutive 3 months on cumulative basis.
- Price Revision Clause shall be defined in General Terms and Conditions (to be developed by CC-AMG)
- In case of termination of any contract due to any reason including poor performance, for immediate utilization of ash, Clause 6.6 shall be applicable till finalisation of new contract.
- 6.8 If after e-tender, the fly ash quantity shown in the tender, is not tied up with the end users/ agencies/ traders/ cement companies etc. station will make another attempt for e-tender for issue of fly ash and station may continue to honour the existing contracts/ agreements for issue of fly ash. In case the projects/stations do not have the contracts/agreements for sale of ash, such Stations may continue issue of fly ash on "first come first serve basis" without any charges i.e on free of cost basis till the contracts for sale of fly ash are awarded. The process may be repeated in 6-12 month interval. However, AUD site shall maintain a register of such agencies who have been approaching for issue of fly ash on free of cost basis and the quantity of ash issued to them.
- 6.9 Stations where presently there is a large demand for fly ash such as Dadri, Badarpur, Farakka etc. the practice of sale of fly ash through book building process and e-tender will be followed without conducting of any fresh market survey. The contract period for sale of fly ash on discovered price may be kept between 12-36 months with a price revision clause based on cement price index after every 12 months. These contract agreements should have well defined termination clause, if the actual lifting of fly ash quantity goes below 80% of awarded/adjusted quantity in any consecutive 3 months on cumulative basis.
- Price Revision Clause shall be defined in General Terms and Conditions (to be developed by AM-CC and CC-Contracts)
- In case of termination of any contract due to any reason including poor performance, for immediate utilization of ash, Clause 6.6 shall be applicable till finalisation of new contract.
- The unlifted/balance available fly ash quantity, if any, may be issued to any other interested agencies on prevailing price on first come first serve basis with display/ notices at Station along with information on NTPC web site on regular basis following process mentioned at clause 6.6.
- If the lifting of fly ash is reduced considerably (below 60% of available quantity at fly ash silo/ tied up quantity) due to increased availability of fly ash in the vicinity/ any other reason, station may assess the demand as per the above procedure mentioned at clause 6.1 -6.7 and invite fresh bid through book building process for revision of price to enhance fly ash utilization.
- 6.10 After taking above steps (6.1-6.7), Station may sign MoU/Agreement with end users/ cement industries, Light weight aggregate / sand industries, RMC plants units etc for



issue of fly ash on long term basis (up to 10 years period) with a condition that that fly ash will be issued on prevailing price + price revision based on cement price index after every year or on discovered price at that station, as and when applicable, along with price revision on yearly basis; and with well defined termination clause, if the actual lifting of fly ash quantity goes below 80% of awarded/adjusted quantity in any consecutive 3 months on cumulative basis. Such MoU should be vetted from the Ash Management, CC and legal department of Corporate Centre. (Format for MoU/Agreement shall be developed by Ash Management-CC). On approval of competent authority, MoU shall be signed between the Head of station and the Agency.

- 6.11 If agency approaches to station specially for fine fly ash, station may tie-up with interested users/ agencies through e-tender process based on highest quoted price (but not less than the discovered price for normal fly ash) and accordingly arrangement for collection of fine fly ash (through PLC system) in separate silo should be done for issue on price wherever feasible.

6.12 Export of Fly Ash

Station may also explore possibility for export of fly ash and ash based products on price through transparent method of EOI and e-tendering on Ex-works basis.

6.13 Existing Commitments/ Consents/ Agreements

Existing commitment made/consents/agreements entered into by NVVN with various industries, suppliers, users etc. shall be continued to be honoured by respective NTPC stations and these commitments shall be administered by NTPC stations till end of such contracts on the same terms and conditions stipulated in the contract.

Station where agency has set up their own DAES system, Agreement/ contract entered with such agency(s) for issue of fly ash may be extended on prevailing market/discovered price of fly ash considering O&M expenditure for mutually agreed period with the approval of HOP.

All these agreements should be reviewed for propriety in the cases where the lifting of ash by the agency is lower than the quantity stipulated in the agreement for the period, the termination clause should be invoked and that quantity should be allotted to new agency after following the due tender process.

7.0 Issue of fly ash to brick/ blocks & tiles manufacturers

To comply with the stipulations of gazette notification dated 03-11-2009 issued by Ministry of Environment and Forests, at least 20% of dry (ESP) fly ash or any quantity as per gazette issued time to time, shall be made available **free of charge** to units manufacturing fly ash or clay-fly ash bricks, blocks and tiles on a priority basis over other users. If the demand from such agencies falls short of 20% of quantity, such balance quantity of dry fly ash shall be tied up with the end users/ agencies/ traders/ cement companies/ light weight aggregate industries/ light weight sand industries etc on discovered price following process mentioned at clause 6.6 up to 12 months period and it should be reviewed based on the subsequent demand of fly ash by Brick, block, tiles manufacture on regular basis or as and when required.



Before free issue of fly ash, the credentials of the agency should be checked to ensure that agency is actually the ash brick/block / tile manufacturer and the ash is taken for bricks, block and tiles manufacturing only and not for sale as a trader.

The dry fly ash issued "free of cost" should be used only for manufacture of fly ash bricks, clay-fly ash bricks, blocks and tiles and no dry fly ash should be issued to defaulter units. The fly ash brick manufacturer, to whom fly ash has been proposed to be issued on free of cost basis should submit the following documents for verification to Ash Utilization Group of Station before issuance of fly ash to them :

- SSI registration (Part II)/ License to Work as a Factory.
- VAT Registration with Commercial Tax Dept. if applicable.
- Excise Duty Registration as applicable/ documentary evidence for non applicability.
- Pollution Clearance Certificate/ consent order from SPCB.
- Latest power bills/ DG set energy meter reading (Quarterly basis).
- Ash End Use Certificate -on quarterly basis. (Format 1 to 4 enclosed -Annexure B)

In case, the dry fly ash issued on "free of cost basis" to the manufacturer of ash bricks/blocks/tiles have not been utilised for these purposes but sold in the market, permission given for lifting of fly ash to such agency should be terminated and such agency shall be banned for doing business dealing with NTPC .

8.0 Manufacture and Sale of ash bricks/ blocks/ tiles:

- 8.1 In order to promote use of fly ash bricks/ blocks/ tiles demand survey for fly ash based bricks and other products within 100 km of power plant will also be carried out by Marketing team constituted by HOP/HOS.
- 8.2 **Green Initiative:** Every station shall set up automatic fly ash brick manufacturing plant with state of art technology of capacity 1-2 lac brick per day financed from Ash Fund for supply in the market on price to make quality fly ash bricks for use by construction agencies, builders, individuals etc. This shall help to reduce the demand of clay bricks in the vicinity and thus degradation of soils used for manufacture of clay bricks as well as pollution created by brick kilns.
- 8.3 If station already has brick plant of sufficient production capacity to cater to the need of fly ash bricks in the market, station may plan for increased manufacturing & sale of fly ash brick in the vicinity of power plant , within 100 km. distance.
- 8.4 Since marketing of fly ash brick in the vicinity will involve number of activities such as procurement of raw materials on regular basis, issue of fly ash bricks to suppliers, maintenance of brick plant, accounting, applicable tax payment etc., a separate group having sufficient manpower will be deputed to look after ash based product business activity.
- 8.5 Price of fly ash bricks/ other products will be decided by the committee having members from Finance, Contract and Ash Management group of the station. Station shall get the sales tax number, excise duty etc. and other requirements of State/ local authorities so as to ensure smooth marketing of fly ash bricks/ other ash based products.



- 8.6 Station may appoint agents/ dealers for sale of fly ash bricks/ ash based products through EOI and e-tendering process for which modalities will be finalized by the station with the approval of Head of the Project. The modalities may include issue of finished products on fixed price basis (worked by the committee based on the proposal by site AUD as indicated at clause – 8.5 above) with incentive scheme depending upon the business and freedom to agent/ dealer to sell products at their own price. The price may vary depending on the input cost and demand/ supply condition in the market. The running of brick plant along with marketing of the produce can be outsourced with proper guarantee provisions to capable agency after following due tendering process.
- 8.7 Station may also explore possibility of forming JVs/ leasing of brick plants to interested brick manufacturer/ agency for optimum capacity utilization. The terms & conditions and modalities will be worked out and finalized separately.
- 8.8 Station may also explore possibility for setting up large capacity automatic ash brick plant with state of art technology, steam curing system on JV on the basis of techno-economic analysis. The JV partner should be selected through transparent process. Modalities for formation of JV will be worked out separately. In JV route, for better results, providing land, water, electricity, steam and ash by NTPC may be considered after incorporating all necessary provisions and terms & conditions safeguarding the interest of NTPC and approval of CMD, NTPC. It will be prudent to have 51% of stake for NTPC in such JV.
- 8.9 In the existing stations, fly ash brick plants shall be set up from ash fund. In green field projects, cost of such fly ash brick plant set up by project, shall be integrated with project cost.

9.0 Setting up of Cement plant through its own/ JVs.

- 9.1 In order to increase fly ash utilization at low demand station where the demand of ash is less than supply or in a area of station where demand of cement is high, Station may plan to set up cement grinding unit financed from Ash fund either by own / under Joint Venture (JV) with cement company on the basis of techno-economic analysis.
- 9.2 Station may take up feasibility study for setting up of cement plant either by own/ under JVs through EOI/a reputed consultant of this field.
- 9.3 Based on the recommendation of the consultant on their report, quantity of fly ash utilization and availability of land for setting up of cement plant, station may take up the proposal for approval of CMD, NTPC.
- 9.4 Selection of company for participation in Joint Venture should be done through transparent system such as EOI /E-tender etc. Modalities for formation JV will be worked out separately.
- 9.5 Station may also explore possibility of signing MoU / agreement with cement companies for issue of fly ash to cement industries, on long term basis (up to 10 years period) with a condition that that fly ash will be issued on prevailing price + price revision based on cement price index after every year or on discovered price at that station, as and when applicable, along with price revision on yearly basis; and with well defined termination clause, if the actual lifting of fly ash quantity goes below 80% of



- awarded/adjusted quantity in any consecutive 3 months on cumulative basis.
- Such MoU/ agreement should be vetted from the AM-CC and legal department of Corporate Centre. (Format for MoU/ Agreement shall be developed by AM-CC).
- On approval of competent authority, MoU shall be signed between the Head of Station and the Agency.
- Price Revision Clause shall be defined in General Terms and Conditions (to be developed by AM-CC and CC-Contracts).
- 9.6 The running of cement plant along with the marketing of the produce can be outsourced with proper guarantee provisions to capable agency after following due tendering process.
- 9.7 Price discount of 10 % may be offered to discovered price/prevailing price to the entrepreneur for setting up of cement industries having assured off-take of ash from NTPC station for long period (10 year period) from the date of lifting ash from NTPC station.

10.0 Manufacture of Light Weight Aggregates (LWA)

- 10.1 Ash based light weight aggregate is a substitute for stone aggregates and if produced in large scale, it can replace the stone and gravel which are getting ever scarce due to restriction in mining on account of environmental issues. Pond ash is suitable material for manufacture of LWA and provides opportunity for utilization of pond ash.
- 10.2 RHQ/ Station may plan to set up Light Weight Aggregate plant of about 1-2 Lac m³ / per year capacity financed from Ash Fund at one of the station of the region either by own / under Joint Venture (JV) with reputed company/ ash based products manufacturers on the basis of techno-economic analysis.
- 10.3 Selection of company for participation in Joint Venture should be done through transparent system such as EOI /E-tender etc. Modalities for formation JV will be worked out separately.
- 10.4 The running of LWA plant along with the marketing of the produce can be outsourced with proper guarantee provisions to capable agency after following due tendering process.

11.0 Efforts for new area of ash utilization

11.1 Fly ash based light weight sand

At many places mining of sand is being stopped to protect the environment. Due to this, availability of natural sand is getting reduced. Research carried out indicates that fly ash can be utilized for manufacture of artificial light weight sand. Pilot-cum demonstration plant shall be set up by station for manufacture of such artificial sand.

11.2 Fly ash based-Geo-polymer Concrete

Geo-polymer concrete an innovative material that is characterized by long chains of net works of inorganic molecules. Geo-polymer is potential alternative to substitute cement being used in manufacture of concrete. Use of fly ash for manufacture of geo-polymer



concrete has been successfully demonstrated by some of the research institutes.

To develop/ demonstrate this innovation technology, pilot / demonstration project shall be carried out by station for initially construction of concrete road in association with reputed research institute working in this field.

11.3 These activities shall be financed from ash fund.

12.0 Facilities and Incentives

12.1 Concerted efforts will be made by station/ region and Corporate Ash Management Group to propagate NTPC's intention and desire among the prospective entrepreneurs with a view to motivating them to come forward with specific scheme aimed at ash utilization.

12.2 Wherever considered necessary and feasible, appropriate technical/ managerial assistance and marketing information would be provided by NTPC to entrepreneurs to identify such schemes.

12.3 If required, NTPC may render necessary help and assistance to entrepreneurs for facilitating procurement of land, supply of electricity, water, etc from concerned authorities.

12.4 Wherever feasible, NTPC may provide access to railway siding on chargeable basis for movement of railway wagons for fly ash loading at NTPC's silos and transportation. Railway siding facility may be extended to the user /entrepreneurs in a limited manner and wherever it is so extended the plants shall ensure that the requirements of the NTPC units always have precedence and suitable provision to this effect shall be made in the Agreements/ contract.

12.5 Infrastructure development

12.5.1 Construction of new roads (including bridges / culverts), approach roads adjoining of fly ash storage silos / ash dykes, paving of areas adjoining weigh bridge, brick plant, railway siding, fly ash silo area etc. shall be taken up to facilitate fly ash utilization.

12.5.2 Repair / upgrading / strengthening / widening of existing road, approach roads adjoining of fly ash silos, ash dyke or other roads shall be taken up to facilitate ash utilization.

12.5.3 Wherever feasible, laying of railway track under the ash silo and in-motion/ static weighing facility shall be carried out so that fly ash can be loaded directly into railway wagon for bulk transportation of ash.

12.5.4 These works shall be financed from Ash Fund.

12.6 Other activity

12.6.1 Any other activity in connection with improvement of ash utilization/ directives of regulatory authority/ State Government leading to ash utilization and environment improvement may be taken up with specific approval of CMD on case to case basis through Ash Fund.

12.6.2 Ash dyke which has been filled up with ash to its capacity and declared abandoned, area of such ash dyke may be used for Installation of solar panels for Solar Power Plant.

12.6.3 In order to take up research activities for enhancing ash utilization and develop new areas of ash utilization, Research and Marketing centre/ institute shall be set up at NTPC- Korba from Ash Fund.



12.7 Road Embankment Construction

In order to increase ash utilization and achieve ash utilization targets set up by MoEF/ regulatory authority, station may consider for sharing the transportation cost of pond ash for NHAI/ Govt. projects on directive of regulatory authority. Such activity shall be financed from Ash fund.

12.8 Ash Processing Unit

12.8.1 Wherever essential, ash processing units such as fly ash bagging plant, hydra-bin for bottom ash separation etc shall be set up by NTPC on its own and financed from Ash Fund.

12.8.2 Station may set up bagging plant to facilitate off take of fly ash in 50 Kg bags to interested users.

12.8.3 Station may outsource the operation of bagging plant of bagged fly ash to a reputed agency by adopting transparent tender process.

12.8.4 Station may also outsource the comprehensive maintenance through OEM initially for additional two years on newly procured bagging plant.

12.8.5 These activities shall be financed from Ash Fund.

13.0 Auction of ash pond for collection and sale of Cenospheres

Revised guidelines issued by ED(OS) vide ref AM-II/CC/Cenospheres dated 12.11.2014 (Annexure-C) for auction of ash pond for collection and sale of Cenospheres should be followed by all NTPC stations.

14.0 Activities at station for Utilization of Ash

To encourage, promote and utilize fly ash/ bottom ash and pond ash/mound ash following activities shall be undertaken by stations/ regions:

14.1 Use of fly ash in cement concrete, plastering, mortar works (as a part replacement of Ordinary Portland cement) shall be undertaken by NTPC projects/ station (subject to meeting all technical requirements and provisions in BIS code). For this, necessary provision should be made in specifications/ drawings, tender documents and Bill of Quantities.

14.2 Bottom ash as a replacement/substitute of sand as filter material in ash dyke

Bottom ash shall be used as a replacement of sand (filter material) in ash dyke construction works as per the system circular dated 13-11-2014 issued by ED(OS)-Annexure-D.

14.3 Station should explore possibility for use of bottom ash as replacement of sand in cement concrete/ mortar and fly ash brick/ blocks/ tiles manufacturing subject to meeting all technical requirement and provisions in BIS Code.

14.4 In line with provisions of gazette notification dated 03-11-2009, fly ash based products such as Fly ash brick/ tile/ block shall be exclusively used in plant as well as township



construction works. For this, necessary provisions should be made in tender document, specifications and bill of quantities.

14.5 Low lying area development

In order to increase ash utilization at NTPC stations and make use of Ash Sale Fund created by sale of fly ash at NTPC stations, Low lying area development inside of NTPC premises and outside of NTPC within 50 km. of power plant may be taken up using ash and financed from Ash Sale Fund in consultation with concerned individuals/agencies and with **consent of regulatory authorities/ District authority/Municipal Corporation etc.** The guidelines for taking up low lying area development using ash are given vide circular dated 11-09-2013. (Annexure-E)

NTPC Station shall contact higher officials of Municipal corporation/District Magistrate for identification of location/place filling up of low lying area with pond ash/mound ash.

14.6 Raising of existing dykes at NTPC's stations shall be done with the help of ash.

14.7 All Embankments and Road Constructions in NTPC power stations shall be done with the use of ash, wherever feasible.

14.8 Mine filling/stowing

All efforts shall be made by NTPC at Corporate level as well as at Site levels to get the abandoned coal mines identified at nearby coal mines for back filling the same with ash. Specific pilot/ experimental projects in the mines identified by Coal Companies, in this regard, shall also be taken up by various Sites to demonstrate to coal companies, the successful use of ash for mine filling. All required studies shall be done by engaging reputed agencies. This activity will be financed from Ash Fund, if available, otherwise can be financed from O&M cost.

14.9 Wherever there are existing burnt clay brick making units near/ around power stations necessary techno-managerial assistance shall be extended by NTPC station authorities to promote use of ash in making of ash bricks.

14.10 All power stations shall be equipped with fly ash testing equipments at FQA laboratories and test the chemical and physical properties of ash on regular basis as per guidelines issued by Corporate Ash Utilization Division.

14.11 Use of **Fly ash based Portland Pozzolana Cement** shall be made by NTPC in all its construction activities (except in such works which have been identified as "CRITICAL" by Engg. Division vide circular dt. 26.10.93 (Annexure-F).

14.12 Pilot-cum-demonstration units or projects shall be set up by NTPC at identified locations for demonstration of use of ash in specific areas and/ or for demonstrating/ improving new/ existing technologies. Such projects may either be co-sponsored with some recognised institutes/ organizations or self sponsored by NTPC.

Similarly, research, studies on specific areas of ash utilization shall be taken up/ sponsored by NTPC through reputed Institutes/ agencies.

So as to derive maximum benefit from such demonstration projects/ studies as well as to disseminate the results/ information to other Sites, outside bodies, regulatory authorities, etc., these shall be undertaken in association with Corporate Ash Management Group.



14.13 Use of ash in environmentally safe manner in activities such as landscaping, creating of ash mounds etc. shall be undertaken at various site at identified locations.

15.0 Manpower

Utilization/ ash and ash based product business is full time activity and will require sufficient manpower for its success. Required manpower shall be posted/ appointed by HR group. Executives/ working level manpower may be appointed by the station from UPL/ any other suitable agency.

16.0 Issue of Pond ash and Bottom ash

Pond ash / bottom ash shall be continued to be issued to all users on "free of cost" basis. However, transportation shall be the responsibility of users.

NTPC shall facilitate loading of ash from ash pond - to ensure this, the possibility of engaging group of PAPs may be explored.

17.0 Use of ash for Agriculture purpose

Supply of pond ash to farmers field for use of ash in agriculture purpose, within 25 km from ash pond, shall be carried out by NTPC station and financed from Ash Fund.

18.0 Publicity / Awareness

To build-up public awareness on the beneficial uses of fly ash in cement, light weight aggregate, light weight sand, use of bricks/ blocks/ tile, use of bottom ash & pond ash, vigorous awareness campaign shall be carried out by stations through advertisement, local news papers, magazines, cinema halls, public places etc. so as to generate demand for fly ash, bottom ash and pond ash and thus increasing ash utilization.

NTPC's achievements and activities on ash utilization shall be disseminated through publicity, media coverage, etc. at Corporate as well as Site levels.

19.0 Ash Fund

In line with stipulations of MOEF's gazette notification dated 03-11-2009, the amount collected from sale of fly ash and fly ash based products, cenospheres etc by all NTPC's power stations shall be deposited in a separate account Head – "Ash Fund" which will be maintained at Finance department at CC for accounting, disclosure and allocation purposes. This fund shall be allocated for development of infrastructure/ facilities, Promotion & facilitation activities as per the approved guidelines vide circular dated 25-03-2014 (Annexure-G). Activity wise proposals duly vetted by TS and Finance department and approved by HOP/ RED as per applicable clause of NTPC DOP shall be submitted to Corporate Ash Management Group for allocation of fund from Ash Fund.



20.0 Delegation of Power

Applicable Delegation of Power for Ash and Ash based products business is enclosed at Annexure - H.

21.0 Terms and Conditions for contracts / agreement

General Terms and Condition for tendering sale of ash and ash based products need to be prepared by Corporate Ash Utilization Department in association with Corporate Contracts and Finance. This will be a uniform standard/ base document for all sites to use as a part of each fly ash sale tender at site.

However, till the General Terms and conditions are prepared and finalised by Corporate Ash Management Group, stations may continue with present terms and conditions of NVVN suitably modified for respective NTPC station for inviting bids, evaluation and placement of award.

Special Terms and Conditions, if any required at site, shall be proposed by the site AUD along with the **Sale Requisition** (to be developed in SAP/SRM Module). The word "Sale Requisition" should be in line with PR (Purchase Requisition) in our SAP-ERP and enable the same to link with SRM module.

Standard Template for award of sale shall be prepared by Corporate Ash Management Group to maintain the uniformity amongst all the projects.

Standard Template for agreement for lifting of ash shall be prepared by Corporate Ash Management Group to maintain the uniformity amongst all the projects.

22.0 Compliance of MoEF notification amendment dated 03-11-2009

This ash utilization policy empowers Head of Power station in all the aspects of ash utilization and makes them responsible for compliance of all guidelines issued by MoEF, Central & State Pollution Control Board and other statutory bodies. HoP's are also responsible and answerable for achieving targets set by MoEF for ash utilization.

REDs shall monitor and guide the implementation of this policy to ensure ash utilization as per MoEF guidelines and targets.

Activities & Responsibilities relating to setting up of brick plants, cement plants and Light Weight Aggregate plants covered in the policy guidelines are enlisted and enclosed at Annexure-I.

These policy guidelines shall supersede the earlier policy guidelines issued for Ash Utilization.



Annexure-A

Price discovery by Book Building

First a price range has to be fixed (based on demand and supply of fly ash in the region) for discovery of single price. Say the price range is fixed from Rs.100/- to Rs.600/- PMT for discovery of price. The following steps may be followed for discovery of single price.

1) Methodology for Pricing

- Price chargeable to buyer(s) shall be the price discovered resulting from the bids received as per the methodology described below in Rupees per MT.
- All statutory duties / taxes / levies shall be charged extra.

2) Price & Bidding Methodology

- The minimum **FLOOR PRICE of Fly Ash is (say) ₹100.00** (Rupees one hundred only) per Metric Ton and **Ceiling price (say) ₹ 600.00** (Rupees six hundred only) per Metric Ton. Bidders may quote the annual quantity required against a price starting from the floor price and in multiples of ₹10 (Ten) i.e. ₹ 100, 110, 120and so on upto the ceiling price of ₹ 600 per MT.
- Parties may quote different quantity they would like to off-take at different rates within the specified range. The quantity at particular rate, quoted by the bidder shall be deemed acceptable for evaluation / allocation towards all the rates below the quoted rate, unless otherwise specifically mentioned. (See Example below)

Example:

Rate (₹/MT)	Party A	Party B	Party C
	Quantity (MT/annum)	Quantity (MT/annum)	Quantity (MT/annum)
100			50000
110...			
300		45000	40000
310...			
400			30000
410...			
550		30000	20000
560...			
600	50000		10000



- Case 1:** Quantity 50000 MT quoted by the party A against the rate of ₹600 shall be valid for all the rates up to ₹100 which is below ₹600 since the party has not quoted any quantity against the rate of ₹550, ₹400, ₹100 etc.
- Case 2:** The quantity 30000 MT quoted by the party B against the rate of ₹550 shall be valid for the rate up to ₹310 only, since the party has specified the quantity of 45000 MT against the rate of ₹300 and this quantity of 45000MT shall be valid up to ₹100.
- Case 3:** The quantity of 10000 MT quoted against price ₹600 shall be valid upto ₹560 and quantity 20000 MT quoted against price ₹550 shall be valid upto ₹410 and so on i.e. quantity 40,000 MT quoted at ₹300 shall be valid upto ₹110 and quantity 50,000 MT shall be valid for ₹100 only.

3) Bids price quoted below ₹100.00 per MT and or above Ceiling price of ₹600.00 per MT will not be considered.

4) Evaluation Criterion of Bids

Price Discovery and Quantity for allocation

- a. 90% (or say 80%) of the tendered quantity will be the lower limit for bid evaluation below which the tender will be declared unsuccessful.
- b. For cumulative annual quantities quoted by bidders between 90% (or say 80%) of the tender quantity to 100% of tender quantity, the price at which maximum revenue is generated will be the discovered price. In such case, the quantity quoted by the party at the discovered price will be allocated to the party.
- c. In case the cumulative quantity quoted by the bidders does not fall between 90% (or say 80%) and 100% of the tender quantity but above the tendered quantity, the discovered price shall correspond to the cumulative quantity nearest to 100% and the allocated quantity shall be modified on prorata basis to the tendered quantity.
- d. Bids at discovered price and above will be the successful bids and quantity will be allocated to them as per **Clause 4 b & c.**

5) Award Criteria

The party shall be awarded the quantity as quoted at discovered price. If cumulative quantity at discovered price is more than tendered quantity, party shall be allocated the quantity on prorata basis.

6) Award price:

Discovered Price shall be the award price and shall remain firm for a period of ___ year.

Example:



Basic parameters : Price range, cut off for evaluation														
Tender Qty. : 9.0 LMT/annum Price range: ₹150/- PMT to ₹600/-PMT Cut off: 90% of the tender qty. i.e 8.1 LMT/annum														
Sl. no	Price range (Rs./MT)	Requirement of bidders										Total/Total Revenue (₹ in Crores)		
		Party A	Party B	Party C	Party D	Party E	Party F	Party G	Party H	Party I	Party J		Party K	
1	150	50000	200000	250000	200000	300000	200000	250000	20000	200000	150000	50000	1870000	28.050
2	155	50000	200000	200000	NQ	160000	200000	250000	20000	200000	150000	50000	1480000	22.940
3	160	50000	200000	200000	NQ	160000	200000	250000	20000	200000	150000	50000	1480000	23.680
4	165	50000	200000	200000	NQ	160000	200000	250000	20000	200000	150000	50000	1480000	24.420
5	170	50000	200000	200000	NQ	160000	200000	250000	20000	200000	150000	50000	1480000	25.160
6	contd...	50000	200000	200000	NQ	160000	200000	250000	20000	200000	150000	50000	1480000	
7	200	50000	200000	200000	NQ	160000	200000	250000	20000	200000	150000	50000	1480000	29.600
8	205	30000	100000	120000	NQ	80000	100000	100000	100000	100000	150000	50000	950000	19.475
9	210	30000	100000	120000	NQ	80000	100000	100000	100000	100000	150000	50000	950000	19.950
10	215	30000	100000	120000	NQ	80000	100000	100000	100000	100000	150000	50000	950000	20.425
11	220	30000	100000	120000	NQ	80000	100000	100000	100000	100000	150000	50000	950000	20.900
12	225	30000	100000	120000	NQ	80000	100000	100000	100000	100000	150000	50000	950000	20.250
13	230	NQ	100000	120000	NQ	80000	100000	100000	100000	100000	150000	NQ	870000	20.010
14	contd...	NQ	100000	120000	NQ	80000	100000	100000	100000	100000	150000	NQ	870000	
15	270	NQ	100000	120000	NQ	80000	100000	100000	100000	100000	150000	NQ	870000	23.490
16	275	NQ	100000	120000	NQ	80000	100000	100000	100000	100000	150000	NQ	870000	23.925
17	280	NQ	100000	120000	NQ	80000	100000	100000	100000	100000	150000	NQ	870000	21.560
18	285	NQ	100000	120000	NQ	80000	100000	100000	100000	100000	150000	NQ	870000	21.945
19	290	NQ	100000	120000	NQ	80000	100000	100000	100000	100000	150000	NQ	870000	22.330
20	295	NQ	100000	120000	NQ	80000	100000	100000	100000	100000	150000	NQ	870000	20.945
21	300	NQ	100000	120000	NQ	80000	100000	100000	100000	100000	150000	NQ	870000	21.300
22	contd...	NQ	NQ	60000	NQ	40000	NQ	100000	20000	200000	150000	NQ	470000	
23	330	NQ	NQ	60000	NQ	40000	NQ	100000	20000	200000	150000	NQ	470000	15.510
24	335	NQ	NQ	60000	NQ	40000	NQ	100000	20000	200000	150000	NQ	470000	15.745
25	340	NQ	NQ	60000	NQ	40000	NQ	100000	20000	200000	150000	NQ	470000	15.980

Sl. no	Price range (₹/MT)	Requirement of bidders										Total Requirement of bidders (MT/annum)	Total Revenue (₹ in Crores)	
		Party A	Party B	Party C	Party D	Party E	Party F	Party G	Party H	Party I	Party J			Party K
26	345	NQ	NQ	60000	NQ	40000	NQ	NQ	20000	20000	150000	NQ	470000	16.215
27	350	NQ	NQ	60000	NQ	40000	NQ	20000	20000	20000	150000	NQ	470000	16.450
28	355	NQ	NQ	60000	NQ	40000	NQ	NQ	NQ	20000	150000	NQ	450000	15.975
29	360	NQ	NQ	60000	NQ	40000	NQ	NQ	NQ	20000	150000	NQ	450000	16.200
30	contd...	NQ	NQ	60000	NQ	40000	NQ	NQ	NQ	20000	150000	NQ	450000	
31	400	NQ	NQ	60000	NQ	40000	NQ	NQ	NQ	20000	150000	NQ	450000	18.000
32	405	NQ	NQ	60000	NQ	20000	NQ	NQ	NQ	20000	150000	NQ	430000	17.415
33	410	NQ	NQ	60000	NQ	20000	NQ	NQ	NQ	20000	150000	NQ	430000	17.630
34	415	NQ	NQ	NQ	NQ	20000	NQ	NQ	NQ	20000	150000	NQ	370000	15.355
35	420	NQ	NQ	NQ	NQ	20000	NQ	NQ	NQ	20000	150000	NQ	370000	15.540
36	425	NQ	NQ	NQ	NQ	20000	NQ	NQ	NQ	20000	150000	NQ	370000	15.725
37	430	NQ	NQ	NQ	NQ	20000	NQ	NQ	NQ	20000	150000	NQ	370000	15.910
38	contd..	NQ	NQ	NQ	NQ	20000	NQ	NQ	NQ	NQ	150000	NQ	170000	
39	470	NQ	NQ	NQ	NQ	20000	NQ	20000	NQ	20000	150000	NQ	170000	7.990
40	475	NQ	NQ	NQ	NQ	20000	NQ	20000	NQ	20000	150000	NQ	170000	8.075
41	480	NQ	NQ	NQ	NQ	20000	NQ	20000	NQ	20000	150000	NQ	170000	8.160
42	485	NQ	NQ	NQ	NQ	20000	NQ	20000	NQ	20000	150000	NQ	170000	8.245
43	490	NQ	NQ	NQ	NQ	20000	NQ	20000	NQ	20000	150000	NQ	170000	8.330
44	495	NQ	NQ	NQ	NQ	20000	NQ	20000	NQ	20000	150000	NQ	170000	8.415
45	500	NQ	NQ	NQ	NQ	20000	NQ	20000	NQ	20000	150000	NQ	170000	8.500
46	510	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	0	0	0
47	contd..	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	0	0	0
48	600	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	0	0	0

NB: NQ: Not quoted

The quotes in bold implies that the party has quoted against these rates and the same is extended to lower prices till another quote, if not extend till the lowest price.

This helps in tabulating the cumulative demand and revenue at a particular price.

i.e Party A has quoted at two prices : at ₹225/- PMT, 30,000MT/annum and at ₹200/- PMT, 50,000 MT/annum and extended accordingly

Similarly Party D has quoted at ₹150/-PMT for 200,000 MT/annum only and therefore not eligible for higher prices

Similarly Party J has quoted at ₹500/-PMT for 150,000 MT/annum and hence applicable for all rates below ₹500/-PMT i.e upto ₹150/- PMT

Discovered price is ₹275/-PMT as it is higher than the cut off limit of 90% (i.e 8.1 LMT/ann) with maximum revenue between 8.1 LMT and 9.0 LMT/annum.

Methodology for Bid Evaluation - Trial Sheet for Demo purpose only

Example 1			Example 2			Example 3		
Price range in ₹	Cumulative Quantity Quoted by bidders (Lakh MT)	Revenue Generated (₹ in Crores)	Price range in ₹	Cumulative Quantity Quoted by bidders (Lakh MT)	Revenue Generated (₹ in Crores)	Price range in ₹	Cumulative Quantity Quoted by bidders (Lakh MT)	Revenue Generated (₹ in Crores)
contd....			contd....			contd....		
275	7.8	21.45	350	7.8	27.30	500	7.8	39.00
270	8.0	21.60	340	8.0	27.20	490	8.0	39.20
265	8.2	21.73	330	8.2	27.06	480	8.2	39.36
260	8.4	21.84	320	8.4	26.88	470	8.4	39.48
255	8.6	21.93	310	8.6	26.66	460	8.6	39.56
250	8.8	22.00				450	8.8	39.60
245	9.0	22.05				440	9.0	39.60
240	9.2	22.08				430	9.2	39.56
contd....						contd....		

NB: In case where the cumulative qty. at different prices falls between the cut off qty. and tender qty., then the discovered price corresponds to the price with maximum revenue, highlighted in **bold**.

In cases where the cumulative quantity quoted does not fall between the cut off qty. and tender qty. but is more than 100% of the tender quantity, then Price discovery will be as shown below (i.e cumulative qty. nearest to the tender qty.) and award qty. reduced prorata to tender qty.

Example 1			Example 2			Example 3		
Price range in ₹	Cumulative Quantity Quoted by bidders (Lakh MT)	Revenue Generated (₹ in Crores)	Price range in ₹	Cumulative Quantity Quoted by bidders (Lakh MT)	Revenue Generated (₹ in Crores)	Price range in ₹	Cumulative Quantity Quoted by bidders (Lakh MT)	Revenue Generated (₹ in Crores)
contd....			contd....			contd....		
275	6.5	17.88	350	6.5	22.75	500	6.5	32.50
270	7.0	18.90	340	7.0	23.80	490	7.0	34.30
265	7.5	19.88	330	7.5	24.75	480	7.5	36
260	8.0	20.80	320	7.9	25.28	470	8.0	37.6
255	9.5	24.23	310	9.3	28.83	460	9.6	44.16
250	9.7	24.25	300	9.7	29.10	450	9.7	43.65
245	9.9	24.26				440	9.9	43.56
240	10.5	25.20				430	10.5	45.15
contd....						contd....		

NB: Prices highlighted in bold will be the discovered price

Quantity tendered : 9.0 lakh MT (i.e 100%)

Cutoff quantity : 8.1 lakh MT (i.e 90%)

**Format& 1 of Annexure - B****Format-2 of Annexure - B**

संदर्भ संख्या

दिनांक

सेवा में
श्रीमान अपर महाप्रबंधक
ई० एम० जी०/ऐ०यू०

विषय : फ्लाई ऐश के इस्तेमाल के संबंध में

महोदय,

आपके पत्र दिनांक के संबंध में हम अपने कार्य/प्लांट के संबंध में निम्न विवरण प्रस्तुत करते हैं:

- 1) पिछले तीन माह में उठाई गयी राख से तैयार उत्पादों का विवरण
 - अ) उठाई गई राख की मात्रा
 - ब) उत्पादों का नाम व मात्रा
- 2) पिछले तीन माह में जमा किया उत्पादक शुल्क/बिक्री कर का विवरण
- 3) आज की तारीख में प्लांट/कार्य का विवरण
 - अ) प्लांट/कार्य का पूरा पता, मालिक का नाम
 - ब) प्लांट की क्षमता
 - स) कार्य/बनाये जाने वाले उत्पादों का नाम
प्रतिदिन कार्य/बनाये जाने वाले उत्पादों की मात्रा
 - द) आज की तारीख में राख की कुल आवश्यकता
 - i) फ्लाई राख
 - ii) बॉटम राख
 - य) ढुलाई तथा कार्य के दौरान राख न उड़े इसके लिए प्रबंध
एन०टी०पी०सी० प्लांट से राख की ढुलाई व जिन कार्यों में इस्तेमाल की अनुमति ली है उसी कार्य में राख का इस्तेमाल कर रहे हैं व इस बात का भी पूरा ख्याल रख रहे हैं की ढुलाई के दौरान राख न उड़े और आसपास के वातावरण को प्रदूषित न करे।

सधन्यवाद

भवदीय

मै०.....
.....

संदर्भ संख्या

दिनांक

सेवा में
श्रीमान अपर महाप्रबंधक
ई० एम० जी०/ऐ०यू०
विषय : फ्लाई ऐश उठाने की परमीशन के संबंध में।

महोदय,

हम आपके प्लान्ट एन०टी०पी०सी० से पहले आओ पहले पाओ के आधार पर फ्लाई ऐश मुफ्त में उठाने के विषय में पता चला है। श्रीमानजी हम आपके यहाँ से राख उठाना चाहते हैं हमारे तथा हमारे व्यापार का विवरण निम्नप्रकार है।

- 01 मालिक/प्रोपराइटर/साझेदारी का नाम व पता
 - 02 राख किस कार्य के लिए चाहिए
 - 03 उपरोक्त कार्य के लिए सेल्स टेक्स न० (प्रमाण संलग्न)
 - 04 टीन न० प्रमाण संलग्न
 - 05 जगह का विवरण/पता आदि जहाँ कार्य करना चाहते हैं।
 - 06 प्लांट की क्षमता/उत्पाद की मात्रा प्रतिदिन
 - 07 प्रतिदिन राख की आवश्यकता
 - 08 ढुलाई के दौरान राख न उड़े इसके लिए प्रबंध
 - 09 कार्य के दौरान राख न उड़े इसके लिए प्रबंध
 - 10 राख परिवहन में प्रयुक्त किए जाने वाले वाहन का विवरण, निजी अथवा ट्रांसपोटर जिसके लिए परमीशन चाहिए गाड़ी का इंश्योरेंस व गुप इंश्योरेंस की प्रति संलग्न।
- श्रीमानजी हम इस बात की अन्डरटेकिंग देते हैं कि :-
- 01 जिस कार्य के लिए हमें राख उठाने की अनुमति मिली है /मिलेगी, उसी कार्य में इस्तेमाल करेंगे तथा कोई दुरुपयोग नहीं करेंगे।
 - 02 परिवहन व इस्तेमाल के दौरान राख न उड़े और आसपास के वातावरण को प्रदूषित न करे इस बात का पूरा ख्याल रखेंगे।
 - 03 पर्यावरण सुरक्षा एव प्रदूषण नियंत्रण संबंधी नियमों का पूरा पालन करेंगे
 - 04 प्रत्येक तीन माह के बाद आपको यहा से उठाई गयी राख व बनाये गये उत्पादों की मात्रा का विवरण आपको देंगे।
 - 05 बनाये गये उत्पादों से संबंधित सरकार द्वारा लागू संवैधानिक दायित्व का पालन करेंगे।
- श्रीमानजी हमारे द्वारा दी गई उपरोक्त सभी जानकारी सही है तथा हम उपरोक्त सभी शर्तों का पूर्णतया पालन करेंगे तथा यह भी भली-भांति विदित है कि उपरोक्त जानकारी सही न होने तथा शर्तों को न मानने की दशा में हमारी परमिशन रद्द की जा सकती है।

सधन्यवाद

भवदीय

मै०.....

**Format-3 of Annexure - B**

Ref. No.:

Date:

To,

.....

Sir,

To consider your allocation of free issue of fly ash for bricks/ blocks / tiles manufacturing, you are required to submit the copy of following documents:

- SSI registration (Part II)/ License to Work as a Factory.
- VAT Registration with Commercial Tax Dept. if applicable.
- Excise Duty Registration as applicable/ documentary evidence for non applicability.
- Pollution Clearance Certificate/ consent order from SPCB.
- Latest Power Bills/ DG set energy meter reading (Quarterly basis).
- Ash End Use Certificate (on quarterly basis).

Thanking you,

Yours faithfully

(.....)

**Format-4 of Annexure - B**

Ref. No.:

Date:

To,

.....

Sub: Validation & Verification of free issue fly ash requirement for your Brick & Blocks manufacturing unit.

Sir,

As an annual exercise of checking of proper utilization of free issue fly ash for brick & blocks manufacturing activity, you are requested to come in the office of undersigned with following documents:

- 1) Valid Original Sales Tax Registration Certificate.
- 2) Photographs/ video of brick manufacturing activity.
- 3) Invoice of brick/ block Machine or any other similar proof/documentary evidence.
- 4) Proof of actual amount deposited of Sales Tax in the financial year.
- 5) Any other evidence supporting functioning of your brick plant.
- 6) Photo ID/Address proof of Owner of the unit.

In case you fail to appear in the office of undersigned before 31st March 20.... , it will reflected that your unit is no more actively manufacturing bricks/ blocks and we shall be constrained to suspend issue of fly ash in name of your firm.

Thanking you,

Yours faithfully

(.....)

**Annexure-C**

NTPC Limited
(Ash Management Group)

Ref.: AM-II/CC/Cenospheres

Date: 12.11.2014

Sub: Guidelines for auction of ash pond for collection and sale of cenosphere**1.0 Framework for Bidding:**

- i) Ash pond(s) are to be auctioned through the process of bidding.
- ii) Bids shall be invited through an open tender by following the tendering process of single stage two sealed envelopes (one containing techno commercial bid and other envelope containing the price bid).
- iii) Reserve price for a station should be mentioned in the bidding document.
- iv) Participating bidder shall meet the specified qualifying requirement.
- v) The party quoting the highest price equal to or above the reserve price shall be awarded the contract. If highest price quoted is below the reserve price, the tender will be considered unsuccessful.
- vi) Duration of contract shall be for a period of **one year**.
- vii) Pond shall be auctioned on as is where basis without any assurance of quantity or quality of cenosphere is available in the pond.

1.1 Reserve Price

Reserve Price (RP) shall be determined by a committee consisting of members from AUD, Contracts and Finance of NTPC station and one member from NTPC-RHQ. It is proposed to consider the consultant's report initially for assessing the quantity of cenosphere to be generated for arriving at the reserve price i.e :

'Cenosphere quantity to be calculated @ 0.01 to 0.02% of the quantity of ash discharged at ash pond starting initially with 0.01% of the fly ash quantity (discharged) in the ash pond'.

The basic formula proposed for determination of Reserve Price (RP)/annum is:

$RP/annum = 0.9 * (0.01\% * \text{Average Qty/annum of fly ash expected to be discharged during the period of proposed contract in the ash pond}) * \text{latest selling price of cenosphere at NTPC station,}$

Wherein

- i) The qty. of fly ash/ annum expected to be discharged during the period of proposed contract in the ash pond shall be provided by respective stations. In case new unit(s) is/ are scheduled for commissioning during the proposed contract period, fly ash quantity shall be considered accordingly.
- ii) The RP is reduced to 90% to take care of collection/ harvesting/ overhead charges etc. as



last selling price of cenosphere (which does not include the harvesting and overhead charges) has been considered for RP calculation.

In future, based on experience gained the percentage of collection may vary from 0.01% to 0.02%.

(A committee consisting of one member each from NTPC AMG CC and NETRA constituted for studying the feasibility of implementing the recommendation given by the consultant have submitted their report to D(O) in which they have observed that

"in order to auction the ash pond of the station for cenosphere collection, estimated dry cenosphere quantity may be considered initially @ 0.01% of the fly ash disposed off into the ash pond as recommended by the consultant in the report. However, site may modify the target collection percentage based on the condition of the ash dyke and past experience". In view of the above recommendations, the RP may be modified taking into account the condition of ash pond.)

In case tender is unsuccessful with the above RP formula, the RP may be reviewed by the committee, taking into account the following factors for a re-tender:

- a) Capacity /age of the plant / station
- b) Condition of the ash pond(s)
- c) Cenosphere collection history, if any
- d) Quotations received in the unsuccessful tender
- e) Any other relevant information

1.2 Qualifying Requirement

- i) The bidder should be a company or a firm.
- ii) The Bidder should have at least one year experience in harvesting of cenosphere from Ash Pond of a coal based thermal power plant of capacity 200 MW or above prior to the date of bid opening.
- iii) The Bidder who are in the business of Cenosphere and do not meet the requirement at (ii) above, can also participate provided the bidder Collaborate(s)/ Associate(s) with the party who meet the requirement under (ii) above, which the Bidder itself is not able to meet.
- iv) Bidder seeking qualification through clause No. (iii) shall furnish undertaking jointly executed by it and its Collaborator/ Associate for the successful performance of the contract as per owners format enclosed in the Bidding documents. The deed(s) of joint undertaking(s) shall be submitted along with the Techno-Commercial Bid, failing which the Bidder shall be disqualified and its Techno-Commercial Bid shall be rejected. Further, in case of award, Bidder's Collaborator(s)/Associate(s) shall be required to furnish an on-demand Bank Guarantee as per the format enclosed with the Bidding documents for a value equal to 1% (one percent) of the total contract price in addition to the Contract Performance Security to be furnished by the Bidder.
- v) The average annual turnover of the Bidder, in the preceding three (3) financial years as on the date of Techno - Commercial bid opening shall not be less than Reserve Price/annum (in the bid document only required turnover shall be mentioned)



1.3 Security Deposit and CPG

- a) Each bidder has to submit an EMD equivalent to 2% of the Reserve price alongwith their bid.
- b) CPG shall be equivalent to 10% of the annual value of the contract.

1.4 Criteria for evaluation

- a) The party quoting the highest price equal to or above the reserve price shall be awarded the contract.
- b) The successful bidder shall have exclusive rights for collection and sale of cenosphere from the station.

1.5 Payment Details

The bidder on whom award is placed shall submit 20% of the annual award value within one month of placement of award. The balance payment of annual award value shall be deposited within 4,7,10, months of award for 20%, 30% and 30% respectively.

1.6 For Quotations below the Reserve Price

Quotations received below the reserve price shall be rejected. If all quotations received are below the Reserve price, the tender will be declared unsuccessful and the reserve price may be re-examined as per para 1.1 for a retender.

- 1.7 Other terms & conditions of the contract viz.. NTPC GCC, Special conditions etc. shall be approved by HOP/RED.

1.8 Other Relevant Inputs

- a) One party/bidder can participate in one or more stations.
- b) Each station shall be evaluated separately.
- c) The successful bidder shall not construct any permanent or temporary structure in the ash pond unless permitted by EIC.
- d) Bidder shall indemnify NTPC from any liability arising due to any mistake/ accident/ injury/ death to any person associated or involved with the contract / contractor during the contract period.
- e) Bidder shall not indulge in any activity which may jeopardize the security of ash pond or hinder in the operational and maintenance requirement of the plant.
- f) If there is any damage to ash dyke or NTPC property or third party due to activity undertaken by bidder for collection of cenospheres, bidder shall indemnify NTPC for any liability arising for correction as well as consequences to NTPC/ third party.
- g) Requirement of plant shall be reign supreme w.r.t charging / stopping of any pond.
- h) Bidder to satisfy themselves about the potential of cenosphere quantity before bidding for which the site will provide necessary assistance.
- i) No material other than cenosphere shall be collected by the successful bidder.



- j) The bidder shall be responsible for meeting all applicable statutory requirements under various Acts viz. relating to risk and liability of its workforce, applicable taxes & duties, necessary licenses, clearances etc.
- k) Bidder to furnish in the bid, details of latest technology to be adopted by them to skim off the cenosphere from ash pond(s).
- l) Scope of work shall include collecting/ harvesting/transportation/disposal of cenosphere from ash pond(s).

2.0 Additional factors

- a) Initially all RED's shall ensure and allow to take up cenosphere harvesting from ash pond through bidding process only at those stations under their control where free board margin is available while ensuring safety of ash dyke.
- b) Based on RED's approval, respective NTPC station shall prepare the bid document, call bids, place award and receive payments. An Engineer in charge (EIC) shall be designated by the respective station.
- c) RHQ -AUD shall ensure parity in the bid document of its stations.

Sd/-
(Y. V. Rao)
Executive Director (OS)

**Annexure-D**

**NTPC LTD.
OPERATION SERVICES
(Ash Management Group)**

Date: 13/11/2014

Sub: System Circular for use of bottom ash as a substitute for sand as filter material in ash dyke works

The Committee constituted to study the use of bottom ash as a substitute for sand as filter material in ash dyke works has given following recommendations:

- i) Bottom ash has the potential to be used as filter in ash dyke.
- ii) If the permeability criteria of Cl. 7.1.1.2 of IS: 9429 is satisfied and D_{15} (F) particle size is not lesser than 0.1 mm, bottom ash is permitted for all soils other than type 1 soil of table 2 of IS: 9429.
- iii) For type 1 soil D_{15} (F) particle size should not be lesser than 0.2 mm.
- iv) Material passing through 75 μ size sieve shall not exceed 7% (Note 1 of clause 7.1.1.3 of IS: 9429).
- v) Mill rejects (size varying from 6 mm to 30 mm) has the potential to be used as coarse filter in place of coarse aggregate in rock toe and drain.

In view of above the stations may take necessary action to use bottom ash as a substitute to sand as per above criteria and mill rejects as a substitute of coarse aggregate in rock toe and drain. Stations may also take necessary steps to separate bottom ash disposal and take approval of OS/ Engg., so that bottom ash is directly available at ash pond. Bottom ash permeability also should be monitored periodically during dumping at dyke. In case of deviation from using bottom ash as filter material the same should be done only after obtaining specific approval from Corporate Engg. well in advance.

Sd/-
(Y. V. Rao)
Executive Director (OS)

**Annexure-E**

**NTPC LTD.
Corporate Ash Management Group
Circular**

Ref. AM-II/Policy/land fill

Date: 11-09-2013

Sub: Low lying area development using ash inside of NTPC stations and outside NTPC stations within 50 km radius from Ash Sale Fund.

In order to increase ash utilization at NTPC stations and make use of Ash Sale Fund created by sale of fly ash at NTPC station:-

- i. Low lying area development inside of NTPC premises and outside of NTPC within 50 km. of power plant shall be taken up using ash and financed from Ash Sale Fund.
- ii. The delegation of power for administrative and award approval for such activities shall be as per the provision in section – II of DOP 2011 for O&M works.
- iii. The schemes envisaging ash utilization by evacuating ash from ash pond on sustainable basis for more than one year period such as mine backfilling, road embankment construction shall be taken up from DCO/ capital budget.
- iv. The guidelines for taking up low lying area development using ash are given in the enclosed Annexure-1.

This has been approved by competent authority and may be taken up for implementation by all NTPC's coal based thermal power plants.

Sd/-
(Ajit Kumar)
AGM (I/c)- Ash Management Group

**Annexure-1****Guidelines for Low Lying area development using Ash**

1. **Specification:** Low lying area development with ash shall be taken up adopting standard practices. For this a typical technical specification is enclosed Appendix – I.
2. **Consent from land owner:** Consent/ permission should be obtained in writing from the land owner before start of work.
3. **Prevention of pollution:** Necessary arrangement should be made to prevent pollution during excavation of pond ash at ash pond, filling area and during transportation of ash by sprinkling of water covering of trucks etc. Care should taken that no ash should spill from truck on the road during transportation of ash.
4. **Soil Cover at top of ash fill:** As per the system circular earlier issued vide dated 04-03-09 (Appendix – II) and MOEF gazette notification of ash utilization dated 14-09-1999 and is amendment dated 27-08-2003 and 03-11-2009, the soil required for soil cover shall be excavated from land fill site itself and kept separately before taking ash filling. If it is not possible to do so, only the minimum quantity of soil required for the purpose of cover shall be excavated from the soil borrow area. The voids created due to soil borrow area shall be filled up with ash with proper compaction and covered at top with soil cover. As per the standard practice about 300-500 mm thick soil layer shall be placed over the ash fill area. This should be done as an integral part of low lying area development work.
5. **Measurement:** For measurement of fill quantity pre & post levels of borrows area in the ash pond & filling area shall be taken up as per the standard methodology (Appendix-II).
6. **Permission from Regulatory authority:** Station/ land owner/ agency shall obtain statutory clearances from regulatory authorities as per the requirement.

**Appendix – I**

**TYPICAL TECHNICAL SPECIFICATIONS FOR AREA
FILLING WITH POND ASH**
Ash Utilization Division, NTPC

1.0 PREPARATION OF FILLING AREA

- 1.1 The entire area meant to receive the ash and earth filling shall be stripped to a depth of minimum 150 mm. The exact depth of stripping shall be decided by the Engineer-in-Charge depending upon nature of top soil and the vegetation present.

All organic matter, vegetation, roots, stumps, bushes, rubbish, swamp materials, etc. shall be removed from the site. The stripping material and other unsuitable materials as referred above shall be kept far away from the area to be filled up so that these do not get mixed up with filling material and disposed off to a place as directed by the Engineer-in-Charge.

1.2 De-watering

If the area happens to be waterlogged, ground water table of site shall be lowered by dewatering the same so that proper compaction of fill material at around optimum moisture content can be ensured.

1.3 Levelling

All existing undulations, holes, cavities, excavations made for plate load rests and other soil investigations, etc. shall be filled with pond ash having requisite moisture content. The ash thus filled shall be compacted with the help of vibratory rollers so as to achieve Dry Density of not less than 95% of Maximum Dry Density found out as per I.S – 2720 (Part-VII). This would result in a levelled surface upon which layer wise filling of compacted ash can be done.

2.0 EXCAVATION OF POND ASH FROM BORROW AREA**2.1 Borrow Area-location**

The location and permissible depth of excavation of the Borrow areas for pond ash shall be got specifically approved from General Manager of concerned Thermal Power Station or his nominee. The boundaries and permissible depth of excavation so approved shall be strictly followed and no deviation shall be allowed. Similarly, routes for movement of all ash-transportation vehicles, water tankers, equipment, etc. shall be got approved from Thermal Power Station authorities. These shall be strictly followed and no deviation shall be allowed. Contractor shall be solely responsible for any damage caused to works of Thermal Power Station such as dykes, transport routes, other structures, etc. and shall undertake all measures to the satisfaction of Thermal Power Station authorities to keep such works in proper condition.

Borrow area shall be so operated so as not to impair the usefulness or mar the appearance of any part of work or any other property. The excavation surfaces and surface of waste

materials shall be left in a reasonably smooth and even condition. All the excavations within the ash pond shall be at a minimum slope of 4 (Horizontal): 1 (Vertical)

2.2 Site Clearance

All areas required for borrowing shall be cleared of all trees and stumps, roots, bushes, rubbish and other objectionable material. Particular care shall be taken to exclude all organic matter from the material to be placed in the fill. All materials thus cleared, which can be burnt shall be completely burnt. Balance shall be disposed off as specified. The cleared areas shall be maintained free of vegetation growth during the progress of the work.

2.3 Stripping

Borrow area shall be stripped of top layer by a depth of minimum 150 mm. The exact depth of stripping shall be decided by the Engineer-in-charge depending upon nature of top layer and the vegetation present.

2.4 Borrow area watering & dewatering

The natural moisture content of material in the borrow areas as well as the optimum moisture corresponding to the Proctor's maximum dry density for the material in the particular borrow area shall be obtained from laboratory tests. Additional moisture, if required, shall be introduced into the borrow area by watering well in advance of excavation to ensure uniformity of moisture content. If in any borrow area before or during excavation there is excess moisture, steps shall be taken to reduce the moisture by the selective excavation to secure the materials of required moisture content by excavating drainage ditches, by allowing adequate time for drying or by other means. To avoid formation of pools in the borrow areas during excavation operations, drainage ditches from borrow areas to the nearest outlets shall be excavated so as to obtain homogeneous mix. In general, all materials from a particular borrow area shall be mixture of materials obtained for the full depth of cut.

3.0 FILLING WITH POND ASH

3.1 Placement

After the area has been prepared and levelled, as per cl. 1.0 above, pond ash excavated from Borrow areas having required moisture content shall be placed in layers not exceeding 300 mm in compacted thickness. The combined excavation and placing operations shall be such that the material when compacted in the fill will be blended sufficiently to produce specified degree of compaction and stability.

No stones, cobbles or rock fragments, having maximum dimensions more than 100 mm shall be placed in the fill. Such stones and cobbles shall be removed either at the borrow pit or after being transported to the fill but before the ash in the fill is rolled and compacted.

3.2 Procedure

The material shall be placed in the fill in continuous horizontal layers, stretching right across the whole section, not more than 300 mm in compacted thickness and rolled as herein specified. The length of one layer shall not exceed 150 meters at one stretch. The layers

shall be compacted in strips overlapping not less than 600 mm, if the rolled surface of any fill is found to be too wet for proper compaction, it shall be raked up, allowed to dry, or shall be worked with a harrow or any other approved equipment to reduce the moisture content to the required amount and then it shall be re-compacted before the next layer of ash is placed. Ash surfaces are likely to become dry in short intervals especially during hot and dry weather and hence enough moisture shall be added between difference passes to ensure proper compaction.

3.3 Compaction

The compaction of each layer shall be carried out so as to achieve in-situ dry density not less than 95% of maximum dry density (MDD) of the material found out as per I.S 2720 (Part VII). To achieve the 95% compaction level use of vibratory rollers shall be made. Required nos, of passes shall be made so as to achieve desired compaction. Nos, of passes required shall be verified through trials tests before actual execution of work. The broad specifications of vibratory rollers required for the purpose is as follows:-

- | | | |
|----------------------------|---|---|
| a) Static Weight | = | 6 to 10 t |
| b) Static Linear Load | = | 20 – 35 kg/cm |
| c) Frequency | = | 18 – 30 Hertz (1100 to 1800 vibrations/ minute) |
| d) Amplitude of vibrations | = | 0.5 mm to 1.5 mm |

3.4 Weather conditions

Fill materials shall be placed only when the weather conditions are satisfactory to permit accurate control of the moisture content in the materials.

3.5 Moisture control

Prior to and during compacting operations, the materials in each layer of ash/earth shall have a moisture content about 2% less for earth fill (for earth cover) and about 5% less for ash, than the optimum moisture content. This shall however, be adjusted, accordingly to the weather conditions. So far as practicable the materials shall be brought to the proper moisture content in the borrow area before excavation. If additional moisture content is required, it shall be added at the fill site by sprinkling water before rolling the layer. The contractor shall make his arrangements for supply of water in borrow areas as well as in the fill area. If the moisture content is greater than required, the material shall be spread and allowed to dry before starting rolling. The moisture content shall be uniform throughout the layer of material and ploughing, harrowing, or other methods of mixing may be required to obtain uniform distribution. If the moisture content is more or less than the range of the required moisture content, or if it is not uniformly distributed throughout the layer, rolling shall be stopped, and shall be started again only when the above conditions are satisfied.

3.6 Earth cover

Earth cover of 500 mm compacted thicknesses on sides shall be constructed simultaneously with the placement of ash fills to ensure homogeneous construction of fill. For balance details, refer clause 4.0 below. All sloping surfaces shall be protected with Turfing.

4.0 PLACEMENT OF EARTH COVER:-

4.1 Borrow Area

It shall be the responsibility of contractor to arrange suitable earth from approved external borrow areas. The earth cover material shall consist of sandy loam free of admixture of stiff clay, refuse, stumps, roots, rock, bushes, weeds or any other material which would be detrimental to the proper development of vegetation growth. It shall not contain stone 25 mm and over in size. The loamy top soil shall have been demonstrated by the occurrence upon it of healthy crops, grass or other plant growth, that is of good quality and reasonably free draining. Other specifications for Borrow area e.g. site clearance, stripping, Borrow area watering/De-watering etc. shall be as per relevant clauses of Borrow area for ash as outlined above i.e clause nos. 2.2, 2.3 and 2.4 above.

4.2 Placement

Earth over on side slopes shall be laid simultaneously with the laying of compacted ash layers. As in the case of ash layers, compacted thickness of earth layers shall not exceed 300 mm. As far as top cover of earth is concerned, after the area has been covered with compacted ash up to 500 mm below the required finished level of the area, a compacted layer of 500 mm thickness of suitable earth shall be placed over ash surface. This cover shall be placed in layers, each layer not exceeding 250 mm in compacted thickness. The combined excavation and placing operations shall be such that the materials when compacted in the fill will be blended sufficiently to produce specified degree of compaction on stability. No stones, cobbles or rock fragments, having maximum dimensions more than 25 mm shall be placed in the earth cover. Such stones or cobbles shall be removed either at the borrow pit or after being transported to the fill but before the earth is rolled and compacted.

4.3 Other requirements

Other requirements of earth cover laying shall be similar to those of ash laying i.e. as outlined in cl.3.2, 3.3, 3.4 and 3.5 above.

5.0 PREVENTION OF POLLUTION

It shall be responsibility of contractor that no air borne and water borne pollution should occur during all stages of his operations such as in Borrow areas, during transportation of ash/ earth, during placement of fill material etc. Contractor shall undertake all measures such as water sprinkling covering moist ash/ earth with tarpaulins in open trucks, etc., to take care of above.

6.0 QUALITY ASSURANCE

Quality Assurance check list is as per Annexure -2.

Annexure - 2

QUALITY ASSURANCE CHECK LIST

This check list is intended to be an aid to the Contractor and the Engineer in identifying aspects of testing materials and workmanship.

All test results must be submitted by the contractor to the Engineer promptly.

The following minimum checks/tests shall be carried out by the contractor for ash and earth at his cost.

Item No.	Type of Test	Frequency/ Quantum of check	Ref. Document	Acceptance norms
1. ASH/ EARTH BORROW AREA				
(a)	Standard proctor Density	Once in 10,000 M ³ of fly ash/ earth	IS : 2720 (Part – VII)	
(b)	Moisture Content	Once for every 2,000 M ³ of borrow area or part there of	IS : 2720 (Part – II)	
2. ASH/ EARTH WORK				
(a)	In-Situ Dry Density	Once for every 10,000 M ² in each layer of filling. At least one test shall be done per day irrespective of the progress.	IS : 2720 (Part – II & XXIX)	Minimum 95% of standard proctor max. Dry density.
(b)	Moisture Content	- do -	IS : 2720 (Part - II)	As per Specification.

**Appendix-II**

NTPC Ltd.
Ash utilization Division

Date: 04-03-09

System Circular**Sub: Reclamation of Low lying areas using ash**

Corporate Vigilance department has observed various irregularities in the execution of land development work with pond ash at one of NTPC's station. In order to avoid irregularities in such type of developmental works, following guidelines to be adopted by all NTPC stations:

- In case of reclamation of low lying areas with pond ash the pre & post levels of both cutting & filling areas are to be taken up as specified in CPWD specifications/manuals in association of representatives from FQA/FES.
- Soil required for soil cover of land fills shall be excavated from the land fill site itself and if it is not possible to do so, only the minimum quantity of soil required for the purpose shall be excavated from soil borrow area. In either case, the topsoil should be kept or stored separately. Voids created due to soil borrow area shall be filled up with ash with proper compaction and covered with topsoil kept separately as above. This would be done as an integral part of land fill project within the time schedule of the project.
- The above provisions should be incorporated in Standard Technical Specifications of low lying area development works.

Sd/-
(A. K. Mathur)
Addl. General Manager
Ash Utilization Division

**Annexure-F**

NATIONAL THERMAL POWER CORPORATION LTD.
CORE ENGINEERING – CIVIL DESIGNS

Ref.: CC: CE/C: MISC

Date: 26.10.1993

CIRCULAR

As per the Policy Guidelines on Utilization of Ash only fly ash based pozzolona cement shall be used in all construction activities in NTPC w.e.f. Jan'95 excepting those structures which are identified as "Critical" structures by the Engineering Division. Keeping this in view, the following structures have been identified as critical structures in which OPC shall necessarily be used:

1. Turbo-generator foundation excluding the raft.
2. Chimney, excluding the raft.
3. Natural draft cooling towers, excluding the foundation and basin.
4. Spring –supported decks of machine foundations.
5. Water intake wells and well foundations.
6. All structures requiring slipform shuttering.
7. All structures requiring grade of concrete M-25 and above.

The fly ash based PPC should conform to IS : 1489 Part-I Latest Edition.

This circular does not, however, cover the cases of abnormal conditions such as presence of high chemical content in soil, aggressive environment, special construction requirements etc. for which the type of cement to be used shall be decided on a case to case basis.

Sd/-
(P. M. Bopanna)
HOD (Civil)

**Annexure-G**

NTPC LTD.
Ash Management Group
Circular

Ref. : AM-II/Policy/Ash Fund

Dated : 25.3.2014

Sub: Policy Guidelines for Utilization of Ash Fund created from sale of fly ash.

MoEF Gazette notification amendment dated 03-11-2009 on Ash Utilization specified that thermal power stations are permitted for sale of fly ash and the amount collected from sale of fly ash and fly ash based products by coal and/or lignite based thermal power stations or their subsidiary or sister concern unit, as applicable should be kept in a separate account head and shall be utilized only for development of infrastructure or facilities promotion and facilitation activities for use of fly ash until 100 % fly ash utilisation level is achieved; thereafter as long as 100% fly ash utilization levels are maintained, the thermal power stations would be free to utilize the amount collected for other development programmes.

As per existing NTPC's policy on Ash Utilization, sale of fly ash is being carried out by NVVN Ltd. (a wholly owned subsidiary of NTPC) and in compliance to the MoEF notification, the amount collected are being kept in separate account "Ash Fund." In order to utilize this Ash Fund complying MoEF stipulation for Ash Utilization activities so as to enhance Ash Utilization at NTPC stations, detailed guidelines have been framed and approved by competent authority. The guidelines for utilization of Ash Fund for various activities are as under:

(A) The budget/amount of this Ash Fund shall be allocated for (1) Development of Infrastructure/facilities (2) Promotional Activities (3) Facilitation activities (4) Other Expenditures (5) Administrative and Other expenditures (6) Other development programme of the stations.

The lists of the activities are :

- (1) **Development of Infrastructure/facilities** : The activities which will be funded from Ash Fund under this head are :
- i) Construction of new roads (including bridges/culverts), approach roads adjoining of fly ash storage silos/ash dykes, paving of areas adjoining weigh bridge, brick plant, railway siding, fly ash silo area etc. to facilitate fly ash utilization.
 - ii) Buying of rakes/locomotive for transportation of fly ash.
 - iii) Setting up of classifiers for segregation of fly ash ash into different grades and hydra bin for separation of bottom ash.
 - iv) Retrofitting of Dry Ash Extraction and Storage System (DAES) for the plants whose design life is over i.e. beyond 25 years.



- v) Procurement & Installation of weighbridge for weighment of fly ash.
- vi) Setting up of ash bricks or other ash based products manufacturing plants.
- vii) Fly ash bagging facility.
- viii) Fly ash storage capacity addition by installation of additional silos.
- ix) Creation of Eco-Park.
- x) Preparation of ash utilization master plan including landscaping and plantation at each site.

(2) Promotional Activities : List of activities funded from Ash Fund under this head are:

- a) Expenditure towards low lying area development using ash inside as well as outside of NTPC premises within 50 Km. of NTPC plant (including cost of excavation, loading transportation, compaction, cost of soil cover, support structure necessary for ash filling as one activity).
- b) Expenditure towards demonstration projects for use of ash (i) excavation loading and transportation of ash by trucks/dumpers in backfilling of open cast mine/stowing of underground mine (ii) construction of rail embankment (iii) road construction (iv) wasteland development (v) development of infrastructure for mine stowing/ filling (vi) use of ash bricks/ other ash based products (vii) Expenditure for loading of pond ash for enhancing ash utilization.
- c) Expenditure towards cost of transportation for supply of pond ash to farmers fields.
- d) Expenditure on transportation of fly ash/ bottom ash/ pond ash to other agencies to enhance ash utilization.
- e) Expenditure on manufacture of ash bricks/other ash based products.
- f) Research studies, consultation charges, testing charges etc. for ash utilization activities.
- g) Promotional activities such as workshop/seminars/training/awareness programmes, advertisement, making documentary film, printing of brochure, booklets etc. for ash utilization activities.

(3) Facilitation activities: The activities which will be funded from Ash Fund under this head are :

- i. Repair/upgrading/strengthening/widening of existing road, approach roads, adjoining of fly ash silos, ash dyke or other roads to facilitate ash utilization.
- ii. Construction of pavement of parking areas for fly ash trucks/tankers/bulkers parking, rest rooms and civil amenities for truck/tankers/bulkers drivers, helpers.
- iii. Expenditure in construction of Eco-park for enhancing ash utilization.
- iv. Repair and maintenance of infrastructures/ facility developed for ash utilization.

(4) Other Expenditure: Any other expenditure in connection with improvement of ash utilization leading to environment improvement, afforestation, economical power etc.



- (5) **Administrative and other expenditures:** Expenditure towards administrative and other expenditures, marketing of ash and ash based products, manpower of NTPC – Ash Utilization Cell at Stations, Regional Offices and at Corporate Centre, UPL manpower engaged for fly ash sale/ utilization activities at stations and NVVN office at CC, manpower of NVVN – Ash Business and other related groups, taxes and duties, printing, EDP, office equipment, furniture and fixtures, rent etc.
- (6) **Other Development programme:** As long as 100% ash utilization levels are maintained, the thermal power station would be free to utilize amount collected for other development programmes.

(B) Expenditures which will not be considered from Ash Fund are :

- (a) Expenditure on infrastructure activities i.e. (i) installation of Dry Ash Extraction system at NTPC's new projects (ii) raising of ash dykes etc.
- (b) Capital intensive schemes for back filling of mines shall not be taken up from Ash fund. However, in special circumstances such schemes may be considered from ash fund on specific approval of competent authority i.e. CMD, NTPC.
- (c) Any capital expenditure which may be allowed under the extant tariff regulations by CERC will not be met out from Ash Fund. To ensure this capital items identified in the budget proposals by the each station shall be got verified from Corporate Commercial.
- (d) Care may be taken that "Ash Fund" is utilized for "Promotional activities" at paragraph 2(a) & (d) only for disposal of ash beyond the contracted quantities offered for sale to different agencies at operating stations.

(C) Procedures for Approval for Activities from Ash Fund :

- In principle approval for activity to be financed from Ash Fund is to be taken up as and when activities (as listed at para A above) are identified by stations. Each station has to make comprehensive proposal, individual activity wise alongwith the objective, year wise plan for expenditure and how it will help in enhancing ash utilization at the station.
- The cost estimate of the proposal for each activity being proposed, should have detail break up checked by Civil/TS and duly vetted by Finance department and approved by Head of the project/RED as per applicable clause of NTPC DOP 2011 depending on the nature of work.
- This proposal then shall be routed through Head of Ash Management Group at NTPC-CC to NVVN Ltd. for allocation of Ash fund.

(D) Budget activity for Ash fund:

- Activity wise budget requirements shall be prepared by each station in the month of April in each year in the format enclosed (Format-I) and shall be sent to AM-CC for compilation and submission to NVVN Ltd. Budget proposal will include all those activities which have earlier been accorded in-principle approval by AM-CC and NVVN. However, if any activities not included in the budget proposal, but needs to be taken up



during the financial year, will also be considered form ash fund after having in principle approval of AM-C and NVVN and included for allocation of fund from Ash Fund. AM-CC shall compile station wise budget requirement and shall inform to NVVN for Ash Fund utilization in the month of June.

- Each station has to make maximum efforts for utilization of budget/fund allocated for the activity in the year. Stations shall submit progress of the activities financed from Ash Fund on quarterly basis to AM-CC. Activity which has been agreed from Ash Fund, if not being executed due to any reasons within 2 years of date of sanction by NVVN, shall be informed by station to AM-CC, so that sanctioned Ash Fund can be allocated for other activities.

(E) Accounting & Disclosure of Ash Fund

NTPC Stations shall incur the expenditure and then transfer to NVVN for adjustment of fund under the intimation to Ash Management Group-CC. All the expenditure should be supported with all relevant documents/bills/approvals and copy of the same shall be forwarded to NVVN for audit purpose. The accounting, maintenance and disclosure of the Ash Fund shall be done by NVVN.

Stations must have to ensure that entire expenditure booked under the Head "Ash Utilization and Marketing Expenses" is transferred at the quarter end along with supporting documents to NVVN for reimbursement out of Ash Fund.

If the sale of fly ash and ash based products is done by NTPC station directly with specific approval, sale proceeds of fly ash shall be transferred to NVVN on quarterly basis in GL code 2012023 – "Fly Ash Utilization Fund" account for accounting disclosure and allocation purposes.

- (F) This policy will be reviewed every year.

These policy guidelines are for implementation by all NTPC stations.

Sd/-

(Ajit Kumar)

AGM (I/c)- Ash Management Group

Format- I**Budget from Ash Fund for Ash Utilization activities**

Plan for Ash Utilization activities for the year (say 2014-15)

Station:

..... (Name of Station)

Sl. No.	Name of Activity with Brief Details	Ref. of approved note of In-principal approval	Total budget approved by AM-CC	Fund required ₹ in Lac (2014-15)	Estimated Ash Utilization (lac tone) (2014-15)	Fund allocated in previous year i.e. 2013-14 (₹ Lac)	Fund utilized in previous year i.e. 2013-14 (₹ Lac)	Remark
1.								
2.								
3.								

Annexure-H**DELEGATION OF POWERS FOR ASH UTILIZATION ACTIVITIES AT STATIONS/ REGIONS**

Sl. No.	Nature of Power	RED	Head of Station/ Project	Head of AUD	Remarks
1	Terms and Conditions (a) Disposal/ Sale of ash/ fine fly ash/ processed fly ash generated by NTPCs Stations.	Full Powers	Full Powers	-	1(a) & 1(b) with concurrence of Fin. and in accordance with approved policy and guidelines.
	(b) Sale of ash based products manufactured by NTPC plants.	Full Powers	Full Powers	-	
2	Disposal/ Sale of ash generated on terms and conditions approved vide 1(a) above by calling of tenders * and award against.				Disposal/ sale in accordance with approved policy and guidelines and with concurrence of finance.
	a) Open tender	Full Powers	Full Powers		
	b) Limited tender c) Single tender	Full Powers Full Powers Full Powers	Full Powers Full Powers Full Powers		
3	Sale of ash products on terms and conditions approved vide 1(b) above by calling of tenders and award against:				Sale in accordance with approved policy and guidelines and with concurrence of finance.
	a) Open tender	Full Powers	Full Powers		
	b) Single response against open tender	Upto ₹ 800 lakh in each case	Upto ₹ 200 lakh in each case		
	c) Limited tender	Upto ₹ 350 lakh in each case	Upto ₹ 100 lakh in each case		
4	Award for sale of untied/ not-lifted / balance quantity of fly ash and fly ash based products to interested parties on same Terms & Conditions on discovered price.	Full Powers	Full Powers	-	In accordance with approved policy and guidelines.
5	Sanction of advertisement for invitation of tenders, seminar, and other publicity matter on the subject through empanelled agencies.	Full Powers	Full Powers	-	As per the rates in National dailies and other Publication in consultation with PR Deptt. subject to budget provision and approved policy guidelines.



Sl. No.	Nature of Power	RED	Head of Station/ Project	Head of AUD	Remarks
6	Market survey and investigations	Full Powers	Up to ₹ 10 lakh in each case	-	Subject to budget provisions
7	Sanction to incur cost for publicity and business promotion in consultation with Finance.	Full Powers	Up to ₹ 10 Lakhs per Occasion	-	As per prevalent rates for National/ Regnl. Dailies in consultation with PR subject to budget provisions and as per approved policy and guidelines.
8	Power to execute legal documents in respect of all activities during execution of any contract including marketing.	Full Powers	Full Powers	-	Subject to vetting by CLO, Agreement requiring common seal will require Board's approval.
9	Sanction for appointment of Executives/ supervisors casual/daily rate employees though UPL.	Full Powers	Full Powers	-	Subject to approved policy and guidelines.
10	Purchase of sundry requirements for manufacture of ash based products.	Up to ₹ 50 Lakh	Up to ₹ 25 lakhs	Upto ₹ 10 lakh	Subject to approved guidelines and system mentioned sl. No. 10 in Section -II of DOP 2012.
11	Award of work for repairs of equipment, machineries of plant and laboratory.	Full Powers	Full Powers	Upto ₹ 1 lac. in each case	Subject to budget provisions.
12	Sanction of petty contingent expenditure of recurring & non-recurring nature.	Full Powers	Full Powers	Upto ₹ 20,000 in each case	Subject to total ceilings in budget.
13	Technical approval & award for testing of ash & ash based products and other related items like clay, soil, lime, gypsum, cement etc.	Full Powers	Full Powers	Up to ₹ 1 lac in each case.	Such investigation may be done by institute / laboratory, test houses like National Council for Cement and Building Materials, CSIR Institute/ laboratories, Shri Ram test House, IIT or any other recognized laboratory subject to reasonableness of charges.



* Through e-tender and book building process

Note:

- For any item not covered above, regular NTPC, DOP shall be referred.
- All expenditure decision above ₹ 50,000/- shall be with concurrence of associated Finance Deptt. (Except for the case at Sl. 10 above. Sl.10 shall be as per remarks of Sl. No. 10 in Section –II of DOP 2011.)
- Technical and administrative approval of proposals: For cases, where approval for technical and administrative of the cost estimate shall be required, Head of the Project/Station shall have “Full Power” after vetted in Finance.
- Above Delegation of Power for Ash Utilization activities at site may supersede the earlier DOP vide Office Order No. 174/98 dated 12-10-98 of DOP 2005 for Ash Utilization activities at site after the approved by Competent Authority.

Annexure-I

Activities & Responsibilities
(Policy for Ash & Ash Based Products Business)

A Setting up Fly ash Brick plant:

Sl. No.	Activity	Responsibility	Remarks
1	Demand survey for fly ash bricks	HoP	1. Selection of dealer for marketing of fly ash bricks and out sourcing for running of brick plant shall be done through transparent system. 2. Selection of JV partner for fly ash brick plant shall be done in association with Region, AM-CC and approved by CMD. 3. Formation of JV Company shall be approved by CMD.
2	Tendering, procurement & installation of fly ash brick plant	HoP	
3	Fixation of price of fly ash bricks	HoP as per recommendation by a committee	
4	Finalization of modalities and appointment of reputed dealers for sale of fly ash bricks.	HoP as per recommendation by a committee	
5	Outsourcing for running of fly ash brick plant and marketing of fly ash bricks.	HoP as per the guidelines issued by AM-CC	
6	Explore possibility of forming JVs/ leasing of brick plants to interested brick manufacturer/ agency for optimum capacity utilization.	HoP as per the guidelines issued by AM-CC	
7	Explore possibility for setting up large capacity of fly ash brick plant under JV.	HoP as per the recommendation by committee.	
8	Finalization of terms and conditions for selection of JV partner and inviting EoI for setting up fly ash brick plant under JV.	HoP in association with Region, AM-CC and approved by CMD	
9	Selection of JV partner and MoU	HoP in association with Region, AM-CC and approved by CMD	

B Setting up of Cement plant

Sl. No.	Activity	Responsibility	Remarks
1	Techno-economic feasibility study for setting up of cement plant.	HoP	1. Selection of Dealer for marketing of cement and out sourcing for running of cement plant shall be done through transparent system.
2	Finalization of terms and conditions and inviting EoI for selection of JV partner	HoP in association with Region, AM-CC and approved by CMD.	
3	Selection of JV partner and MoU	HoP in association with Region, AM-CC and approved by CMD	
4	MoU/ long term agreement with cement companies for assured off- take of fly ash in association with Region and AM-CC.	HoP as per the guidelines/ format issued by AM-CC.	2. Selection of JV partner for cement plant shall be done through transparent system in association with Region, AM-CC and approved by CMD.
6	Outsourcing for running of cement plant and marketing of cement, if set up by own.	HoP in association with Region, AM-CC and approved by CMD	
			3. Formation of JV Company shall be approved by CMD.

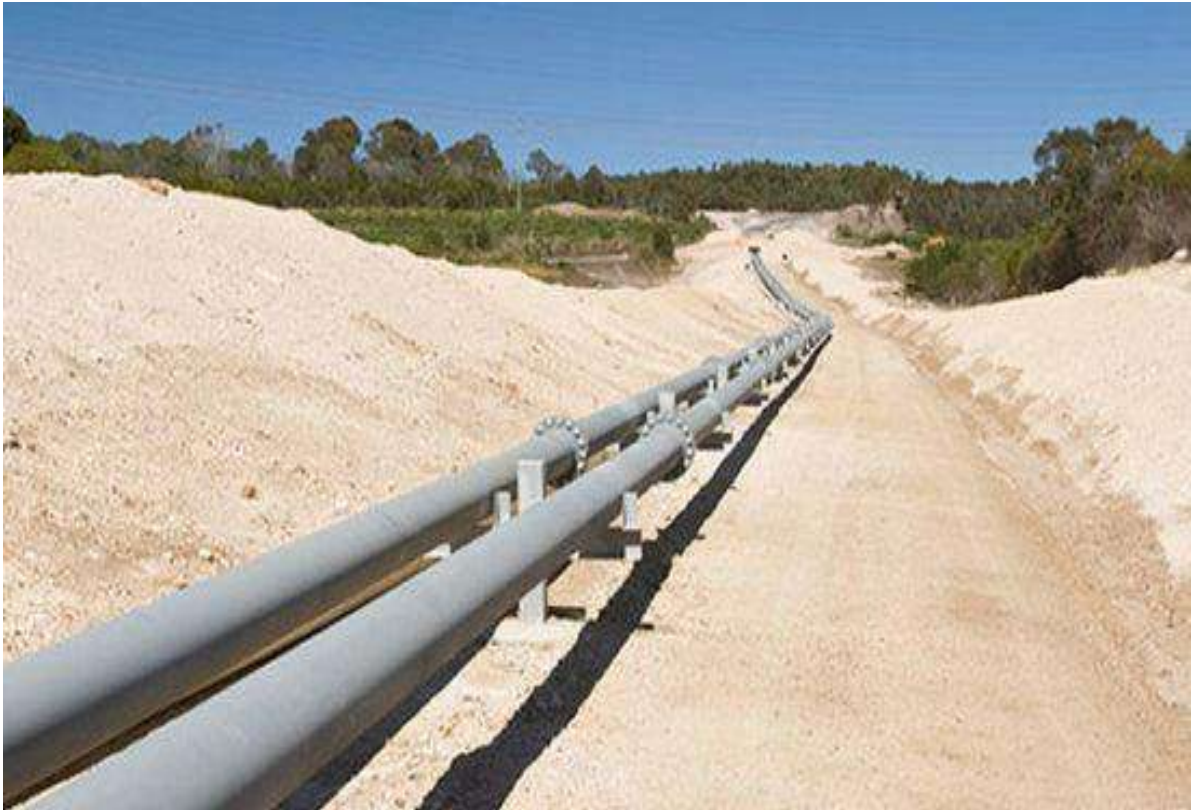
C Setting up of Light Weight Aggregate Plant (LWA)

Sl. No.	Activity	Responsibility	Remarks
1	Techno-economic feasibility study for setting up of light weight aggregate plant	RED	1. Selection of Dealer for marketing of LWA and out sourcing for running of LWA plant shall be done through transparent system.
2	Selection of Station for LWA plant	RED	
3	Tendering, procurement & installation of LWA plant	HoP	
4	Fixation of price of LWA	HoP as per recommendation by a committee.	2. Selection of JV partner for LWA plant shall be done in association with Region, AM-CC and approved by CMD.
5	Finalization of modalities and appointment of dealers for sale of LWA.	HoP as per recommendation by a committee.	
6	Outsourcing for running of LWA plant and marketing of LWA.	HoP as per the guidelines issued by AM-CC.	3. Formation of JV Company shall be approved by CMD.
7	Finalization of terms and conditions for selection of JV partner and inviting EoI for setting up LWA plant under JV.	HoP in association with Region, AM-CC and approved by CMD.	
8	Selection of JV partner and MoU	HoP in association with Region, AM-CC and approved by CMD	



NTPC - Dadri

**Guidelines for disposal/utilisation of Fly Ash for
reclamation of Low Lying Areas and in stowing of
Abandoned mines/Quarries**



**Central Pollution Control Board
March, 2019**

I N D E X

Sr No.	Chapter
1.0	Introduction
2.0	Status of flyash utilisation
3.0	Need of guidelines
4.0	Loading/unloading and transportation of flyash
4.1	Current Practice for Handling & Disposal of Flyash & Bottom ash (within the power plant)
4.2	Guidelines for loading, unloading, storage, transportation of flyash
4.2.1	Maximise dry collection of fly ash and bottom ash
4.2.1	Loading, unloading and storage
4.2.3	Transportation
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8.0	Regulatory Procedure for Processing the Application
Appendix	Guidelines for disposal of flyash in open cast mines along with Over Burden (OB)
References	1.Guidelines for Reclamation of Low Lying Areas and Abandoned Quarries with Ash , August 2017, Odisha Pollution control board

- 2.Guidelines for Low Lying area development using Ash, ash Policy 2015, NTPC Ltd.
- 3.Permission of DGMS to M/s JSPL & JPL for disposing ash in coal mines

Guidelines for disposal/utilisation of flyash for reclamation of Low Lying Areas and in stowing of Abandoned mines/Quarries

1.0 Introduction:

Management of huge quantity of ash (fly ash, bottom ash and pond ash) generated from coal fired Thermal Power Plants (TPPs) is a serious environmental challenge. Ash generation from coal or lignite based thermal power plants, has increased from 40 Million tonne per year in 1993-94, to more than 200 Million tonne per year in 2017-18 and is projected to increase to 275 Million Tons / year by 2032.

The ash generation in coal and lignite based thermal power plants in various forms such as dry ash, bottom ash, pond ash and mound ash that are required to be managed in such a manner that it does not affect the environment. Utilisation of ash for reclamation of low lying areas and abandoned quarries is recognised as an alternate option and therefore, MoEF&CC has issued a notification to address utilisation of ash for various purposes including these two options

The Ministry of Environment, Forest and Climate Change (MoEF&CC) issued the Fly Ash notification on 14th September, 1999, which has subsequently been amended in 2003, 2009 and 2016. The Fly Ash notification (1999) mandates the use of fly ash for the purpose of manufacturing ash-based products such as cement, concrete blocks, bricks, panels or any other material and for construction of roads, embankments, dams or for any other construction activity within a radius of 300 km from thermal power stations (TPPs). Besides, it also mandates use of fly ash in mines backfilling or stowing of mines within a distance of 50 km.

2.0 Status of fly ash utilisation:

Since 1999 when flyash utilisation was made mandatory, the utilization of fly ash has increased from 6.64 million-ton in 1996-97 to 147.7 million-ton in 2017-18. Fly ash generation and utilization in 2017-18 from 182 coal/lignite based TPPs of various power utilities in the country was 220.7 and 147.7 million-ton, respectively. The percentage of fly ash utilization during 2017-18 has been 66.9%. During 2017-18, out of total fly ash generation, 35.6 % of total fly ash was used in the cement sector, followed by 14.28 % in making bricks & tiles, 11.57 % stored in ash dyke raising,

7.99% in mine filling, 16.85 % in reclamation of low lying area, 5.43 % in roads & embankments, 1.34% in concrete making, 0.21 % in agriculture, 6.73 % in others and 33.1% remained as unutilized fly ash.

Mine reclamation represents a potential beneficial use of flyash that has been receiving increased attention in recent years. Coal mining operations have produced both open pits and deep underground mine voids that can be filled by flyash. Placement of flyash into deep mines can provide structural support to abate subsidence, and placement of flyash in surface mines or other open pits can aid in restoring mined land to beneficial use. The use of flyash as mine backfill may provide the additional benefit of limiting impacts of acid mine drainage (AMD). Mostly flyashe is alkaline material that can neutralize acidic water and/or inhibit production of acid. Placement of fly ash may also reduce the permeability of mine strata and divert water away from acid-generating materials. Although flyash possess these beneficial physical and chemical properties, there are concerns regarding potential for release of toxic chemicals in the leachates from the fly ash. Therefore, scientifically sound fly ash management is needed so that environmental concerns can be adequately and reliably identified and addressed.

3.0 Need of Guidelines:

Ministry of Environment and Forests and Climate Change (MoEF&CC) vide Notification No. S.O. 763 (E) dated 14th September 1999, last amended on 25th January, 2016 issued following directions for reclamation low lying area and stowing of mines;

- i. No agency, person or organization shall within a radius of three hundred Kilometres of a coal or lignite based thermal power plant undertake or approve or allow reclamation and compaction of low-lying areas with soil; only ash shall be used for compaction and reclamation.
- ii. Soil required for top or side covers of embankments of roads or flyovers shall be excavated from the embankment site and if it is not possible to do so, only the minimum quantity of soil required for the purpose shall be excavated from soil borrow area. In either case, the topsoil should be kept or stored separately. Voids created at soil borrow area shall be filled up with fly ash with proper compaction and covered with topsoil kept separately as above and this would be done as an integral part of embankment project.

- iii. No person or agency shall within fifty kilometers (by road) from coal or lignite based Thermal Power Plants, undertake or approve stowing of mine without using at least 25 % of fly ash on weight to weight basis, of the total stowing materials used and this shall be done under the guidance of the Director General of Mines Safety (DGMS).
- iv. No person or agency shall within fifty kilometers (by road) from coal or lignite based Thermal Power Plants, undertake or approve external dump of mining Over Burden (OB) without using at least 25 % of ash on volume to volume basis of the total materials used for external dump of overburden and same percentage in upper benches of back filling of opencast mines and this shall be done under the guidance of the Director General of Mines Safety (DGMS);
- v. All agencies undertaking construction of roads of flyover bridges and reclamation and compaction of low lying areas, including Department of Road Transport and Highways (DORTH), National Highways Authority of India (NHAI), Central Public Works Department (CPWD), State Public Works Department and other State Government Agencies, shall within a period of four months from the publication of this Notification “ make provisions in their tender documents, schedules of approved materials and rates as well as technical documents for implementation of this Notification, including those relating to soil borrow area or pit”.
- vi. The pond ash should be made available free of any charge as is as where basis to manufacturers of bricks, blocks, tiles including clay flyash bricks production manufacturer’s units, farmers, central and the state road construction agencies, Public Works Department and to agencies engaged in backfilling or stowing of mines.

Though, flyash utilisation has gained momentum progressively over the years, further efforts are required to explore new areas of ash utilisation. With suitable safeguards, mine backfilling including disposal of flyash in abandoned quarries and road construction specially in the construction of National Highways and Expressways could be the major mode of flyash utilisation in the near future as these areas have vast potential. It would perhaps be desirable that the concerned Ministries should take steps in sorting out the bottlenecks such as declaring a list of abandoned mines, making adequate provisions in respective schedules for flyash utilisation by the Indian Road Congress & construction agencies etc.

MoEF & CC vide letter dated 01.03.2019 asked CPCB to come out with guidelines based on Odisha Pollution Control Board experience for reclamation of low lying areas and abandoned quarries with ash as recommended by the Expert Committee that was constituted by Niti Aayog vide O.M. No. 25 (11)/2014-Minerals dated 12.06.2018 for developing a focus strategy for best utilisation of fly ash to manufacture end products recommended.

The scope of guidelines covers transportation and disposal of flyash in low lying areas and abandoned quarries in an environmentally friendly manner.

4.0 Loading/unloading and transportation of flyash

4.1 Current Practice for Handling & Disposal of Flyash & Bottom ash (within the power plant)

Flyash is collected in dry form from ESP hopper and disposed either in dry form or through wet slurry form. While, bottom ash collected at the bottom of boiler and is disposed in wet slurry form into the ash ponds.

Following technologies are conventionally used for handling & disposal of flyash and bottom ash collected from ESPs hoppers and boiler bottom respectively within the plant or upto the ash pond area:

- I. Dry Pneumatic conveying
- II. Dry (moist) Conveying system through belt conveyor/tube belt conveyor
- III. High concentration slurry disposal system
- IV. Medium concentration slurry disposal system
- V. Lean concentration slurry disposal system

Amongst the above technologies, Dry Pneumatic conveying, Medium concentration slurry disposal system, High concentration slurry disposal system, and Dry (moist) Conveying system through belt conveyor/tube belt conveyor are preferable as compared to Lean concentration slurry disposal system.

The dry ash is typically conveyed pneumatically from the ESP or filter fabric hoppers to storage silos where it is kept dry, pending utilization or further processing, or to a system where the dry ash is mixed with water and conveyed (sluiced) to an on-site storage pond. Fly ash is stored in silos, domes and other bulk storage facilities. Fly ash can be transferred using air

slides, bucket conveyors and screw conveyors, or it can be pneumatically conveyed through pipelines under positive or negative pressure conditions.

Dry fly ash collected is also be suitably moistened with water and wetting agents, as applicable, using specialized equipment (conditioned) and hauled in covered dump trucks for special applications such as structural fills. Water conditioned fly ash can also be suitably stockpiled at jobsites. Exposed stockpiled material must be kept moist or suitably covered to prevent fugitive emission.

The dry bottom ash removal and its transportation is certainly more environment friendly, compared to that of wet ash removal and transport system.

4.2 Guidelines for loading, unloading, storage, transportation of flyash

The power plants need to maximise dry collection of fly ash & bottom ash and also adopt adequate measures to prevent fugitive dust emission during loading, unloading, storage, transportation and various uses of dry as well as ash bottom ash and pond ash. Following guidelines are, therefore, suggested for prevention of pollution and augmentation of flyash utilisation

4.2.1 Maximise dry collection of fly ash and bottom ash

- a. Coarse fly ash from first field of ESP hoppers need to be collected and stored separately.
- b. Fine fly ash from second field onwards of ESP Hoppers should be collected separately. For some specific usage, fine fly ash may be passed through Classifier for further separation of fine fly ash and stored in separate silo.
- c. Bottom ash which is not utilised presently could also be collected in dry form and converted into a valuable resource if processed to match the end use specification. Wet collection & disposal of bottom ash should be minimised as far as possible

4.2.2 Loading, Unloading and Storage

Installation of Bag Filters with dry flyash collection and storage in Silos at loading and unloading points are standard practices at both locations i.e loading at power plant site as well as at the unloading point at user's site. Suggestions for further improvement in existing practices are as under:

- a. Current practice of loading of fly ash in Bulklers/Tankers requires improvement at the stage of loading of fly ash in Tankers. The opening of telescopic chutes at the loading end should be air tight and confined to avoid fugitive dust emission.
- b. The Pollution Control Equipment / Cascade Filters, attached with fly ash loading chute should be periodically cleaned along with regular scheduled maintenance of bag filter to avoid choking and malfunctioning of Bag Filter. It would mitigate the dust emission during loading of fly ash.
- c. Malfunctioning of level sensors can be avoided, with regular maintenance, to prevent over filling of fly ash in Tankers .
- d. The Weigh Bridge to be installed under fly ash loading chute to fill just the required quantity of fly ash in tankers so that overflow/spillage of fly ash in open areas is avoided which otherwise results in heavy fugitive emission all around.
- e. Opening of tankers need to be properly locked during transportation of fly ash. Automatic opening / closing system need to be installed without fail.
- f. Current practice of unloading of fly ash from tanker to storage hopper through pneumatic system is fairly good. Otherwise, the leakage of fly ash will occur at bends and joints of transportation pipe line. The fly ash being abrasive in nature causes damage at bends and joint locations. Fly ash should, therefore be transported through PVC coated pipes to avoid abrasion otherwise it may lead to leakage of flyash. The mechanical unloading system should be envisaged to avoid high pressure and dust leakage from unloading pipe lines. As far as possible, number of bends should be minimised.
- g. The fly ash storage silo should be of or coated with anti-abrasive or anti-corrosive material. It is better to provide concrete silo/hopper to avoid leakages.

- h. Proper functioning of all the level sensor of Storage Hopper to be ensured to avoid any possible spillage from Hopper opening.
- i. The Bag Filter made of anti-abrasive material/cloth be provided with telescopic chute.
- j. Dumping of ash in Ash pond should be done mechanically in moist condition so that ash does not get air borne and pose fugitive dust problem.
- k. The bottom ash discharged from boiler bed, may be transported pneumatically in dry form / in slurry form to the ash pond

4.2.3 Transportation

Fly ash transportation has many challenges like distance to be transported, form of ash i.e. dry or wet ash, user's requirement, economic feasibility, requirement of surrounding vicinity and many other site specific issues. In any case, control of dust emission during transportation is prime concern and more challenging being a non-point source of pollution and larger area coverage due to movement from one place to other passing through various receptors. As flyash is used by different users for different purposes such as cement manufacturing, brick manufacturing, mine back filling, road construction and filling of low lying area, the handling and transportation have to accordingly decided. Following modes of transportation and precautions are suggested for mine back filling and development of low lying areas by disposal of flyash or bottom ash to avoid fugitive dust emission:

a. Transportation for abandoned mine back filling

- I. Pipe conveyors, wherever feasible, based on the topography of the area should be used.
- II. Tankers/ railway wagons/ bulkers or mechanically designed covered trucks need to be used
- III. Thermal Power Plants using wet ash disposal, if permitted can transport ash slurry directly to abandoned mine through ash slurry pipe line.

b. Transportation for filling of low lying area

- I. Tankers/ bulkers or mechanically designed covered Trucks need to be used.

In no case, flyash or bottom ash shall be transported by open trucks / trollies irrespective of distance or end use. Thermal power plants and fly ash user agency shall collectively ensure that fly ash or bottom ash is transported in environmentally sound manner by following the guidelines mentioned in para 4.2.3 & 4.2.4.

4.2.4 General Code of Practices for Maintenance of roads, vehicles and conditioning of flyash

- a. Roads inside power plant and that of flyash user agency should be paved and plantation of adequate width should be done at both sides. Mechanised road sweepers should be deployed. In addition, adequate arrangements for water sprinkling should be made to suppress fugitive dust emission, if any.
- b. Thermal power plants and user agencies should make arrangements (two stages) for washing of wheels of the vehicles (bulkiers/trucks) before deployed for fly ash transportation.
- c. Fly ash to be transported should be conditioned with water to maintain minimum of 15% moisture at the disposal point so that ash does not get air borne and cause fugitive emission.
- d. Adequate free board in trucks should be kept to avoid overflow/spillage during transportation.
- e. In case of any spillage enroute during transportation of fly ash, the agency shall ensure that spilled ash is collected and transported to the disposal/usage site immediately.
- f. All the bulkiers and trucks responsible for carrying fly ash should be with valid Pollution Under Control certificates.
- g. Provision should be preferably made for weighing of fly ash loaded into tankers/ railway wagons/bulkiers etc under the silo.
- h. The speed limit of vehicles carrying flyash should be strictly enforced and it should not exceed 40 km per hour.

- i. State Pollution Control Boards shall clearly indicate mode of transportation and method of loading and unloading while granting the consent.
- j. Transportation of flyash through thickly populated areas should be avoided as far as possible.
- k. General awareness/ training programmes be organised regularly for tanker operating staff like drivers and cleaners on the impact of hazards of fly ash.

5.0 Reclamation of Low Lying area using Ash

Filling of Low lying areas inside the plant premises and outside within 300 km. of power plant may be taken up using ash. Low lying area reclamation with ash should be taken up adopting standard practices as per 2015 technical specification mentioned in NTPC Policy. Following steps should be taken up prior to initiate low lying area developmental activities.

5.1 Preconditions:

- 5.1.1 **Consent from land owner:** Consent/ permission should be obtained in writing from the land owner before start of work.
- 5.1.2 **Permission from Regulatory authority:** Power plant/ land owner/ agency shall obtain statutory permission from regulatory authorities such as SPCB as per the requirement.
- 5.1.3 **Prevention of pollution:** Suitable methods should be adopted and necessary arrangement should be made to prevent pollution during excavation of pond ash at ash pond, filling area and during transportation of ash.
- 5.1.4 **Soil Cover on the top of ash fill:** As per the MOEF&CC gazette notification of ash utilization dated 14-09-1999 and as amendment on dated 27-08-2003 and 03-11-2009, the soil required for soil cover shall be excavated from land fill site itself and kept separately before taking for ash filling. If it is not possible to do so, only the minimum quantity of soil required for the purpose of cover shall be excavated from the soil borrow area. The voids so created due to removal of soil shall be filled up with ash with proper compaction and covered at top with soil cover. About 300-500 mm thick soil layer shall be placed over the ash fill area. This should be done as an integral part of low lying area development work.

5.1.6 Restrictions :

Reclamation of area by ash shall not be permitted in the following areas :

- i. Flood plain area/Ecologically Sensitive Areas.
- ii. Agriculture land / area.
- iii. Reclamation of Forest land / area is permissible only if clearance from MoEF&CC as per Forest Conservation Act, 1980 is available.
- iv. Gochar Kisan Land.

5.2 Preparation of filling area

5.2.1 The entire area meant to receive the ash and earth filling shall be stripped by minimum 150 mm. The exact depth of stripping shall be decided by the Engineer-in-Charge depending upon nature of top soil and the vegetation present. All organic matter, vegetation, roots, stumps, bushes, rubbish, swamp materials, etc. shall be removed from the site. The stripping material and other unsuitable materials as referred above shall be kept away from the area to be filled up so that these do not get mixed up with filling material and disposed off to a place as decided by the Engineer-in-Charge.

5.2.2 Levelling

All existing undulations, holes, cavities and excavations made for plate load rests and other soil investigations, etc. shall be filled with pond ash having requisite moisture content. The ash thus filled shall be compacted with the help of vibratory rollers so as to achieve dry density of not less 95% as per I.S-2720 (Part-VII). This would result in a levelled surface upon which layer wise filling of compacted ash can be done.

5.2.3 Protection of pond or water body adjoining or within the working site: If any pond or water body exists within or adjoining the low lying area /quarry then an earthen embankment of the cross-section as given in the Figure below be constructed around the pond or water body to protect it from spilling of ash or ingress of surface runoff into it.



Cross- section of water body protection embankment

The soil used for the embankment should neither be granular nor black cotton soil. It should be of good quality for geo-technical application. Soil should be compacted to 95% proctor by Vibratory Roller of 15 T minimum capacity, in the layers of 25-30 cm and the optimum moisture content determined before execution of work. After attaining the desired height, the disposal area should be thoroughly compacted, graded followed by soil cover at least 15 cm thickness for proper reclamation of the land by grass turfing or appropriate plantation.

5.3 Excavation of pond ash from borrow area

5.3.1 Borrow Area-location

The location and permissible depth of excavation of the Borrow areas for pond ash shall be got specifically approved from concerned Thermal Power Station. The boundaries and permissible depth of excavation so approved shall be strictly followed and no deviation shall be allowed. Similarly, routes for movement of all ash transportation vehicles, water tankers, equipment, etc. shall be got approved from Thermal Power Station. These shall be strictly followed and no deviation shall be allowed.

The excavation surfaces and surface of waste materials shall be left in a reasonably smooth and even condition. All the excavations within the ash pond shall be at a minimum slope of 4 (Horizontal): 1(Vertical)

5.3.2 Site Clearance

All areas required for borrowing shall be cleared of all trees and stumps, roots, bushes, rubbish and other objectionable material. Particular care shall be taken to exclude all organic matter from the ash to be placed in the fill. The cleared areas shall be maintained free of vegetation growth during the progress of the work.

5.3.3 Stripping

Borrow area shall be stripped of top layer by a depth of minimum 150 mm. The exact depth of stripping shall be decided by the Engineer-in-charge depending upon nature of top layer and the vegetation present.

5.3.4 Borrow area watering & dewatering

The natural moisture content of material in the borrow areas as well as the optimum moisture corresponding to the Proctor's maximum dry density for the material in the particular borrow area shall be obtained from laboratory tests. Additional moisture, if required, shall be introduced into the borrow area by watering well in advance of excavation to ensure uniformity of moisture content. If in any borrow area before or during excavation there is excess moisture, steps shall be taken to reduce the moisture by the selective excavation to secure the materials of required moisture content by excavating drainage ditches, by allowing adequate time for drying or by other means. To avoid formation of pools in the borrow areas during excavation operations, drainage ditches from borrow areas to the nearest outlets shall be excavated so as to obtain homogeneous mix. In general, all materials from a particular borrow area shall be mixture of materials obtained for the full depth of cut.

5.3.5 Earth cover in Borrow Area

It shall be the responsibility of Thermal Power plant to arrange sweet soil from approved external borrows areas. The earth cover material shall consist of sandy loam free of admixture of stiff clay, refuse, stumps, roots, rock, bushes, weeds or any other material which would be detrimental to the proper development of vegetation growth. It shall not contain stone of size 25 mm and over. The loamy top soil shall be of healthy crops, grass or other plant growth, that is of good quality and reasonably free draining. Other specifications for Borrow area e.g. site clearance, stripping, Borrow area watering/De-watering etc. shall be as per relevant clauses of Borrow area for ash as outlined above i.e clause nos. 5.3.1 to 5.3.4.

5.4 Filling with pond ash

5.4.1 Placement

After the area has been prepared and levelled, pond ash excavated from Borrow areas having required moisture content shall be placed in layers not exceeding 300 mm in compacted thickness. The placing operations shall be such that in strips of 10-15 m of the material when compacted in the fill will be blended sufficiently to produce specified degree of compaction and stability. No stones, cobbles or rock fragments, having maximum dimensions more than 100 mm shall be placed in the fill. Stones and

cobbles shall be removed either at the borrow pit site before it is used as soil cover.

5.4.2 Procedure

The material shall be placed in the fill in continuous horizontal layers, stretching right across the whole section, not more than 300 mm in compacted thickness and rolled as herein specified. The length of one layer shall not exceed 150 meters at one stretch. The layers shall be compacted in strips overlapping not less than 600 mm, if the rolled surface of any fill is found to be too wet for proper compaction, it shall be raked up, allowed to dry, or shall be worked with a harrow or any other approved equipment to reduce the moisture content to the required amount and then it shall be re-compacted before the next layer of ash is placed. Ash surfaces are likely to become dry in short intervals especially during hot and dry weather and hence enough moisture shall be added between difference passes to ensure proper compaction

5.4.3 Compaction

The compaction of each layer shall be carried out so as to achieve maximum in-situ dry density 95% of maximum dry density (MDD) of the material found out as per I.S 2720 (Part VII). To achieve maximum compaction level use of vibratory rollers shall be made. Required number of passes shall be made so as to achieve desired compaction. Number of passes required shall be verified through trials tests before actual execution of work. The broad specifications of vibratory rollers required for the purpose is as follows:

- a) Static Weight = 6 to 10 t
- b) Static Linear Load = 20 – 35 kg/cm
- c) Frequency = 18 – 30 Hz (1100 to 1800 vibrations/ minute)
- d) Amplitude of vibrations = 0.5 mm to 1.5 mm

5.4.4 Moisture control

So far as practicable, the materials shall be brought to the proper moisture content in the borrow area before excavation. If additional moisture is required, it shall be added at the fill site by sprinkling water before rolling the layer. Thermal Power Plant shall make arrangements for supply of water to the borrow areas as well as to the fill area. If the moisture content is more than requirement, the material shall be spread and allowed to dry

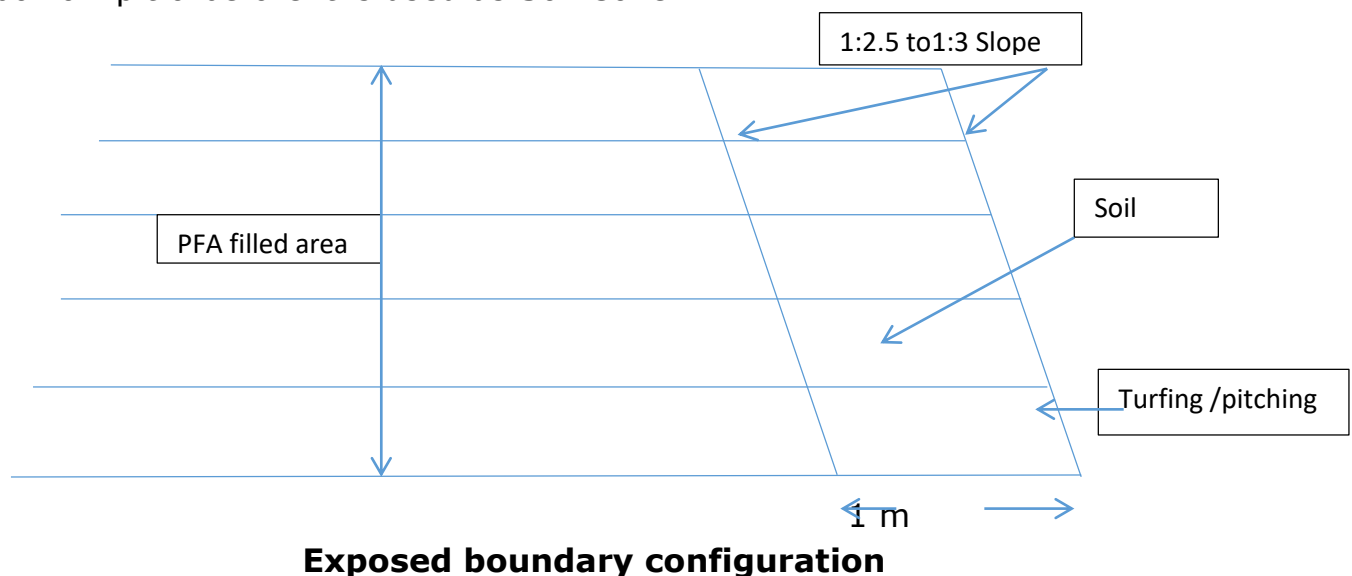
before rolling. The moisture content shall be at most uniform throughout the layer of material and ploughing or other methods of mixing to obtain uniform distribution. If the moisture content is more or less than the range of the required moisture content, or if it is not uniformly distributed throughout the layer, rolling shall be stopped, and shall be started again only when the above conditions are met with.

Fill materials shall be placed only when the weather conditions are satisfactory to permit accurate control of the moisture content in the materials.

5.4.5 Placement of earth cover in filing area

Earth cover shall be laid simultaneously with the laying of compacted ash layers and on side slopes. As in the case of ash layers, compacted thickness of earth layers shall not be exceeding 300 mm. As far as top cover of earth is concerned, after the area has been covered with compacted ash up to 500 mm below the required finished level of the area, a compacted layer of 500 mm thickness of suitable earth shall be placed over ash surface. This cover shall be placed in layers, each layer shall be of 250 mm in compacted thickness.

The combined excavation and placing operations shall be such that the materials when compacted in the fill will be blended sufficiently to produce specified degree of compaction on stability. No stones, cobbles or rock fragments, having maximum dimensions more than 25 mm shall be placed in the earth cover. Such stones or cobbles shall be removed either at the borrow pit or before it is used as Soil Cover.



Other requirements of earth cover laying shall be similar to those of ash laying i.e. as outlined in 5.4.1 to 5.4.4 above.

5.5 Prevention of Pollution

It shall be responsibility of thermal power plant or his contractor that no air borne and water borne pollution shall occur during all stages of operations such as in Borrow areas, during transportation of ash/ earth, during placement of fill material etc. All measures such as water sprinkling covering moist ash/ earth with tarpaulins in open trucks, etc., shall be taken to done care of above.

6.0 Disposal of flyash in voids of abandoned mines

As per notifications 1999 and 2009, power plant shall undertake or approve stowing of mines without using at least 25% of fly ash on weight to weight basis, of the total stowing materials used. Mine void filling on pilot basis is being carried out at the power plants of NTPC Ltd., Bhushan Steel and NALCO in Odisha with prior permission from MoEF & CC and OSPCB. Based on their experience and study conducted by CMPDIL, Ranchi for NTPC Talcher, following methodology is suggested for filling of mine voids with flyash.

6.1 The power plant authority shall carry out following study prior to taking up ash disposal activities in mine void to ensure no change/damage/deterioration in water quality and hydrology in and around the proposed area:

- Ash Characterisation and Leachate Study (Table 1.1)
- Techno-Economic Feasibility Study for disposal of ash into the Quarry
- Topographical Survey of Pipeline Corridor & Mine Void area
- Feasibility of transportation of ash to mine void
- Geotechnical study of the Pipeline Corridor & Mine Void area
- Pre and post filling mine water quality including leachability of metals (Table 1.1)

6.2 Mode of ash transportation to mine void area

One of flowing mode of transport actions of flyash shall be used depending upon the topography of the area:

1. Pipeline using pneumatic conveying system

2. Dumpers/ Trucks
3. Merry Go Round (MGR) System
4. Belt Conveyors in case of dry ash disposal
5. Wet ash (lean slurry or high concentration slurry) through pipeline

6.3 Monitoring:

6.3.1 Regular environmental monitoring to be undertaken during the period of disposal of ash into mine void as well as after the reclamation of mine void. The detailed monitoring programme is given in Tables below:

Table 1.1 : Proposed Monitoring Programme during Disposal of Ash

Samples	Parameters to be Analysed	Frequency
Ash Samples	Chemical Parameters (%): SiO ₂ , Al ₂ O ₃ , Fe ₂ O ₃ , K ₂ O, TiO ₂ , CaO, MgO, Na ₂ O, P ₂ O ₅ , SO ₃ Trace Elements (mg/kg, using TCLP Test): As, Ba, Cd, Co, Cr, Cu, F, Fe, Hg, Mn, Ni, Pb, Zn Radio-activity (Bq/kg): ²³⁸ U, ²³⁶ Ra, ²³² Th, ²²⁸ Ra, ²³⁰ Pb, ⁴⁰ K, ¹³⁷ Cs	Once before initiation of filling
Ash Leachate Analysis	Trace Elements (mg/kg, using TCLP Test): As, Ba, Cd, Co, Cr, Cu, F, Fe, Hg, Mn, Ni, Pb, Zn	Once a year
Piezometer Water Samples	Chemical Parameters (mg/l, except, pH and EC): pH, EC, TDS, Total Alkalinity, Ca, Mg, Na, K, Cl, SO ₄ , NO ₃ , PO ₄ , Trace Elements (mg/l): As, Ba, Cd, Co, Cr, Cu, F, Fe, Hg, Mn, Ni, Pb, Zn	Monthly
Mine Water Sample	Same as above	Monthly
Ground Water	Same as above	Twice a year - Pre-monsoon and Post-monsoon
Surface Water Samples	Same as above	Twice a year - Pre-monsoon and Post-monsoon
Soil Samples	Texture, type, pH & cation exchange capacity. Trace Elements (mg/l): As, Ba, Cd, Co, Cr, Cu, F, Fe, Hg, Mn, Ni, Pb, Zn	Once a year

Survey of Flora and Fauna	<ul style="list-style-type: none"> • Listing of Flora (herbs, shrubs and trees) and Fauna (soil invertebrates and other animals) based on field observations and review of information available • Analysis of trace elements in plants (herbs, shrubs and trees), the invertebrates • Analysis of trace elements in aquatic fauna from the mine void filled with fly ash • Bio-accumulation and Bio-magnification tests 	Once in two years
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Table 1.2: Proposed Monitoring Programme After Reclamation of Mine void

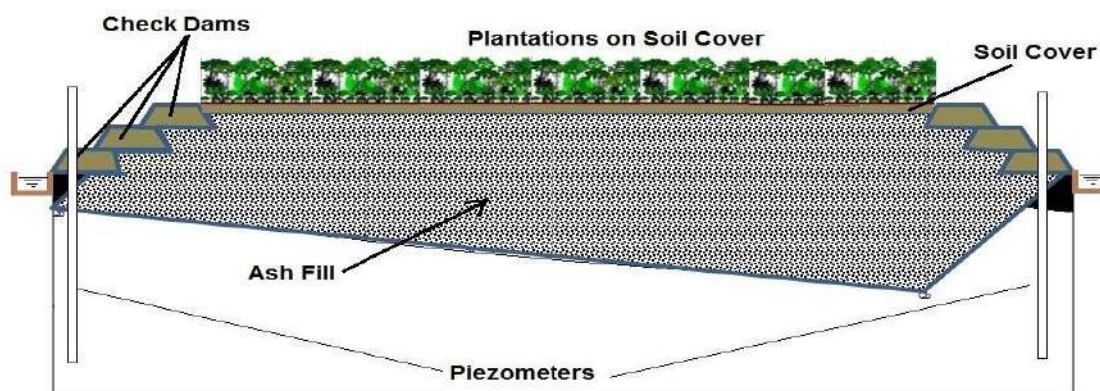
Samples	Parameters to be Analysed	Frequency
Piezometer Water Samples	Chemical Parameters (mg/l, except, pH and EC): pH, EC, TDS, Total Alkalinity, Ca, Mg, Na, K, Cl, SO ₄ , NO ₃ , PO ₄ , Trace Elements (mg/l): As, Ba, Cd, Co, Cr, Cu, F, Fe, Hg, Mn, Ni, Pb, Zn	Twice a year - Pre-monsoon and Post-monsoon
Ground Water Samples	Same as above	Once a year - Pre-monsoon
Surface Water Samples	Same as above	Once a year - Pre-monsoon
Survey of Flora and Fauna	<ul style="list-style-type: none"> • Listing of Flora (herbs, shrubs and trees) and Fauna (soil invertebrates and other animals) based on field observations and review of information available • Analysis of trace elements in plants (herbs, shrubs and trees), the invertebrates • Analysis of trace elements in aquatic fauna from the mine void filled with fly ash • Bio-accumulation and Bio-magnification tests 	Once in five years

In the event of deterioration of environmental quality, the same will be reported to concerned SPCB immediately and suitable preventive/corrective action will be undertaken.

6.4 Reclamation of Land filled site

After the quarry is filled to the permitted height as per DGMS, the same shall be provided with a soil cover and plantation shall be done with local fast growing species (preferably trees), to make it a part of the overall

post-mining land use pattern envisaged in the mine closure plan. The design of surface contours and land profile will be in consonance with the surrounding features. A three tier plantation approach (consisting of large trees, smaller trees and shrubs) will be followed for overall eco-restoration of the area. This will also help in checking the surface run-off, preventing the water from percolation and maintaining the aesthetics beauty of the surrounding in general. A conceptual diagram of the reclaimed mine void is presented below.



**Conceptual Plan for Reclamation of Mine Void
(Drawing not to Scale)**

During the mine void reclamation, the following measures are to be undertaken:

- i. Storm water drains shall be constructed for channelizing the run-off water away from the disposal site.
- ii. A 30 cm thick soil cover shall be provided to promote vegetation growth.
- iii. For plantation purpose, preference shall be given to both native species and mixed culture. The species will be selected carefully from the following groups for quick reclamation under the guidance of a taxonomist:
 - Tree species for fuel wood and timber
 - Forestry type tree species.
 - Tree species with dense foliage for shade.
 - Native species.
- iv. However, fruit bearing species shall be avoided.

7.0 Precaution

The following precautionary measures are required for safe working during the reclamation activity:

- (i) Appropriate measures should be taken to prevent entry of cattle/livestock inside the disposal area during execution period.
- (ii) Care shall be taken to avoid any kind of nuisance / inconvenience to the public due to such dumping / filling activities.
- (iii) Water sprinkling for dust suppression during handling of Ash shall be ensured from being air borne.
- (iv) After complete reclamation of the site, sign board shall be kept indicating the low lying land / abandoned quarry has been reclaimed with ash. This will help to propagate the message of mine void using ash.

8.0 Regulatory Procedure for Processing the Application for consideration of grant of permission for Reclamation of Low Lying Areas / Abandoned Quarries :

8.1 The activity of reclamation of Low Lying Areas / Abandoned Quarries will be regulated under the provisions of Water (Prevention and Control of Pollution) Act, 1974 and Air Water (Prevention and Control of Pollution) Act, 1981. The stipulations specified in this guideline is consistent with the provisions of Fly Ash Notification, 1999 and amended thereafter which should be a special condition mentioned in consent order issued under the Water (Water (Prevention and Control of Pollution) Act, 1974 and the Air Water (Prevention and Control of Pollution) Act, 1981. Thereafter any deviations from the guidelines shall be treated as violation of both Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 and action as deemed proper shall be taken under Consent Administration by the Board.

8.2 Necessary clearances shall be obtained from the concerned agencies such as DGMS, SPCB, IBM, MoC, etc .

Appendix

Guidelines for disposal of flyash in open cast mines along with Over Burden (OB)

As per notifications 1999 and 2009, "No person or agency shall within fifty kilometres (by road) from coal or lignite based Thermal Power Plants, undertake or approve without using at least 25 % of ash on volume to volume basis of the total materials used for external dump of overburden (OB) and same percentage in upper benches of back filling of opencast mines and this ***shall be done under the guidance of the Director General of Mines Safety (DGMS).***

The methodology as approved by Directorate General of Mine Safety (DGMS) in case of M/s JSPL & JPL (RGR/JPL/P-98(1) &(3)/Flyash/18/2014/1518 dated 31.07.2014) may be referred for filling ash in coal mines. **However, for each case separate approval of methodology from DGMS shall be sought.** Following methodology for disposal of flyash in open cast mines along with Over Burden in case of JSPL was approved by DGMS.

- 1.1 Distance of the internal/overburden dump area from the working faces of mine shall not be less than 100 m.
- 1.2 The area of filling ash shall be specifically earmarked and the same shall be marked on the plan and dumping fly ash shall be carried out accordingly.
- 1.3 Height of each deck shall not be more than 30 m and the total height of the dump shall not exceed 90 m.
- 1.4 The road leading to the dump site for transportation of fly ash shall be independent from the main haul road for transporting OB to the dump site from the mine.

1.5 Method of dumping fly ash

- 1.5.1 The fly ash shall be dumped in alternate layers/stages, of height not exceeding 5.0 m in each layer/stage.

1.5.2 Initially a row of OB dumps not less than 15.0 m width shall be dumped having height of 5.0 m all around the area proposed for ash dump over a deck (of 30.0 m height) of only overburden dump adequately compacted. A number of such areas shall be formed in a layer/stage wherein the fly ash shall be dumped so that one dump of fly ash is separated by another with 15 m wide over burden dump.

1.5.3 Thereafter, fly ash (25%) and overburden shall be dumped within the area surrounded by such OB dumps. In this manner, the dumping shall be laid in the section/layer of 5.0 m height containing both over burden as well as fly ash so as to form a deck of height not more than 30.0 m , distance between two consecutive decks shall not be less than 30.0 m.

1.5.4 In the next section i.e. immediately above bottom section/stage, only OB dumping shall be made to ensure that the Ash is totally covered and protected from the OB dumps all around.

1.5.5 In the same manner as explained above the alternate layer/section of the over burden and over burden with fly ash shall be dumped. Each layer/stage shall be adequately compacted by dozing.

1.5.6 At the top of the dump i.e. at the final stage, the dump shall be covered with 2.0 m thick soil and adequately compacted by dozing. Adequate precaution against rain fall shall be taken by way of plantation, geo-synthetic, or jute/coir reinforcement and formation of gully drains along the slope of the dump and formation of toe walls and peripheral drains as suggested by the scientific agency conducting geo-technical study. The precaution measures shall periodically be checked for its efficacy.

1.5.7 Plan and section in suitable scale (1:2000) shall be maintained showing the details of the dump both external and interval, height of each deck and dump, distance between the dumps containing fly ash and also the distance from the active working faces, plantation done, gully drains, peripheral drains, toe walls, etc. Such plan shall be signed by the Surveyor and countersigned by the Manager as prescribed in the statute.

1.5.8 Code of practices for transportation, dumping compaction of fly ash as mentioned in para 5(4.2.3 & 5.4.3 of main guidelines), shall be implemented.

1.5.9 **1.6 Dump slope management**

1.6.1 The sides of the OB dumps shall be kept benched and height thereof shall not exceed 30.0 m at an angle of slope not exceeding the angle of repose of the dumped material or 28° whichever is less.

1.6.2 Width of the OB dump shall not be less than 40.0 m which shall also be compacted. The benches shall be laid in such a manner that the overall slope of the dump shall not exceed 21° from horizontal.

1.6.3 The toe of the OB dumps shall be protected or armored in such a manner that the sludge does not flow down into the working faces.

1.6.4 A geotechnical study shall be conducted to assess the stability of the dump and the monitoring of various parameters during the course of dumping and also thereafter till the mine is closed permanently.

1.7 Dust control measures: The fly ash dumping including the OB dumps shall be kept moist all the time to prevent ash getting airborne. The quality of the Ash shall be chemically and physically tested at least once in every quarter.

1.8 Surface and ground water quality monitoring

1.8.1 The surface and ground water measurement (Chemical Parameters (mg/l): pH, EC, TDS, Total Alkalinity, Ca, Mg, Na, K, Cl, SO₄, NO₃, PO₄, Trace Elements (mg/l): As, Ba, Cd, Co, Cr, Cu, F, Fe, Hg, Mn, Ni, Pb, Zn) shall be carried out once in a year (post monsoon) in consultation with the State Pollution Control Board in order to ensure that no harmful heavy metals or any other chemicals pollute the surface or ground water sources or any other water sources present in the area.

1.9 Provision of check drains Proper Check Drains/garland drains having width of adequate size and section shall be made around the OB dumps to ensure that the sludge or waste materials along with the ash does not go into any river, nullah, water streams or any other surface water bodies.

1.10 Impact assessment of flora, fauna, aquatic lives and habitat, water & air quality:

1.10.1 A scientific study shall be carried out by an independent scientific organization to study the impact of Ash filling on Flora, Fauna, Aquatic Life and Habitation (once during the filling and at the end of filling).

1.10.2 The Monitoring of all the aforementioned parameters shall be carried out through any accredited institute/organization/Labs and monitoring report shall be submitted to SPCB and DGMS.

1.10.3 A dedicated team of qualified persons headed by senior officer at the level of General Manager shall be established in the mine level, who shall be responsible for the entire ash filling operation, conducting different studies and shall maintain all records as prescribed.

1.10.4 Record of every analysis and study shall be maintained in a bound page register kept for the purpose and the same shall be signed by the person in-charge of the operation and countersigned by the manager of the mine. Records shall also be maintained showing the details about the slope of each dump, quantity of ash filled, quantity of overburden removed, etc.

1.10.5 Risk Analysis about the risk arising out of ash filling operation shall specifically be conducted at regular intervals and Safety Management Plan including the control mechanism shall be prepared as per the guideline contained in DGMS(Tech)(S&T) Circular No.13 of 2002 dated 31.12.2002 and implemented and the same shall be reviewed time to time

1.10.6 In case, any adverse impact is observed, it should be brought to the notice of the DGMS and also to the State Pollution Control Board including the Environment and Forest Ministries of the State and Central Government. No further use of fly ash shall be done in the mine till permitted in writing afresh from DGMS.

F. No. 22-13/2019-IA.III

Government of India

Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

Indira Paryavaran Bhawan
Aliganj, Jorbagh Road
New Delhi-110 003

Dated: 28th August, 2019

Office Memorandum

Sub: Change in conditions stipulated in the Environmental Clearances of Thermal Power Plants and Coal Mines in line with the Fly Ash Notification and subsequent amendments - reg.

The Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection) Act, 1986 mandates the requirement of prior environmental clearance to the projects/activities listed in the schedule to the said Notification. These projects/activities have been categorized under category A or B and require appraisal/and approval by the respective regulatory authorities (MoEF&CC/SEIAAs) at the Central/State level.

2. As per the provisions of the EIA Notification, 2006, read with subsequent amendments, mining of minerals is covered under Category A/B of the Schedule to the EIA Notification, 2006 based on their areal extent, and thus requiring prior environmental clearance from the concerned regulatory authority.

3. Based on the proposals submitted by the project proponent and recommendations of the sectoral Expert Appraisal Committee, mining projects and thermal power plants were granted Environmental Clearance by the Ministry/State Environment Impact Assessment Authorities (SEIAAs) from time to time, subject to compliance of certain terms and conditions as environmental safeguards necessitated at that stage, which also included the condition for backfilling of mines voids, use/disposal of fly ash in low lying areas, etc.

4. In order to address the environmental concerns of fly ash and to improve its utilization, MoEF&CC has issued a Notification on 14th September, 1999 and subsequent amendments issued vide Notifications dated 27th August, 2003, 3rd November, 2009 and 25th January, 2016 from time to time.

The Fly Ash Notification issued vide S.O.2804 (E) dated 3rd November, 2009 provides for mandatory use of fly ash in the external overburden dump, backfilling or stowing of mines. The main concern is poor fly ash utilization by the pithead power plants mainly because of limited potential in cement industries/road projects and non-utilization of fly ash in stowing and overburden in coal mines.

5. An Expert Committee was constituted for developing a focussed strategy for best utilization of flyash to manufacture end products. The Committee has made recommendations for enhanced utilization of flyash in various sectors viz. mines, roads, bricks manufacturing, cement manufacturing, etc. During an Inter-ministerial consultation held on 21st January, 2019 under the Chairmanship of Secretary (EF&CC), recommendations of the Expert Committee were accepted, which *inter-alia* included the following:-

- a) MoEF&CC should revisit the conditions stipulated in the existing environmental clearances of Thermal Power Plants for flyash utilization and modify them in consonance with the flyash notification.
- b) Appropriate conditions need to be incorporated in the environmental clearances for utilization of flyash in mines backfilling/stowing.

6. The matter has been examined in the Ministry. Further, the matter has been also been referred to the EAC (Thermal Power Projects) in its meeting held on 28.5.2019 and 12.7.2019. The EAC mentioned that though the Flyash Notification, 1999 and subsequent amendments allow the unrestricted use of flyash in abandoned mines, low lying areas, soil conditioner in agriculture, there are no specific guidelines/methodology available for safe disposal of flyash so as to minimize the damage to the environment. In absence of methodology, EAC has been examining the proposals on case to case basis and recommending for disposal of flyash in abandoned mines. Further, the EAC has also expressed the concerns over the long term impacts of flyash disposal on groundwater, soil quality and impact on associated flora and fauna. Now, the guidelines for disposal of fly ash utilisation in low lying areas and mine voids have been prepared by the Central Pollution Control Board and placed before the EAC (Thermal Power and Coal Mining) in its meeting held on 12.7.2019.

7. In view of the recommendations of the EAC (Thermal Power) in its meeting held on 12.7.2019, after careful examination of the matter and to meet the objectives of the Fly Ash Notification, 1999 & its amendments, the Ministry hereby stipulates the following conditions in the existing Environmental Clearances of Thermal Power Plants and Coal mines which have valid Environmental Clearance accorded by the Ministry/SEIAA, that will replace the existing conditions (Specific & General) which prohibited the use of fly ash in abandoned mines/low lying areas/soil conditioner in agriculture:

- i. The guidelines prepared by CPCB for disposal of flyash for reclamation of low lying areas and in stowing/backfilling of abandoned mines/quarries shall be followed during disposal of ash in abandoned or working mines, as annexed.
- ii. There should at least be clearance of 500 m of safe distance be maintained from River and water body in case of ash disposal in abandoned mines to prevent embankment failures and flyash flowing into the nearby water body.
- iii. The top layer of the flyash disposal area in the abandoned mines shall be kept moist during disposal.
- iv. Top layer of the disposed area should have 70 cm overburden or gravels/stones and then 30 cm sweet soil cover. Subsequently, the vegetation shall be raised on the soil cover.
- v. Bioaccumulation and bio-magnification tests shall be conducted on surrounding flora and fauna (tree leaves, vegetation, crop yields and cattle population) during pre-monsoon and post monsoon to find out any trace metals escaped through groundwater or runoff.
- vi. Surface runoff and supernatant water, in any case shall not be let into the surrounding areas. It shall be collected by providing adequate drains around the mine. The supernatant water along with surface runoff shall be treated and re-used for mixing ash and plant operations.
- vii. To the extent possible, only decanted water from mine, make up water from treated effluents such as cooling tower blow down and treated sewage water shall be used for making ash slurry.

- viii. Flyash to be used as soil conditioner in agriculture needs and to be applied in controlled manner to limit excessive application so as to prevent soil degradation. The optimize proportion of ash to be applied which is to be certified by the State Agricultural Universities/Colleges based on the soil testing.
 - ix. Approval from DGMS shall be obtained before disposing the ash in the mine voids.
 - x. Technology for conversion of fly ash into coarse granules for stowing in the underground mines to be explored.
 - xi. All the power plants should install different silos for dry collection of flyash.
 - xii. Records pertaining to details of month-wise quantity of flyash disposed and water consumption along with nature/source of water shall be maintained and submitted to Ministry/Regional Office annually.
 - xiii. Before starting the disposal of ash into mine voids, the NOC/Permission from the mine owner is to be obtained incase the mine closure activities are not completed or State Government incase the mine has been handed over to the State Govt. after its closure. A copy of such NOC/Permission is to be submitted to the Ministry and its Regional Offices.
8. This issues with the approval of the Competent Authority.



(Dr. S. Kerketta)
Director, IA Division

To

1. The Chairman, Central Pollution Control Board (CPCB)
2. The Chairman/Member Secretaries all the Expert Appraisal Committees
3. The Chairman /Member Secretaries of all the SEIAAs/SEACs
4. The Chairman/Member Secretaries of all SPCBs/UTPCCs
5. All the Power Plant Operators/ Coal Mining Operators who were accorded Environmental Clearance.
6. All the ROs of MoEF&CC.
7. All the Officers of I.A. Division

Copy for information to:

1. PS to Hon'ble Minister for Environment, Forest and Climate Change
2. PS to Hon'ble MoS (EF&CC)
3. PPS to Secretary(EF&CC)
4. PPS to SS(AKJ) / AS (RSP)
5. Sr.PPS to JS (GM)/ JS(NK)
6. Website of MoEF&CC.
7. Guard file.

ANNEXURE-R-10

FORMAT - III

Ministry of Power
Central Electricity Authority
Thermal Civil Design Division

Monthly Abstract of Ash Generation and Utilization

(For the Period from 1st April, 2019 to 31st March, 2020)

NAME OF POWER UTILITY: Lalitpur , TPS**NAME OF THERMAL POWER PLANT :** Lalitpur Power Generation Company Limited

INSTALLED CAPACITY (Total): 3x660 MW

SI.NO.	ASH GENERATION AND UTILIZATION						MODE OF ASH UTILIZATION AND UTILIZATION IN EACH MODE									
	Month	Coal consumed (MT)	Ash Content of Coal (%)	Ash generation (MT)	Ash Utilized (MT)	Ash Utilization in Percentage	In making of Fly Ash based Bricks/ Blocks/ tiles etc.	In Manufacture of Portland Pozzolana Cement (MT)	In construction of Highways & Roads Including Flyovers	Part replacement of cement in concrete	In Hydro sector as part replacement of cement or in Roller Compacted Concrete Dam Construction	In Ash Dyke (MT)	In Reclamation of Low Lying area (MT)	In Mine Filling	In Agriculture/ Waste Land Development (MT)	Others (PI Specify)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	April	243003	32.92	79989	125133	156.4	1938	64413					58782			
2	May	575819	33.14	190836	161814	84.8	2142	71301					88371			
3	June	586389	33.46	196194	180381	91.9	5026	70573					104781			
4	July	495425	33.09	163914	146788	89.6	8016	86858					51913			
5	August	430680	33.22	143072	132934	92.9	2367	89569					40998			
6	September	320342	33.06	105913	107181	101.2	2308	60971					43902			
7	October	460330	33.02	151982	153518	101.0	4815	99957					48746			
8	November	545266	33.30	181557	184267	101.5	2424	99447					82396			
9	December	282578	33.36	94278	139191	147.6	499	83963					54729			
10	January	177650	33.11	58820	102028	173.5	0	40814					61214			
11	February	148101	33.24	49236	68708	139.55	0	21485					47223			
12	March	0.0	--	0	9622	--	0	0					9622			
	TOTAL	4265583	33.19	1415789	1511563	106.8	29536	789351	0	0	0	0	692677	0	0	

Abbreviation:-

MT	Metric Tonne
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MINISTRY OF POWER
CENTRAL ELECTRICITY AUTHORITY
THERMAL CIVIL DESIGN DIVISION

Monthly Abstract of Ash Generation and Utilization

(For the Period from 1st April, 2020 to 31st March, 2021)

Name of Power Utility: Lalitpur TPS

Name of Thermal Power Plant: Lalitpur Power generation company Limited

Installed Capacity (Total): 3x660 MW

PERIOD OF REPORT- 1st April, 2020 to 31st March, 2021

Sl. No.	ASH GENERATION AND UTILIZATION (in LMT)						MODES OF ASH UTILIZATION AND UTILIZATION IN EACH MODE (in LMT)									
	Month	Coal consumed	Ash content of coal	Ash Generation	Ash Utilization	% age Utilization	In the making of Fly Ash based Bricks / Blocks / Tiles etc	In the manufacture of Portland Pozzolana Cement	In the construction of Highways & Roads including Flyovers	Part replacement of cement in concrete	In Hydro Power Sector in RCC Dam Construction	In Ash dyke raising	In the reclamation of low lying Areas	In Mine filling	In Agriculture / Waste land Development	Others
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	APRIL-2020	0.45293	33.17	0.15024	0.46352	308.52	0.00000	0.00000	0.00000				0.46352			
2	MAY-2020	1.62434	34.98	0.56825	0.87481	153.95	0.00000	0.31096	0.00000				0.56385			
3	JUNE-2020	3.86972	32.54	1.25905	1.89820	150.76	0.00000	1.00784	0.00000				0.89035			
4	JULY-2020	5.65357	32.99	1.86496	1.48504	79.63	0.00000	0.91005	0.00000				0.57499			
5	AUGUST-2020	5.23039	36.35	1.90123	1.25480	66.00	0.00000	0.59657	0.01100				0.64722			
6	SEPTEMBER-2020	6.30105	36.04	2.27059	1.90185	83.76	0.00000	0.69998	0.00000				1.20187			
7	OCTOBER-2020	5.48754	35.09	1.92560	2.12876	110.55	0.00000	0.97062	0.00000				1.15814			
8	NOVEMBER-2020	2.71948	32.81	0.89219	1.58590	177.75	0.00000	0.70542	0.00000				0.88048			
9	DECEMBER-2020	3.61006	31.65	1.14266	1.75785	153.84	0.00000	0.83267	0.00000				0.92519			
10	JANUARY-2021	2.95434	32.90	0.97206	1.48389	152.65	0.00000	0.61464	0.00000				0.86925			
11	FEBRUARY-2021	1.96657	32.39	0.63695	1.33877	210.18	0.00000	0.51537	0.00000				0.82340			
12	MARCH-2021	2.34118	34.94	0.81795	1.25686	153.66	0.00000	0.62947	0.00000				0.62739			
	TOTAL	42.21117	34.12	14.40172	17.43024	121.03	0.00000	7.79360	0.01100		0	0	9.62564	0		

Note: (i) Ash means all types of ash including Fly Ash, bottom Ash and Pond Ash etc

(ii) Quantity of ash may be provided in Lakh Metric Ton (LMT) upto five decimal places

(iii) Ash utilisation in Column (6) shall be equal to summation of modes of ash utilisation in each mode i.e. summation of column (8) to column (17)

Abbreviations:-

MW- Mega Watt

TPS- Thermal Power Station

KM- Kilometre

LMT- Lakh Metric Tonne

Kcl- Kilocalories

MINISTRY OF POWER
CENTRAL ELECTRICITY AUTHORITY
THERMAL CIVIL DESIGN DIVISION

Monthly Abstract of Ash Generation and Utilization

(For the Period from 1st April, 2021 to 31st March, 2022)

Name of Power Utility: Lalitpur TPS

Name of Thermal Power Plant: Lalitpur Power generation company Limited

Installed Capacity (Total): 3x660 MW

PERIOD OF REPORT- 1st April,2021 to 31st March, 2022

Sl. No.	ASH GENERATION AND UTILIZATION (in LMT)						MODES OF ASH UTILIZATION AND UTILIZATION IN EACH MODE (in LMT)									
	Month	Coal consumed	Ash content of coal	Ash Generation	Ash Utilization	% age Utilization	In the making of Fly Ash based Bricks / Blocks / Tiles etc.	In the manufacture of Portland Pozzolana Cement	In the construction of Highways & Roads including Flyovers	Part replacement of cement in concrete	In Hydro Power Sector in RCC Dam Construction	In Ash dyke raising	In the reclamation of low lying Areas	In Mine filling	In Agriculture / Waste land Development	Others (Please specify)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	APRIL-2021	4.68107	35.75	1.67325	1.67309	99.99	0.00000	0.59406	0.00000	0.00000	0.00000	0.00000	1.07903	0.00000	0.00000	
2	MAY-2021	4.50250	36.97	1.66473	1.37199	82.42	0.00000	0.54621	0.00000	0.00000	0.00000	0.00000	0.82578	0.00000	0.00000	
3	JUNE-2021	6.10824	34.54	2.10994	2.24422	106.36	0.00000	1.75740	0.00000	0.00000	0.00000	0.00000	0.48682	0.00000	0.00000	
4	JULY-2021	6.53749	33.72	2.20455	2.20768	100.14	0.00000	1.46315	0.00000	0.00000	0.00000	0.00000	0.74453	0.00000	0.00000	
5	AUGUST-2021	7.20299	36.08	2.59918	2.24251	86.28	0.00000	1.38208	0.00000	0.00000	0.00000	0.00000	0.86043	0.00000	0.00000	
6	SEPTEMBER-2021	6.36615	36.15	2.30114	1.98905	86.44	0.00000	1.57906	0.00000	0.00000	0.00000	0.00000	0.40999	0.00000	0.00000	
7	OCTOBER-2021	4.33186	36.35	1.57448	1.74021	110.53	0.00000	1.29374	0.00000	0.00000	0.00000	0.00000	0.44647	0.00000	0.00000	
8	NOVEMBER-2021	1.77481	36.93	0.65550	1.03314	157.61	0.00000	0.52537	0.00000	0.00000	0.00000	0.00000	0.50777	0.00000	0.00000	
9	DECEMBER-2021	4.07983	35.00	1.42812	1.40793	98.59	0.00000	1.11882	0.00000	0.00000	0.00000	0.00000	0.28911	0.00000	0.00000	
10	JANUARY-2021	4.13717	35.37	1.46313	1.31810	90.09	0.00000	1.20762	0.00000	0.00000	0.00000	0.00000	0.11048	0.00000	0.00000	
11	FEBRUARY-2022	4.53902	35.69	1.61987	0.90357	55.78	0.00000	0.90357	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
12	MARCH-2022	4.43034	37.22	1.64900	0.72399	43.90	0.00000	0.72399	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
	TOTAL	58.69146	35.68	20.94290	18.85549	90.03	0.00000	13.09507	0.00000	0.00000	0.00000	0.00000	5.76042	0.00000	0.00000	

Note: (i) Ash means all types of ash including Fly Ash, bottom Ash and Pond Ash etc

(ii) Quantity of ash may be provided in Lakh Metric Ton (LMT) upto five decimal places

(iii) Ash utilisation in Column (6) shall be equal to summation of modes of ash utilisation in each mode i.e. summation of column (8) to column (17)

Abbreviations:-

MW-Mega Watt

TPS- Thermal Power Station

KM- Kilometre

LMT- Lakh Metric Tonne

Kcl- Kilocalories

MINISTRY OF POWER
CENTRAL ELECTRICITY AUTHORITY
THERMAL CIVIL DESIGN DIVISION

Monthly Abstract of Ash Generation and Utilization

(For the Period from 1st April, 2022 to 31st March, 2023)

Name of Power Utility: Lalitpur TPS

Name of Thermal Power Plant: Lalitpur Power Generation Company Ltd.

Installed Capacity (Total): 3x660 MW

PERIOD OF REPORT- 1st April,2022 to 31st March, 2023

Sl. No.	ASH GENERATION AND UTILIZATION (in LMT)						MODES OF ASH UTILIZATION AND UTILIZATION IN EACH MODE (in LMT)										
	Month	Coal consumed	Ash content of coal	Ash Generation	Ash Utilization	% age Utilization	Fly ash based products viz. bricks, blocks, tiles, fibre cement sheets, pipes, boards, panels;	Cement manufacturing, ready mix concrete;	Construction of road and fly over embankment, Ash and Geo-polymer based construction material;	Construction of dam;	Filling up of low lying area;	Filling of mine voids;	Manufacturing of sintered or cold bonded ash aggregate;	Agriculture in a controlled manner based on soil testing;	Construction of shoreline protection structures in coastal districts;	Export of ash to other countries;	Any other eco-friendly purpose as notified from time to time.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	APRIL-2022	7.06909	37.63	2.66026	2.23367	83.96	0.00000	1.71457	0.00000	0.00000	0.51910	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2	MAY-2022	6.64886	40.23	2.67506	2.11206	78.95	0.00000	1.51242	0.00000	0.00000	0.59964	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
3	JUNE-2022	6.49267	38.23	2.48229	2.68545	108.18	0.00000	1.91922	0.00000	0.00000	0.76623	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
4	JULY-2022	6.78294	39.24	2.66188	2.63400	98.95	0.00000	2.21307	0.00000	0.00000	0.42093	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
5	AUGUST-2022	7.27366	38.48	2.79882	2.63717	94.22	0.00000	2.14334	0.00000	0.00000	0.49384	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
6	SEPTEMBER-2022	5.77560	36.07	2.08326	2.08316	100.00	0.00000	1.75769	0.00000	0.00000	0.32547	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
7	OCTOBER-2022	4.29982	38.66	1.66244	1.66238	100.00	0.00000	1.32379	0.00000	0.00000	0.33859	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
8	NOVEMBER-2022	4.41726	36.80	1.62577	1.62568	99.99	0.00000	1.31259	0.00000	0.00000	0.31309	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
9	DECEMBER-2022	6.54200	37.55	2.45625	2.74760	111.86	0.00000	1.88314	0.00000	0.00000	0.86447	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
10	JANUARY-2023	4.82385	36.73	1.77157	1.77155	100.00	0.00517	1.48366	0.00000	0.00000	0.28272	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
11	FEBRUARY-2023	4.21586	37.29	1.57222	1.57221	100.00	0.00869	1.25475	0.00000	0.00000	0.30876	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
12	MARCH-2023	6.03202	37.40	2.25572	2.60346	115.42	0.00931	1.31286	0.00000	0.00000	1.28128	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	TOTAL	70.37362	37.95	26.70553	26.36839	98.74	0.02317	19.83111			6.51411						

Note: (i) Ash means all types of ash including Fly Ash, bottom Ash and Pond Ash etc

(ii) Quantity of ash may be provided in Lakh Metric Ton (LMT) upto five decimal places

(iii) Ash utilisation in Column (6) shall be equal to summation of modes of ash utilisation in each mode i.e. summation of column (8) to column (18)

Abbreviations:-

MW-Mega Watt

TPS- Thermal Power Station

KM- Kilometre

LMT- Lakh Metric Tonne

Kcl- Kilocalories

MINISTRY OF POWER
CENTRAL ELECTRICITY AUTHORITY
THERMAL CIVIL DESIGN DIVISION

Monthly Abstract of Ash Generation and Utilization

(For the Period from 1st April 2023 to 31st March 2024)

Name of Power Utility: Lalitpur TPS

Name of Thermal Power Plant: Lalitpur Power generation company Limited

Installed Capacity (Total): 3x660 MW

PERIOD OF REPORT- 1st April, 2023 to 31st March 2024

Sl. No.	ASH GENERATION AND UTILIZATION (in LMT)						MODES OF ASH UTILIZATION AND UTILIZATION IN EACH MODE (in LMT)										
	Month	Coal consumed	Ash content of coal	Ash Generation	Ash Utilization	% age Utilization	Fly ash based products viz. bricks, blocks, tiles, fibre cement sheets, pipes, boards, panels;	Cement manufacturing, ready mix concrete;	Construction of road and fly over embankment, Ash and Geo-polymer based construction material;	Construction of dam;	Filling up of low lying area;	Filling of mine voids;	Manufacturing of sintered or cold bonded ash aggregate;	Agriculture in a controlled manner based on soil testing;	Construction of shoreline protection structures in coastal districts;	Export of ash to other countries;	Any other eco-friendly purpose as notified from time to time.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	APRIL-2023	7.03824	38.50	2.71007	2.53650	93.60	0.00643	1.56510	0.00000	0.00000	0.96497	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2	MAY-2023	7.67587	39.45	3.02798	3.12084	103.07	0.00794	1.72205	0.00000	0.00000	1.39085	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
3	JUNE-2023	7.13533	39.06	2.78675	2.97694	106.82	0.00780	1.79382	0.00000	0.00000	1.17532	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
4	JULY-2023	5.81599	38.31	2.22786	2.22785	100.00	0.00665	1.47613	0.00000	0.00000	0.74507	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
5	AUGUST-2023	7.23555	37.73	2.73004	2.29250	83.97	0.00848	1.81245	0.00000	0.00000	0.47158	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
6	SEPTEMBER-2023	7.23548	36.85	2.66598	1.97098	73.93	0.00835	1.39594	0.00000	0.00000	0.56669	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
7	OCTOBER-2023	7.40888	37.76	2.79777	3.20047	114.39	0.00698	1.67443	0.00000	0.00000	1.51905	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
8	NOVEMBER-2023	5.44962	38.75	2.11161	2.33930	110.78	0.00649	1.36862	0.00000	0.00000	0.96420	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
9	DECEMBER-2023	5.36749	38.50	2.06633	2.06632	100.00	0.00947	1.35998	0.00000	0.00000	0.69687	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
10	JANUARY-2024	6.38729	38.31	2.44689	2.41719	98.79	0.00721	1.80031	0.00000	0.00000	0.60967	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
11	FEBRUARY-2024	4.86845	37.72	1.83620	2.13658	116.36	0.00835	1.44872	0.00000	0.00000	0.67951	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
12	MARCH2024	5.67313	34.36	1.94904	2.12136	108.84	0.00353	1.67510	0.00000	0.00000	0.44274	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	TOTAL	77.29131	37.98	29.35650	29.40685	100.17	0.08768	19.09265			10.22652						

Note: (i) Ash means all types of ash including Fly Ash, bottom Ash and Pond Ash etc

(ii) Quantity of ash may be provided in Lakh Metric Ton (LMT) upto five decimal places

(iii) Ash utilisation in Column (6) shall be equal to summation of modes of ash utilisation in each mode i.e. summation of column (8) to column (18)

Abbreviations:-

MW- Mega Watt

TPS- Thermal Power Station

KM- Kilometre

LMT- Lakh Metric Tonne

Kcl- Kilocalories

FORMAT - II

Ministry of Power
Central Electricity Authority
Thermal Civil Design Division

Ash Disposal Facilities Available at Thermal Power Station and Mode of Disposal (Dry & Wet)

NAME OF POWER UTILITY: Lalitpur TPS

NAME OF THERMAL POWER PLANT : Lalitpur Power Generation Company
Limited

PERIOD OF REPORT: 1st April, 2019 to 31st March, 2020

Sl. No.	Thermal Power Station	Existing Facilities for Ash Disposal		Location & Distance of Ash Disposal Area from TPS	Area acquired for Ash Disposal	Design Life of Disposal Area	Additional Area if Any proposed	Ash Disposal		Ash Stock Available as on 31.03.2020		
		Dry	Wet					(KM)	Ha	Years	Ha	Dry Ash (MT)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	LPGL	Ash Silo	Ash dyke	0.8	82		Nil	0.819	0.693	-	-	0.374

Abbreviations:-

TPS	Mega Watt
KM	Kilometre
MT	Million Tonne
Ha	Hactare

MINISTRY OF POWER
CENTRAL ELECTRICITY AUTHORITY
THERMAL CIVIL DESIGN DIVISION

Ash Disposal Facilities Available at Thermal Power Station, Mode of Disposal (Dry & Wet) and Ash Stock Available (Fly Ash, Bottom Ash & Pond Ash)

Name of Power Utility: Lalitpur TPS

Name of Thermal Power Plant: Lalitpur Power generation company Limited

PERIOD OF REPORT- 1st April, 2020 to 31st March, 2021

Sl.No.	Name of Thermal Power Station	Existing facilities for Ash disposal		Location & Distance of Ash Disposal Area from TPS	Area acquired for Ash Disposal	Design Life of Disposal Area	Additional Area if any proposed	Ash Disposal		Ash Stock Available as on 31.03.2021		
		Dry	Wet					Dry Ash	Wet Ash	Fly Ash	Bottom Ash	Pond Ash
(1)	(2)	(3)	(4)	(KM)	(Ha)	(Years)	(Ha)	(LMT)	(LMT)	(LMT)	(LMT)	(LMT)
				(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Lalitpur Power Generation Co. Ltd.	Ash Silo	Ash dyke	0.8	82		Nil	7.80460	9.62564	-	-	0.71896

Abbreviations:-

MW-Mega Watt

TPS- Thermal Power Station

KM- Kilometre

LMT- Lakh Metric Tonne

Ha- Hectare

**MINISTRY OF POWER
CENTRAL ELECTRICITY AUTHORITY
THERMAL CIVIL DESIGN DIVISION**

Ash Disposal Facilities available at Thermal Power Station, Mode of Disposal (Dry & Wet) and Ash Stock Available (Fly Ash, Bottom Ash & Pond Ash)

Name of Power Utility: Lalitpur TPS

Name of Thermal Power Plant: Lalitpur Power generation company Limited

PERIOD OF REPORT - 1st April 2021 to 31st March 2022

SI No.	Name of Thermal Power Station	Existing facilities for Ash disposal		Location & Distance of Ash Disposal Area from TPS	Area acquired for Ash Disposal	Design Life of Disposal Area	Additional Area if any proposed	Ash Disposal		Ash Stock Available as on 31.3.2022			
		Dry	Wet					Dry Ash	Wet Ash	Fly Ash	Bottom Ash	Pond Ash	Total Ash
(1)	(2)	(3)	(4)	(KM)	(Ha)	(Years)	(Ha)	(LMT)	(LMT)	(LMT)	(LMT)	(LMT)	(LMT)
1	Lalitpur Power Generation Co. Ltd.	Ash Silo	Ash dyke	0.8	82		Nil	13.095	5.760	0	0	2.806	2.806

Abbreviations:-

MW - Mega Watt

TPS- Thermal Power Station

KM- Kilometre

LMT- Lakh Metric Tonnes

Ha - Hectare

Description	Quantity in LMT
Ash Stock Position as on 1.4.2021	0.719
Generation of Ash during 1.4.2021 to 31.3.2022	20.943
Utilisation of Ash during 1.4.2021 to 31.3.2022	18.855
Ash Stock Position as on 31.3.2022	2.806
Reasons for not Utilising the Legacy Ash may also be provided	No legacy ash. This is the minimum quantity which is left in the Pond during process of operation, as only dried ash is disposed

ANNEXURE-R-19

FORMAT - II

MINISTRY OF POWER
CENTRAL ELECTRICITY AUTHORITY
THERMAL CIVIL DESIGN DIVISION

Ash Disposal Facilities available at Thermal Power Station, Mode of Disposal (Dry & Wet) and Ash Stock Available (Fly Ash, Bottom Ash & Pond Ash)

Name of Power Utility: Lalitpur TPS

Name of Thermal Power Plant: Lalitpur Power generation company Limited

PERIOD OF REPORT - 1st April 2023 to 31st September 2024

SI No.	Name of Thermal Power Station	Existing facilities for Ash disposal		Location & Distance of Ash Disposal Area from TPS	Area acquired for Ash Disposal	Design Life of Disposal Area	Additional Area if any proposed	Ash Disposal		Ash Stock Available as on 31.3.2024			
		Dry	Wet					Dry Ash	Wet Ash	Fly Ash	Bottom Ash	Pond Ash	Total Ash
(1)	(2)	(3)	(4)	(KM)	(Ha)	(Years)	(Ha)	(LMT)	(LMT)	(LMT)	(LMT)	(LMT)	(LMT)
1	Lalitpur Power Generation Co. Ltd.	Ash Silo	Ash dyke	0.8	82		Nil	19.180	10.226	0	0	3.093	3.093

Abbreviations:-

MW - Mega Watt

TPS- Thermal Power Station

KM- Kilometre

LMT- Lakh Metric Tonnes

Ha - Hectare

Description	Quantity in LMT
Ash Stock Position as on 01.04.23	3.14352
Generation of Ash during 01.04.23 to 31.03.24	29.35650
Utilisation of Ash during 01.04.23 to 31.03.24	29.40685
Ash Stock Position as on 31.03.24	3.093176
Reasons for not Utilising the Legacy Ash may also be provided	No legacy ash. This is the minimum quantity which is left in the Pond during process of operation, as ash is dried and only then disposed

8.2 Reclamation of Low Lying Areas

Fly ash as a substitute for Soil / Sand is used for reclamation of low lying areas, thereby saving top soil. A graph showing the progressive utilization of fly ash in the reclamation of Low lying Area for the period from 1998-99 to 2021-22 is given in **Figure-4**.

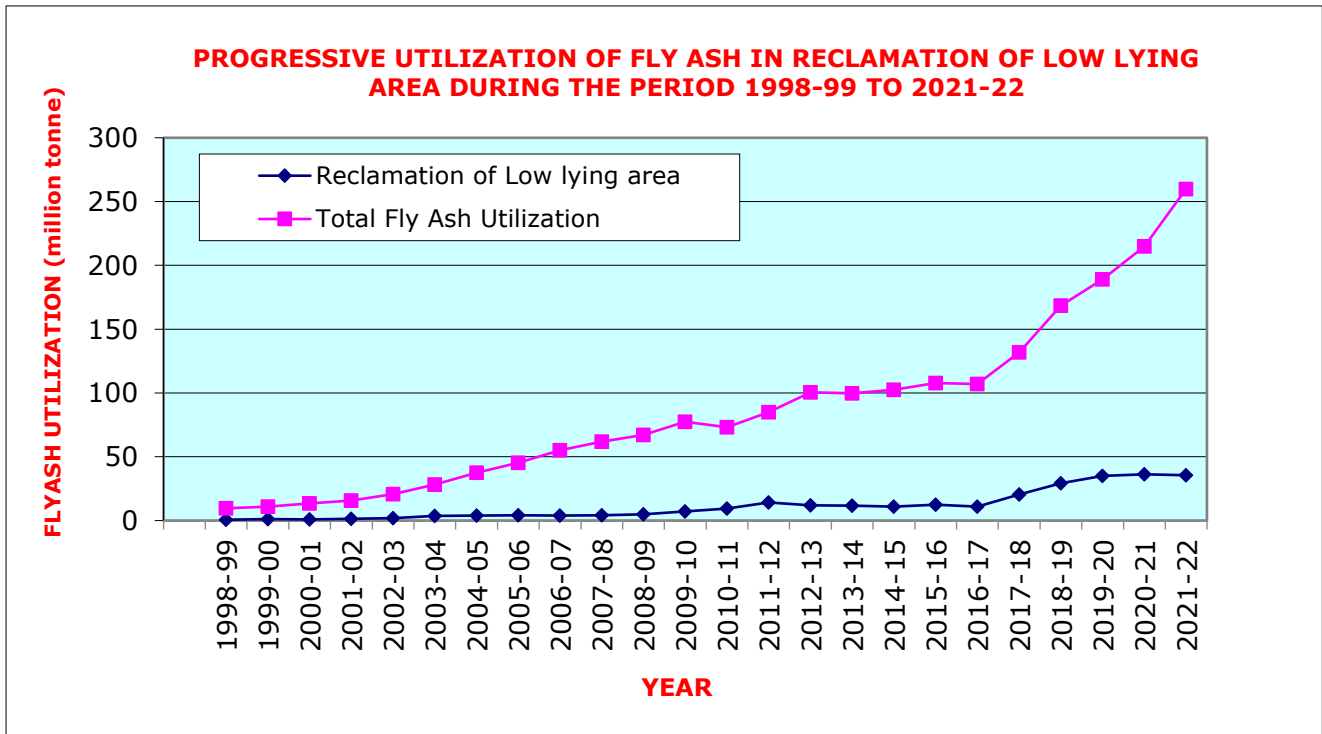


FIGURE-4

It may be seen from **Figure-4** above, that 0.65 Million Tonnes of fly ash was used for the Reclamation of Low Lying Area in 1998-99 which has increased to 35.57 Million Tonnes in 2021 - 22 constituting about 13.13 % of total fly ash generation during the aforesaid year.

कार्यालय जिलाधिकारी, ललितपुर

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संख्या 177 / एस0टी0वि0-खनिज / 2019-20

दिनांक : दिसम्बर 3, 2019

अधिकृत प्रतिनिधि,
ललितपुर पॉवर जनरेशन कम्पनी लिमिटेड,
ललितपुर।

कृपया अपने प्रार्थना पत्र दिनांक 26.11.2019 का संदर्भ ग्रहण करें, जिसके द्वारा ग्राम बुरागांव (ललितपुर) स्थित मे0 ललितपुर पॉवर जनरेशन कम्पनी लिमिटेड में कोयला आधारित सुपर किटिकल थर्मल पावर प्लांट से निकलने वाली Fly ash को निचले हिस्सों (Low lying Areas) एवं परित्यक्त खान-खदानों को भरने तथा अन्य निर्माण गतिविधियों में इसके उपयोग हेतु सम्बन्धित विभाग के अधिकारियों/खान मालिकों को निर्देशित किये जाने का अनुरोध किया गया है। यह भी उल्लेख किया है कि उक्त परित्यक्त खान-खदानों एवं निचले हिस्सों में पॉवर प्लांट की Fly ash से भर दिये जाने के उपरान्त यह क्षेत्र पुनः खेती योग्य बन सकता है, जो स्थानीय समुदाय को लाभकारी होगा जिससे उनका आर्थिक स्थिति बेहतर हो सकेगी।

अतः उपरोक्त प्रार्थना पत्र में उल्लिखित तथ्यों एवं आप द्वारा दिये गये आश्वासन पर सम्यक विचारोपरान्त थर्मल पावर प्लांट से विद्युत उत्पादन हेतु प्रयुक्त कोयले के दहन से उत्पन्न Fly ash के निस्तारण हेतु निम्नांकित शर्त/प्रतिबंध के अन्तर्गत अनुमति प्रदान की जाती है।

- 1- Fly ash का निस्तारण पर्यावरण (संरक्षण) अधिनियम 1986, उ0प्र0 प्रदूषण नियंत्रण बोर्ड, मा0 राष्ट्रीय हरित प्राधिकरण (N.G.T.), मा0 उच्च न्यायालय/उच्चतम न्यायालय के आदेशों/निर्देशों एवं विद्यमान नियमों के अधीन किया जायेगा।
- 2- Fly ash की filling किसी भी प्राकृतिक जल श्रोत, नदी, नाले के समीप कदापि नहीं किया जायेगा, अपितु निर्धारित दूरी के पश्चात ही Fly ash का निस्तारण किया जायेगा।
- 3- निजी स्वामित्व की भूमि पर भू-स्वामी/कृषक की सहमति के उपरान्त ही उसकी भूमि में Fly ash की filling की जायेगी।
- 4- निर्माण कार्यों में Fly ash का उपयोग सम्बन्धित कार्यदायी संस्था की आवश्यकतानुसार कम्पनी व कार्यदायी संस्था की परस्परक सहमति के आधार पर निःशुल्क किया जायेगा।

उपरोक्त शर्त/प्रतिबन्धों का उल्लंघन किये जाने की दशा में कम्पनी स्वयं उत्तरदायी होगी।

(अनिल कुमार मिश्र)
अपर जिलाधिकारी, ललितपुर

संख्या व दिनांक उक्त।

प्रतिलिपि, निम्नांकित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :-

- 1- जिलाधिकारी महोदय की सेवा में अवलोकनार्थ प्रेषित।
- 2- खान अधिकारी, ललितपुर।
- 3- अधिशासी अभियन्ता, लो0नि0वि0, ललितपुर।
- 4- अधिशासी अभियन्ता, ग्रा0अभि0से0प्रखण्ड, ललितपुर।

(अनिल कुमार मिश्र)
अपर जिलाधिकारी, ललितपुर



क्षेत्रीय कार्यालय उ. प्र. प्रदूषण नियंत्रण बोर्ड
Regional Office, U.P. Pollution Control Board

संदर्भ सं० :
Ref. No. :

दिनांक.....20
Date.....19.4.17.20

सेवा में,

महाप्रबंधक,
ललितपुर पावर जनरेशन कम्पनी लिमिटेड,
महरौनी, ललितपुर।

विषय :- फलाई ऐश उपयोग के संबंध में।

महोदय,

कृपया उपरोक्त विषयक अपने पत्र दिनांक 18.04.2017 का संदर्भ ग्रहण करने का कष्ट करें, इस संबंध में अवगत कराना है कि पर्यावरण एवं वन मंत्रालय भारत सरकार द्वारा जारी अधिसूचना सं०-एस०ओ० 763(ई०) दिनांक 14.09.1999 के अनुसार आप द्वारा संचालित थर्मल पावर प्लांट से विद्युत उत्पादन हेतु प्रयुक्त कोयले के दहन से उत्पन्न फलाई ऐश के समुचित निस्तारण हेतु प्रख्यापित नियम निर्देश जो कि निम्नवत् है-

- The pond ash should be made available free of any charge on "as is where basis," to manufacturers of bricks, blocks or tiles including clay fly ash product manufacturing unit(s), farmers, the Central and the State road construction agencies Public Works Department, and to agencies engaged in backfilling or stowing of mines.
- At least 20% of dry ESP fly ash shall be made available free of charge to units manufacturing fly ash or clay-fly ash bricks, blocks and tiles on a priority basis over other users and if the demand from such agencies falls short of 20% of quantity, the balance quantity can be sold or disposed of by the power station as may be possible;
- Provided that the fly ash obtained from the thermal power station should be utilized on for the purpose for which it was obtained from the thermal power station or plant failing which no fly ash shall be made available to the defaulting users.
- Thermal power plant undertake or approve or allow reclamation and compaction of low lying areas with soil; only fly ash shall be used for compaction and reclamation and they shall also ensure that such reclamation and compaction is done in accordance with the specification and guidelines laid down by the authorities mentioned in sub paragraph (1) of paragraph 3.

उपरोक्त नियम निर्देशों के अनुपालन की दशा में Used for Compaction and Reclamation & Agricultural use by farmers हेतु फलाई ऐश उपभोग किये जाने से उ०प्र० प्रदूषण नियंत्रण बोर्ड, झांसी को कोई आपत्ति नहीं है तथा अधिकाधिक फलाई ऐश निस्तारण हेतु निर्देशित किया जाता है।

भवदीय

(निरजन शर्मा)

क्षेत्रीय अधिकारी प्रभारी



UTTAR PRADESH POLLUTION CONTROL BOARD
Building. No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010

Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com

Validity Period :14/07/2021 To 14/07/2021

Ref No. - 129828/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2021 Dated:- 14/07/2021

To ,

Shri AJAYVIKRAM SINGH
M/s LALITPUR POWER GENERATION COMPANY LTD
Village - Burogaon and Mirchwara P.o.- Burogaon,LALITPUR,284123
LALITPUR

Sub : Consent to Establish for New Unit/Expansion/Diversification under the provisions of Water (Prevention and control of pollution) Act, 1974 as amended and Air (Prevention and control of Pollution) Act, 1981 as amended.

Please refer to your Application Form No.- 12574474 dated - 01/07/2021. After examining the application with respect to pollution angle, Consent to Establish (CTE) is granted subject to the compliance of following conditions :

1. Consent to Establish is being issued for following specific details :

A- Site along with geo-coordinates :

B- Main Raw Material :

Main Raw Material Details		
Name of Raw Material	Raw Material Unit Name	Raw Material Quantity
Ash	Metric Tonnes/Day	120000

C- Product with capacity :

Product Detail	
Name of Product	Product Quantity
Fly ash Transportation (MT/Month)	120000

D- By-Product if any with capacity :

By Product Detail			
Name of By Product	Unit Name	Licence Product Capacity	Install Product Capacity
nil	Metric Tonnes/Day	0	0

2. Water Requirement (in KLD) and its Source :

Source of Water Details		
Source Type	Name of Source	Quantity (KL/D)

3. Quantity of effluent (In KLD) :

Effluent Details	
Source Consumption	Quantity (KL/D)

4. Fuel used in the equipment/machinery Name and Quantity (per day) :

Fuel Consumption Details		
Fuel	Consumption(tpd/kld)	Use

5. For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.
- For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.
2. You are directed to furnish the progress of Establishment of plant and machinery, green belt, Effluent Treatment Plant and Air pollution control devices, by 10th day of completion of subsequent quarter in the Board.
3. Copy of the work order/purchase order, regarding instruction and supply of proposed Effluent Treatment Plant/Sewerage Treatment Plant /Air Pollution control System shall be submitted by the industry till 14/07/2021 to the Board.
4. Industry will not start its operation, unless CTO is obtained under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and control of Pollution) Act, 1981 from the Board.
5. It is mandatory to submit Air and Water consent Application, complete in all respect, four months before start of operation, to the U.P. Pollution Control Board.
6. Legal action under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 may be initiated against the industry With out any prior information, in case of non compliance of above conditions.

Specific Conditions:

1. Kindly refer your application for Consent to establish dated 01.07.2021 and affidavit No - 05AE566556 dated 14.07.2021 vide which you have stated that the fly ash of Lalitpur Power Generation Company Ltd. shall transported for land filling under the agreement with Shri Ajay Vikram singh to reclaim the agriculture land in this regard a conditional Consent to establish is being issued subjected that the transportation of fly ash shall be covered vehicles to control the ambient air quality as per prescribed norms of fly ash disposal issued by Ministry of Environment and Climate Change, Government of India.
2. In any case of public nuisance complaint this conditional Consent to establish shall be treated as canceled so this is your prime duty to observed and maintain the proper cover of Fly ash Flying in near by area.
3. This permission have no authorization for the production of Fly ash generation and having effect that the transportation of fly ash from Lalitpur Power Generation Company Ltd, Mirchwaraa, Lalitpur premises to agriculture land of agreed farmers for reclamation of soil only.
4. This conditional permission is being issued in regard of Letter No.-468/18-2/2019 dated 20-09-2020 under the provisions of MSME (Establishment and Operations) Act of 2020.
5. The Board reserves the right to revoke this conditional consent to establish which has granted at any time in case that industry is violating any of the provision of the Air (Prevention & Control of Pollution) Act, 1981 and water (Prevention & Control of Pollution) Act, 1974 and as amended time to time.

Please note that consent to Establish will be revoked, in case of, non compliance of any of the above mentioned conditions. Board reserves its right for amendment or cancellation of any of the conditions specified above. Industry is directed to submit its first compliance report regarding above mentioned specific and general conditions till 14/08/2021 in this office. Ensure to submit the regular compliance report otherwise this Consent to Establish will be revoked.

Niranjan
Sharma

Digitally signed by
Niranjan Sharma
Date: 2021.07.14
17:34:27 +05'30'

REGIONAL OFFICER

U.P. POLLUTION CONTROL BOARD, JHANSI

Dated:- 14/07/2021

Copy To -

CEO-2, U.P. POLLUTION CONTROL BOARD, LUCKNOW

**Niranjan
Sharma**

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Niranjan Sharma
Date: 2021.07.14 17:34:42
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**REGIONAL OFFICER
U.P. POLLUTION CONTROL BOARD, JHANSI**



क्षेत्रीय कार्यालय उ. प्र. प्रदूषण नियंत्रण बोर्ड
Regional Office, U.P. Pollution Control Board

संदर्भ सं०134/LLP-999/2)
Ref. No.

दिनांक 23/07/2021
Date.....20

सेवा में,

महाप्रबंधक,

मैसर्स ललितपुर पावर जनरेशन कम्पनी लिमिटेड,
मिर्चवारा महरौनी, जनपद-ललितपुर।

विषय : राज्य प्रदूषण नियंत्रण बोर्ड, द्वारा निर्गत Consent to Establish संशोधन के सम्बन्ध में।

महोदय,

कृपया उपरोक्त विषयक अपने पत्र दिनांक 21.07.2021 का संदर्भ ग्रहण करे, इस सम्बन्ध में अवगत कराना है कि संदर्भ संख्या-129828 दिनांक 14.07.2021 द्वारा स्वीकृत की गयी Consent to Establish की वैधता अवधि दिनांक 14.07.2021 से 14.07.2021 तक अंकित हो गयी है, अतः पूर्व अंकित वैधता अवधि को 14.07.2021 से 13.07.2023 तक संशोधित किया जाता है।

उल्लेखनीय है कि पर्यावरण एवं वन मंत्रालय भारत सरकार द्वारा थर्मल पावर जनरेशन प्लान्ट द्वारा जनित फ्लाई ऐश निस्तारण हेतु प्रख्यापित Guidelines for disposal/utilisation of flyash for reclamation of Low Lying Areas and in stowing of Abandoned mines/Quarries (Regulatory Procedure for Reclamation of Low Lying Areas) हेतु निर्देशित पद्धति का अक्षरशः अनुपालन सुनिश्चित किया जाना बाध्यकारी है।

भवदीय

(निरंजन शर्मा)
क्षेत्रीय अधिकारी

प्रतिलिपि : मुख्य पर्यावरण अधिकारी (वृत्त-2), उ0प्र0 प्रदूषण नियंत्रण बोर्ड, लखनऊ को सूचनार्थ प्रेषित।

क्षेत्रीय अधिकारी



UTTAR PRADESH POLLUTION CONTROL BOARD

Building. No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010

Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com

Validity Period :06/05/2022 To 31/12/2026

Ref No. - 153971/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2022 Dated:- 18/05/2022

To ,

**Shri AJAYVIKRAM SINGH
M/s LALITPUR POWER GENERATION COMPANY LTD
Vill - Burogaon and Mirchwra, P.O.- Burogaon,LALITPUR,284123
LALITPUR**

Sub : Consent to Establish for New Unit/Expansion/Diversification under the provisions of Water (Prevention and control of pollution) Act, 1974 as amended and Air (Prevention and control of Pollution) Act, 1981 as amended.

Please refer to your Application Form No.- 15723365 dated - 06/04/2022. After examining the application with respect to pollution angle, Consent to Establish (CTE) is granted subject to the compliance of following conditions :

1. Consent to Establish is being issued for following specific details :

A- Site along with geo-coordinates :

B- Main Raw Material :

Main Raw Material Details		
Name of Raw Material	Raw Material Unit Name	Raw Material Quantity
Ash	Metric Tonnes/Year	185000

C- Product with capacity :

Product Detail	
Name of Product	Product Quantity
Fly ash Transportation (MT/Year)	185000

D- By-Product if any with capacity :

By Product Detail			
Name of By Product	Unit Name	Licence Product Capacity	Install Product Capacity
NA	Metric Tonnes/Day	0	0

2. Water Requirement (in KLD) and its Source :

Source of Water Details		
Source Type	Name of Source	Quantity (KL/D)

3. Quantity of effluent (In KLD) :

Effluent Details	
Source Consumption	Quantity (KL/D)

4. Fuel used in the equipment/machinery Name and Quantity (per day) :

Fuel Consumption Details		
Fuel	Consumption(tpd/kld)	Use

5 For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.

For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.

2. You are directed to furnish the progress of Establishment of plant and machinery, green belt, Effluent Treatment Plant and Air pollution control devices, by 10th day of completion of subsequent quarter in the Board.
3. Copy of the work order/purchase order, regarding instruction and supply of proposed Effluent Treatment Plant/Sewerage Treatment Plant /Air Pollution control System shall be submitted by the industry till 31/12/2026 to the Board.
4. Industry will not start its operation, unless CTO is obtained under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and control of Pollution) Act, 1981 from the Board.
5. It is mandatory to submit Air and Water consent Application, complete in all respect, four months before start of operation, to the U.P. Pollution Control Board.
6. Legal action under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 may be initiated against the industry With out any prior information, in case of non compliance of above conditions.

Specific Conditions:

1. Kindly refer your application for Consent to establish dated 01.07.2021 and affidavit No - 57AE794633 dated 05.05.2022 vide which you have stated that the fly ash of Lalitpur Power Generation Company Ltd. shall transported for land filling under the agreement with Shri Bhagirath S/O Mohan, Village-Gadyana, Arazi No.-1080/1, Talbehat, Dist.-Lalitpur, to reclaim the agriculture land in this regard a conditional Consent to establish is being issued subjected that the transportation of fly ash shall be covered vehicles to control the ambient air quality as per prescribed norms of fly ash disposal issued by Ministry of Environment and Climate Change, Government of India.
2. In any case of public nuisance complaint this conditional Consent to establish shall be treated as canceled so this is your prime duty to observed and maintain the proper cover of Fly ash Flying in near by area.
3. This permission have no authorization for the production of Fly ash generation and having effect that the transportation of fly ash from Lalitpur Power Generation Company Ltd, Mirchwaraa, Lalitpur premises to agriculture land of agreemented farmer for reclamation of soil only.
4. This conditional permission is being issued in regard of Letter No.-468/18-2/2019 dated 20-09-2020 under the provisions of MSME (Establishment and Operations) Act of 2020.
5. Kindly refer your whatsapp message dated 13.05.2022 time 18:55 by which you have informed to this office that you have proposed to dump and reclamation by the fly ash of M/s Lalitpur Power generation Company Limited, Lalitpur having fly ash quantity 1,85,000.0 MT per year at the agreemented land of farmers. Gata No.- 234, Udaipura, 661, Udaipura, 1057, Gadianya, 1080/1, Gadianya, 94, Beer, 983/6, Birarari, 12mi, Beer, 58mi, Jharkone, Lalitpur. But affidavit No. 57AE 794633 dated 05.05.2022 is not confirming the total Gatas so clear the gap in information please.
6. The Board reserves the right to revoke this conditional consent to establish which has granted at any time in case that industry is violating any of the provision of the Air (Prevention & Control of Pollution) Act, 1981 and water (Prevention & Control of Pollution) Act, 1974 and as amended time to time.

Please note that consent to Establish will be revoked, in case of, non compliance of any of the above mentioned conditions. Board reserves its right for amendment or cancellation of any of the conditions specified above. Industry is directed to submit its first compliance report regarding above mentioned specific and general conditions till 18/06/2022 in this office. Ensure to submit the regular compliance report otherwise this Consent to Establish will be revoked.

**Niranjan
Sharma**

Digitally signed by
Niranjan Sharma
Date: 2022.05.18
14:40:12 +05'30'

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**REGIONAL OFFICER
U.P. POLLUTION CONTROL BOARD, JHANSI**

Dated:- 18/05/2022

Copy To -

CEO-2, U.P. POLLUTION CONTROL BOARD, LUCKNOW

**Niranjan
Sharma**

Digitally signed by
Niranjan Sharma
Date: 2022.05.18
14:40:29 +05'30'

**REGIONAL OFFICER
U.P. POLLUTION CONTROL BOARD, JHANSI**



UTTAR PRADESH POLLUTION CONTROL BOARD
Building. No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010

Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com

Validity Period :29/12/2022 To 31/12/2024

Ref No. - 172973/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2022 Dated:- 27/01/2023

To ,

Shri AJAYVIKRAM SINGH
M/s LALITPUR POWER GENERATION COMPANY LTD
Vill - Burogaon and Mirchwra, P.O.- Burogaon,LALITPUR,284123
LALITPUR

Sub : Consent to Establish for New Unit/Expansion/Diversification under the provisions of Water (Prevention and control of pollution) Act, 1974 as amended and Air (Prevention and control of Polution) Act, 1981 as amended.

Please refer to your Application Form No.- 19080870 dated - 28/12/2022. After examining the application with respect to pollution angle, Consent to Establish (CTE) is granted subject to the compliance of following conditions :

1. Consent to Establish is being issued for following specific details :

A- Site along with geo-coordinates :

B- Main Raw Material :

Main Raw Material Details		
Name of Raw Material	Raw Material Unit Name	Raw Material Quantity
Ash	Metric Tonnes/Day	703440

C- Product with capacity :

Product Detail	
Name of Product	Product Quantity
Fly ash Transportation (MT/Year)	703440

D- By-Product if any with capacity :

By Product Detail			
Name of By Product	Unit Name	Licence Product Capacity	Install Product Capacity
Nil	Metric Tonnes/Day	0	0

2. Water Requirement (in KLD) and its Source :

Source of Water Details		
Source Type	Name of Source	Quantity (KL/D)
Other	Treated wter	0.0

3. Quantity of effluent (In KLD) :

Effluent Details	
Source Consumption	Quantity (KL/D)
Others(Dust Suppression)	60.0

4. Fuel used in the equipment/machinery Name and Quantity (per day) :

Fuel Consumption Details		
Fuel	Consumption(tpd/kld)	Use

- 5 For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.
- For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.
2. You are directed to furnish the progress of Establishment of plant and machinery, green belt, Effluent Treatment Plant and Air pollution control devices, by 10th day of completion of subsequent quarter in the Board.
3. Copy of the work order/purchase order, regarding instruction and supply of proposed Effluent Treatment Plant/Sewerage Treatment Plant /Air Pollution control System shall be submitted by the industry till 31/12/2024 to the Board.
4. Industry will not start its operation, unless CTO is obtained under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and control of Pollution) Act, 1981 from the Board.
5. It is mandatory to submit Air and Water consent Application, complete in all respect, four months before start of operation, to the U.P. Pollution Control Board.
6. Legal action under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 may be initiated against the industry With out any prior information, in case of non compliance of above conditions.

Specific Conditions:

1. Kindly refer your application for Consent to establish dated 29.12.2022 vide which you have stated that the fly ash of Lalitpur Power Generation Company Ltd. shall transported for land filling under the agreement with Khasra No./Gata No. 502, Ladwari, 966, Jharkaun, 1800, Jarauli, 931,932,933, Bhaloni Sua, 587,589,591,594, Jarauli, 27/1, Tikra Tiwari, 925,926, Gurarwara, 2598,2600,2601, Kachnaudha Kalan, 582/5, Rajwara, 153,163,164, Pulwara, 1724/1, Bar, 59/8, Gainchwara, 892 mi, Mirchwara, 911, Pataua, 201, Panari, 618 mi, Karitoran, 338/2, Tila, Lalitpur. to reclaim the agriculture land in this regard a conditional Consent to establish is being issued subjected that the transportation of fly ash shall be covered vehicles to control the ambient air quality as per prescribed norms of fly ash disposal issued by Ministry of Environment and Climate Change, Government of India.
2. In any case of public nuisance complaint this conditional Consent to establish shall be treated as canceled so this is your prime duty to observed and maintain the proper cover of Fly ash Flying in near by area.
3. This permission have no authorization for the production of Fly ash generation and having effect that the transportation of fly ash from Lalitpur Power Generation Company Ltd, Mirchwaraa, Lalitpur premises to agriculture land of agreed farmer for reclamation of soil only.
4. The Industry Submit A bank Guarantee amounting to Rs. 50,000.00 (Fifty Thousand) within 15 days as an assurance to comply with the code of Practice as well as provisions of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981.
5. This conditional permission is being issued in regard of Letter No.-468/18-2/2019 dated 20-09-2020 under the provisions of MSME (Establishment and Operations) Act of 2020.
6. The Board reserves the right to revoke this conditional consent to establish which has granted at any time in case that industry is violating any of the provision of the Air (Prevention & Control of Pollution) Act, 1981 and water (Prevention & Control of Pollution) Act, 1974 and as amended time to time.

Please note that consent to Establish will be revoked, in case of, non compliance of any of the above mentioned conditions. Board reserves its right for amendment or cancellation of any of the conditions specified above. Industry is directed to submit its first compliance report regarding above mentioned specific and general conditions till 27/02/2023 in this office. Ensure to submit the regular compliance report otherwise this Consent to Establish will be revoked.

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DEEPA
ARORA

Digitally signed by
DEEPA ARORA
Date: 2023.01.27
12:40:43 +05'30'

**REGIONAL OFFICER
U.P. POLLUTION CONTROL BOARD, JHANSI**

Dated:- 27/01/2023

Copy To -

CEO-2, U.P. POLLUTION CONTROL BOARD, LUCKNOW

DEEPA
ARORA

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by DEEPA ARORA
Date: 2023.01.27
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**REGIONAL OFFICER
U.P. POLLUTION CONTROL BOARD, JHANSI**

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ANNEXURE-R-26

133²⁶



UTTAR PRADESH POLLUTION CONTROL BOARD
Building. No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010

Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com

Validity Period :31/05/2023 To 31/12/2024

Ref No. - 185253/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2023 Dated:- 17/06/2023

To ,

Shri AJAY VIKRAM SINGH
M/s LALITPUR POWER GENERATION COMPANY LTD
Village Burogaon, lalitpur (UP),LALITPUR,284123
LALITPUR

Sub : Consent to Establish for New Unit/Expansion/Diversification under the provisions of Water (Prevention and control of pollution) Act, 1974 as amended and Air (Prevention and control of Pollution) Act, 1981 as amended.

Please refer to your Application Form No.- 21390049 dated - 27/05/2023. After examining the application with respect to pollution angle, Consent to Establish (CTE) is granted subject to the compliance of following conditions :

1. Consent to Establish is being issued for following specific details :

A- Site along with geo-coordinates :

B- Main Raw Material :

Main Raw Material Details		
Name of Raw Material	Raw Material Unit Name	Raw Material Quantity
ASH	Metric Tonnes/Year	693190

C- Product with capacity :

Product Detail	
Name of Product	Product Quantity
Fly ash Transportation (MT/Year)	693190

D- By-Product if any with capacity :

By Product Detail			
Name of By Product	Unit Name	Licence Product Capacity	Install Product Capacity
Nil	Metric Tonnes/Day	0	0

2. Water Requirement (in KLD) and its Source :

Source of Water Details		
Source Type	Name of Source	Quantity (KL/D)
Other	Not applicable	0.0

3. Quantity of effluent (In KLD) :

Effluent Details	
Source Consumption	Quantity (KL/D)
Others(Dust Suppression)	60.0

4. Fuel used in the equipment/machinery Name and Quantity (per day) :

Fuel Consumption Details		
Fuel	Consumption(tpd/kld)	Use
Others	0	transport

5. For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.
- For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.
2. You are directed to furnish the progress of Establishment of plant and machinery, green belt, Effluent Treatment Plant and Air pollution control devices, by 10th day of completion of subsequent quarter in the Board.
3. Copy of the work order/purchase order, regarding instruction and supply of proposed Effluent Treatment Plant/Sewerage Treatment Plant /Air Pollution control System shall be submitted by the industry till 31/12/2024 to the Board.
4. Industry will not start its operation, unless CTO is obtained under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and control of Pollution) Act, 1981 from the Board.
5. It is mandatory to submit Air and Water consent Application, complete in all respect, four months before start of operation, to the U.P. Pollution Control Board.
6. Legal action under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 may be initiated against the industry With out any prior information, in case of non compliance of above conditions.

Specific Conditions:

1. Kindly refer your application for Consent to establish dated 31.05.2023 vide which you have stated that the fly ash of Lalitpur Power Generation Company Ltd. shall transported for land filling under the agreement with Khasra No./Gata No.-108,111,112,113,115,110mi. Kakkari, 840,1303 Mirchwara, 2394 Mirchwara, 2394, 2397, 2398, 2399 Mirchwara, 2295, 2395 Mirchwara, 2465, 2466, 2543, 2457, 2458, 2460, 2495, 2459 Mirchwara, 41 Beer, 1836 Gadyana, 551, 555 Teela, 2635/1, Rajwara, 1183, 1184 Toria, 1039, 1040 Toria, 1697,1698,1699 Toria, 49/4 Khonkhara, 749 Marrauli, 788 Marrauli, 432 Hanpura, Distict- Lalitpur. to reclaim the agriculture land in this regard a conditional Consent to establish is being issued subjected that the transportation of fly ash shall be covered vehicles to control the ambient air quality as per prescribed norms of fly ash disposal issued by Ministry of Environment and Climate Change, Government of India.
2. In any case of public nuisance complaint this conditional Consent to establish shall be treated as canceled so this is your prime duty to observed and maintain the proper cover of Fly ash Flying in near by area.
3. This permission have no authorization for the production of Fly ash generation and having effect that the transportation of fly ash from Lalitpur Power Generation Company Ltd, Mirchwaraa, Lalitpur premises to agriculture land of agreemented farmer for reclamation of soil only.
4. No objection certificate is issued with the condition of disposal of ash in the plot after completely emptying the water logging in the plot of Mr. Yadvendra Singh, Village-Bir, Lalitpur
5. The Industry Submit A bank Guarantee amounting to Rs.1,00,000.00 (One Lack) within 15 days as an assurance to comply with the code of Practice as well as provisions of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981.
6. This conditional permission is being issued in regard of Letter No.-468/18-2/2019 dated 20-09-2020 under the provisions of MSME (Establishment and Operations) Act of 2020.
7. The Board reserves the right to revoke this conditional consent to establish which has granted at any time in case that industry is violating any of the provision of the Air (Prevention & Control of Pollution) Act, 1981 and water (Prevention & Control of Pollution) Act, 1974 and as amended time to time.

Please note that consent to Establish will be revoked, in case of, non compliance of any of the above mentioned conditions. Board reserves its right for amendment or cancellation of any of the conditions specified above. Industry is directed to submit its first compliance report regarding above mentioned specific and general conditions till 17/07/2023 in this office. Ensure to submit the regular compliance report otherwise this Consent to Establish will be revoked.

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DEEPA ARORA
Date: 2023.06.17
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REGIONAL OFFICER
U.P. POLLUTION CONTROL BOARD, JHANSI

Dated:- 17/06/2023

Copy To -

CEO-2, U.P. POLLUTION CONTROL BOARD, LUCKNOW

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REGIONAL OFFICER
U.P. POLLUTION CONTROL BOARD, JHANSI



मिशन LiFE - पर्यावरण के लिए जीवन शैली
(Lifestyle For Environment)
जनसहभागिता का सन्देश



- स्वच्छता – देशसेवा में अपने परिवेश की स्वच्छता हेतु अपना सक्रिय योगदान सुनिश्चित करें
- संकल्प लें -एकल उपयोग प्लास्टिक उत्पाद जैसे कप, तश्तरी, चम्मच, स्ट्रॉ, ईयरबड्स आदि का उपयोग न हो एवं पर्यावरण अनुकूल विकल्पों जैसे कागज/पत्तों से बने दोने या कटलरी को प्राथमिकता दी जाय ।
- एकल उपयोग प्लास्टिक उत्पाद के प्रयोग को रोकने एवं प्लास्टिक बैग के बजाय कपड़े के थैले का उपयोग करने मात्र से 375 मिलियन टन ठोस (प्लास्टिक) कचरे का उत्सर्जन बचाया जा सकता है
- चक्रीय अर्थव्यवस्था (सर्कुलर इकोनॉमी) का समुचित कार्यान्वयन वर्ष 2030 तक लगभग 14 लाख करोड़ रुपये की अतिरिक्त बचत उत्पन्न कर सकता है। वेस्ट/अपशिष्ट फेकने के पूर्व सोचें, ये किसी का संसाधन तो नहीं ...?
- अनुपयोगी इलेक्ट्रिक / इलेक्ट्रॉनिक उत्पाद को कचरे में फेकने से रुकें। इसके उपयुक्त निस्तारण हेतु इसे प्राधिकृत ई-वेस्ट रीसाइकलर को दें। प्राधिकृत ई-रीसाइकलिंग इकाई में अनुपयोगी इलेक्ट्रिक / इलेक्ट्रॉनिक उत्पाद को देने मात्र से 0.75 मिलियन टन तक ई-कचरे का पुनर्चक्रण किया जा सकता है एवं ई-कचरे के विषम पर्यावरणीय दुष्प्रभाव से बचा जा सकता है
- बाहर जाते समय - सोचें कि क्या आपको वास्तव में परिवहन की आवश्यकता है - वह भी क्या व्यक्तिगत रूप से ? छोटी दूरी के लिए पैदल चलना पसंद करें, अथवा सम्भव हो तो कार पूल के रूप में संसाधन को साझा करें अथवा सार्वजनिक परिवहन पर विचार करें
- धरेलू स्तर पर कम से कम ठोस अपशिष्ट का उत्सर्जन करें और इनका प्थाङ्कीकरण करें
- उपयोगी शेष खाद्य सामग्री आपके स्वयं प्रयास अथवा निकटस्थ सक्रिय स्वयं सेवी संस्थाओं की सहायता से समाज के वंचित वर्ग तक पहुंचाई जा सकती है। वहीं अनुपयोगी भोजन/खाद्य सामग्री को कंपोस्ट (वर्मी कम्पोस्ट) करने से 15 अरब टन भोजन को नष्ट होने से बचाया जा सकता है
- ध्यान रखें - उपयुक्त नल और शावर के उपयोग से पानी की खपत को 30 - 40% तक कम किया जा सकता है। एवं उपयोग में न होने पर नलों को बंद रखने मात्र से 9 ट्रिलियन लीटर पानी बचाया जा सकता है
- ट्रेफिक लाइट/रेलवे क्रॉसिंग पर कार/स्कूटर के इंजन बंद करने मात्र से 22.5 बिलियन kWh तक ऊर्जा की बचत हो सकती है
- परम्परागत बल्ब के स्थान पर CFL का उपयोग बिजली की खपत में प्रभावी कमी लाते हैं। उपयोग में न होने पर बिजली उपकरणों को बंद करें। स्टार रेटेड विद्युत उपकरणों के उपयोग को प्राथमिकता दें

हमारे द्वारा अपनी जीवन शैली की प्राथमिकताओं का उचित और पर्यावरण अनुकूल पुनर्निर्धारण समाज और पर्यावरण के प्रति हमारा दायित्व है।

**UTTAR PRADESH POLLUTION CONTROL BOARD**

Building, No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010

Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com

Validity Period :21/10/2023 To 31/12/2027

Ref No. - 194928/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2023 Dated:- 15/12/2023

To ,

Shri AJAY VIKRAM SINGH
M/s LALITPUR POWER GENERATION COMPANY LTD
Village Mirchwara Burogaon Lalitpur (UP),LALITPUR,284123
LALITPUR

Sub : Consent to Establish for New Unit/Expansion/Diversification under the provisions of Water (Prevention and control of pollution) Act, 1974 as amended and Air (Prevention and control of Pollution) Act, 1981 as amended.

Please refer to your Application Form No.- 23194285 dated - 16/10/2023. After examining the application with respect to pollution angle, Consent to Establish (CTE) is granted subject to the compliance of following conditions :

1. Consent to Establish is being issued for following specific details :

A- Site along with geo-coordinates :

B- Main Raw Material :

Main Raw Material Details		
Name of Raw Material	Raw Material Unit Name	Raw Material Quantity
Ash	Metric Tonnes/Year	306160

C- Product with capacity :

Product Detail	
Name of Product	Product Quantity
Fly ash Transportation (MT/Year)	306160

D- By-Product if any with capacity :

By Product Detail			
Name of By Product	Unit Name	Licence Product Capacity	Install Product Capacity

2. Water Requirement (in KLD) and its Source :

Source of Water Details		
Source Type	Name of Source	Quantity (KL/D)
Other	Water sprinkling tanker	60.0

3. Quantity of effluent (In KLD) :

Effluent Details	
Source Consumption	Quantity (KL/D)
Others(Dust Suppression)	60.0

4. Fuel used in the equipment/machinery Name and Quantity (per day) :

Fuel Consumption Details		
Fuel	Consumption(tpd/kld)	Use
Others	00	00

5. For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.
- For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.
- You are directed to furnish the progress of Establishment of plant and machinery, green belt, Effluent Treatment Plant and Air pollution control devices, by 10th day of completion of subsequent quarter in the Board.
 - Copy of the work order/purchase order, regarding instruction and supply of proposed Effluent Treatment Plant/Sewerage Treatment Plant /Air Pollution control System shall be submitted by the industry till 31/12/2027 to the Board.
 - Industry will not start its operation, unless CTO is obtained under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and control of Pollution) Act, 1981 from the Board.
 - It is mandatory to submit Air and Water consent Application, complete in all respect, four months before start of operation, to the U.P. Pollution Control Board.
 - Legal action under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 may be initiated against the industry With out any prior information, in case of non compliance of above conditions.

Specific Conditions:

- Kindly refer your application for Consent to establish dated 13.10.2023 vide which you have stated that the fly ash of Lalitpur Power Generation Company Ltd. shall transported for land filling under the agreement with Khasra No./Gata No. 1176, Toriya, 219, Udaypura, 2421, Mirchwarra, 1092/1, Mirchwarra, 975] 972, 977, 1087, Panari, 2525/1, 2525/2, 2525/3, Banpur, 1285 Cugarwarra, 38, 66/2, Panari, 186, Khohara, 777/1, Banpur, 805, Mirchwarra Distict- Lalitpur. to reclaim the agriculture land in this regard a conditional Consent to establish is being issued subjected that the transportation of fly ash shall be covered vehicles to control the ambient air quality as per prescribed norms of fly ash disposal issued by Ministry of Environment and Climate Change, Government of India.
- In any case of public nuisance complaint this conditional Consent to establish shall be treated as canceled so this is your prime duty to observed and maintain the proper cover of Fly ash Flying in near by area.
- This permission have no authorization for the production of Fly ash generation and having effect that the transportation of fly ash from Lalitpur Power Generation Company Ltd, Mirchwarra, Lalitpur premises to agriculture land of agreemented farmer for reclamation of soil only.
- The Industry Submit A bank Guarantee amounting to Rs. 50,000.00 (Fifty Thousand) within 15 days as an assurance to comply with the code of Practice as well as provisions of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981.
- This conditional permission is being issued in regard of Letter No.-468/18-2/2019 dated 20-09-2020 under the provisions of MSME (Establishment and Operations) Act of 2020.
- The Board reserves the right to revoke this conditional consent to establish which has granted at any time in case that industry is violating any of the provision of the Air (Prevention & Control of Pollution) Act, 1981 and water (Prevention & Control of Pollution) Act, 1974 and as amended time to time.

Please note that consent to Establish will be revoked, in case of, non compliance of any of the above mentioned conditions. Board reserves its right for amendment or cancellation of any of the conditions specified above. Industry is directed to submit its first compliance report regarding above mentioned specific and general conditions till 15/01/2024 in this office. Ensure to submit the regular compliance report otherwise this Consent to Establish will be revoked.

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**REGIONAL OFFICER
U.P. POLLUTION CONTROL BOARD, JHANSI**

Dated:- 15/12/2023

Copy To -

CEO-2, U.P. POLLUTION CONTROL BOARD, LUCKNOW

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**REGIONAL OFFICER
U.P. POLLUTION CONTROL BOARD, JHANSI**



मिशन LIFE - पर्यावरण के लिए जीवन शैली
(Lifestyle For Environment)
जनसहभागिता का सन्देश



- स्वच्छता – देशसेवा में अपने परिवेश की स्वच्छता हेतु अपना सक्रिय योगदान सुनिश्चित करें
- संकल्प लें -एकल उपयोग प्लास्टिक उत्पाद जैसे कप, तश्तरी, चम्मच, स्ट्रॉ, ईयरबड्स आदि का उपयोग न हो एवं पर्यावरण अनुकूल विकल्पों जैसे कागज/पत्तों से बने दोने या कटलरी को प्राथमिकता दी जाय ।
- एकल उपयोग प्लास्टिक उत्पाद के प्रयोग को रोकने एवं प्लास्टिक बैग के बजाय कपड़े के थैले का उपयोग करने मात्र से 375 मिलियन टन ठोस (प्लास्टिक) कचरे का उत्सर्जन बचाया जा सकता है
- चक्रीय अर्थव्यवस्था (सर्कुलर इकोनॉमी) का समुचित कार्यान्वयन वर्ष 2030 तक लगभग 14 लाख करोड़ रुपये की अतिरिक्त बचत उत्पन्न कर सकता है | वेस्ट /अपशिष्ट फेकने के पूर्व सोचें, ये किसी का संसाधन तो नहीं ...?
- अनुपयोगी इलेक्ट्रिक / इलेक्ट्रॉनिक उत्पाद को कचरे में फेकने से रुकें | इसके उपयुक्त निस्तारण हेतु इसे प्राधिकृत ई – वेस्ट रीसाइकलर को दें | प्राधिकृत ई-रीसाइक्लिंग इकाई में अनुपयोगी इलेक्ट्रिक / इलेक्ट्रॉनिक उत्पाद को देने मात्र से 0.75 मिलियन टन तक ई-कचरे का पुनर्चक्रण किया जा सकता है एवं ई-कचरे के विषम पर्यावरणीय दुष्प्रभाव से बचा जा सकता है
- बाहर जाते समय - सोचें कि क्या आपको वास्तव में परिवहन की आवश्यकता है - वह भी क्या व्यक्तिगत रूप से ? छोटी दूरी के लिए पैदल चलना पसंद करें, अथवा सम्भव हो तो कार पूल के रूप में संसाधन को साझा करें अथवा सार्वजनिक परिवहन पर विचार करें
- घरेलू स्तर पर कम से कम ठोस अपशिष्ट का उत्सर्जन करें और इनका प्रथाकीकरण करें
- उपयोगी शेष खाद्य सामग्री आपके स्वयं प्रयास अथवा निकटस्थ सक्रिय स्वयं सेवी संस्थाओं की सहायता से समाज के वंचित वर्ग तक पहुंचाई जा सकती है | वहीं अनुपयोगी भोजन /खाद्य सामग्री को कंपोस्ट (वर्मी कम्पोस्ट) करने से 15 अरब टन भोजन को नष्ट होने से बचाया जा सकता है
- ध्यान रखें - उपयुक्त नल और शावर के उपयोग से पानी की खपत को 30 - 40% तक कम किया जा सकता है। एवं उपयोग में न होने पर नलों को बंद रखने मात्र से 9 ट्रिलियन लीटर पानी बचाया जा सकता है
- ट्रेफिक लाइट/रेलवे क्रॉसिंग पर कार/स्कूटर के इंजन बंद करने मात्र से 22.5 बिलियन kWh तक ऊर्जा की बचत हो सकती है
- परम्परागत बल्ब के स्थान पर CFL का उपयोग बिजली की खपत में प्रभावी कमी लाते हैं | उपयोग में न होने पर बिजली उपकरणों को बंद करें | स्टार रेटेड विद्युत उपकरणों के उपयोग को प्राथमिकता दें

हमारे द्वारा अपनी जीवन शैली की प्राथमिकताओं का उचित और पर्यावरण अनुकूल पुनर्निर्धारण समाज और पर्यावरण के प्रति हमारा दायित्व है।

**UTTAR PRADESH POLLUTION CONTROL BOARD**

Building, No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010

Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com

Validity Period :01/03/2024 To 28/02/2026

Ref No. - 202744/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2024 Dated:- 06/03/2024

To ,

Shri AJAY VIKRAM SINGH
M/s LALITPUR POWER GENERATION COMPANY LTD
Village Mirchwara Burogaon Lalitpur (UP),LALITPUR,284123
LALITPUR

Sub : Consent to Establish for New Unit/Expansion/Diversification under the provisions of Water (Prevention and control of pollution) Act, 1974 as amended and Air (Prevention and control of Pollution) Act, 1981 as amended.

Please refer to your Application Form No.- 24810870 dated - 08/02/2024. After examining the application with respect to pollution angle, Consent to Establish (CTE) is granted subject to the compliance of following conditions :

1. Consent to Establish is being issued for following specific details :

A- Site along with geo-coordinates :

B- Main Raw Material :

Main Raw Material Details		
Name of Raw Material	Raw Material Unit Name	Raw Material Quantity
Coal	Metric Tonnes/Day	319840.0

C- Product with capacity :

Product Detail	
Name of Product	Product Quantity
Ash	319840.0

D- By-Product if any with capacity :

By Product Detail			
Name of By Product	Unit Name	Licence Product Capacity	Install Product Capacity
Nil	Metric Tonnes/Day	0	0

2. Water Requirement (in KLD) and its Source :

Source of Water Details		
Source Type	Name of Source	Quantity (KL/D)
Mine Water		0.0

3. Quantity of effluent (In KLD) :

Effluent Details	
Source Consumption	Quantity (KL/D)
Others(Dust Suppression)	60.0

4. Fuel used in the equipment/machinery Name and Quantity (per day) :

Fuel Consumption Details		
Fuel	Consumption(tpd/kld)	Use
Coal	29500	Boiler operation

5. For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.
- For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.
2. You are directed to furnish the progress of Establishment of plant and machinery, green belt, Effluent Treatment Plant and Air pollution control devices, by 10th day of completion of subsequent quarter in the Board.
3. Copy of the work order/purchase order, regarding instruction and supply of proposed Effluent Treatment Plant/Sewerage Treatment Plant /Air Pollution control System shall be submitted by the industry till 28/02/2026 to the Board.
4. Industry will not start its operation, unless CTO is obtained under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and control of Pollution) Act, 1981 from the Board.
5. It is mandatory to submit Air and Water consent Application, complete in all respect, four months before start of operation, to the U.P. Pollution Control Board.
6. Legal action under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 may be initiated against the industry With out any prior information, in case of non compliance of above conditions.

Specific Conditions:

1. Kindly refer your application for Consent to establish dated 08.02.2024 vide which you have stated that the fly ash of Lalitpur Power Generation Company Ltd. shall transported for land filling under the agreement with Khasra No./Gata No. 1970mi, Padwa, 164, Khiriya (Banpur), 52mi, Ganga Sagar, 1308/6mi, Masora Khurd, 10, Bamhauri sahna, 101, Bamhauri Sanha, 1443, Toria, 771, Bhawni, 2253, Mirchwara, 2111, Mirchwara, 835, Mirchwara Lalitpur, 306/20, Tor, 1123, Didaura District- Lalitpur. to reclaim the agriculture land in this regard a conditional Consent to establish is being issued subjected that the transportation of fly ash shall be covered vehicles to control the ambient air quality as per prescribed norms of fly ash disposal issued by Ministry of Environment and Climate Change, Government of India.
2. In any case of public nuisance complaint this conditional Consent to establish shall be treated as canceled so this is your prime duty to observed and maintain the proper cover of Fly ash Flying in near by area.
3. This permission have no authorization for the production of Fly ash generation and having effect that the transportation of fly ash from Lalitpur Power Generation Company Ltd, Mirchwaraa, Lalitpur premises to agriculture land of agreement farmer for reclamation of soil only.
4. The Industry Submit A bank Guarantee amounting to Rs. 50,000.00 (Fifty Thousand) within 15 days as an assurance to comply with the code of Practice as well as provisions of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981.
5. This conditional permission is being issued in regard of Letter No.-468/18-2/2019 dated 20-092020 under the provisions of MSME (Establishment and Operations) Act of 2020.
6. The Board reserves the right to revoke this conditional consent to establish which has granted at any time in case that industry is violating any of the provision of the Air (Prevention & Control of Pollution) Act, 1981 and water (Prevention & Control of Pollution) Act, 1974 and as amended time to time.

Please note that consent to Establish will be revoked, in case of, non compliance of any of the above mentioned conditions. Board reserves its right for amendment or cancellation of any of the conditions specified above. Industry is directed to submit its first compliance report regarding above mentioned specific and general conditions till 06/04/2024 in this office. Ensure to submit the regular compliance report otherwise this Consent to Establish will be revoked.

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Deepa
Arora

Digitally signed by
Deepa Arora
Date: 2024.03.06
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REGIONAL OFFICER

U.P. POLLUTION CONTROL BOARD, JHANSI

Dated:- 06/03/2024

Copy To -

CEO-2, U.P. POLLUTION CONTROL BOARD, LUCKNOW

Deepa Arora

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Deepa Arora
Date: 2024.03.06
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REGIONAL OFFICER

U.P. POLLUTION CONTROL BOARD, JHANSI



मिशन LiFE - पर्यावरण के लिए जीवन शैली
(Lifestyle For Environment)
जनसहभागिता का सन्देश



- स्वच्छता – देशसेवा में अपने परिवेश की स्वच्छता हेतु अपना सक्रिय योगदान सुनिश्चित करें
- संकल्प लें -एकल उपयोग प्लास्टिक उत्पाद जैसे कप, तश्तरी, चम्मच, स्ट्रॉ, ईयरबड्स आदि का उपयोग न हो एवं पर्यावरण अनुकूल विकल्पों जैसे कागज/पत्तों से बने दोने या कटलरी को प्राथमिकता दी जाय |
- एकल उपयोग प्लास्टिक उत्पाद के प्रयोग को रोकने एवं प्लास्टिक बैग के बजाय कपड़े के थैले का उपयोग करने मात्र से 375 मिलियन टन ठोस (प्लास्टिक) कचरे का उत्सर्जन बचाया जा सकता है
- चक्रीय अर्थव्यवस्था (सर्कुलर इकोनॉमी) का समुचित कार्यान्वयन वर्ष 2030 तक लगभग 14 लाख करोड़ रुपये की अतिरिक्त बचत उत्पन्न कर सकता है | वेस्ट /अपशिष्ट फेंकने के पूर्व सोचें, ये किमी का संसाधन तो नहीं ...?
- अनुपयोगी इलेक्ट्रिक / इलेक्ट्रॉनिक उत्पाद को कचरे में फेंकने से रुकें | इसके उपयुक्त निस्तारण हेतु इसे प्राधिकृत ई-वेस्ट रीसाइकलर को दें | प्राधिकृत ई-रीसाइकलिंग इकाई में अनुपयोगी इलेक्ट्रिक / इलेक्ट्रॉनिक उत्पाद को देने मात्र से 0.75 मिलियन टन तक ई-कचरे का पुनर्चक्रण किया जा सकता है एवं ई-कचरे के विषम पर्यावरणीय दुष्प्रभाव से बचा जा सकता है
- बाहर जाते समय - सोचें कि क्या आपको वास्तव में परिवहन की आवश्यकता है - वह भी क्या व्यक्तिगत रूप से ? छोटी दूरी के लिए पैदल चलना पसंद करें, अथवा सम्भव हो तो कार पूल के रूप में संसाधन को साझा करें अथवा सार्वजनिक परिवहन पर विचार करें
- घरेलू स्तर पर कम से कम ठोस अपशिष्ट का उत्सर्जन करें और इनका प्थाङ्कीकरण करें
- उपयोगी शेष खाद्य सामग्री आपके स्वयं प्रयास अथवा निकटस्थ सक्रिय स्वयं सेवी संस्थाओं की सहायता से समाज के वंचित वर्ग तक पहुंचाई जा सकती है | वहीं अनुपयोगी भोजन /खाद्य सामग्री को कंपोस्ट (वर्मी कम्पोस्ट) करने से 15 अरब टन भोजन को नष्ट होने से बचाया जा सकता है
- ध्यान रखें - उपयुक्त नल और शावर के उपयोग से पानी की खपत को 30 - 40% तक कम किया जा सकता है। एवं उपयोग में न होने पर नलों को बंद रखने मात्र से 9 ट्रिलियन लीटर पानी बचाया जा सकता है
- ट्रेफिक लाइट/रेलवे क्रॉसिंग पर कार/स्कूटर के इंजन बंद करने मात्र से 22.5 बिलियन kWh तक ऊर्जा की बचत हो सकती है
- परम्परागत बल्ब के स्थान पर CFL का उपयोग बिजली की खपत में प्रभावी कमी लाते हैं | उपयोग में न होने पर बिजली उपकरणों को बंद करें | स्टार रेटेड विद्युत उपकरणों के उपयोग को प्राथमिकता दें

हमारे द्वारा अपनी जीवन शैली की प्राथमिकताओं का उचित और पर्यावरण अनुकूल पुनर्निर्धारण समाज और पर्यावरण के प्रति हमारा दायित्व है |

**UTTAR PRADESH POLLUTION CONTROL BOARD**

Building. No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010

Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com

Validity Period :20/06/2024 To 31/12/2028

Ref No. - 211573/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2024 Dated:- 01/07/2024

To ,

Shri AJAY VIKRAM SINGH
M/s LALITPUR POWER GENERATION COMPANY LTD
Village Mirchwara Burogaon Lalitpur (UP),LALITPUR,284123
LALITPUR

Sub : Consent to Establish for New Unit/Expansion/Diversification under the provisions of Water (Prevention and control of pollution) Act, 1974 as amended and Air (Prevention and control of Pollution) Act, 1981 as amended.

Please refer to your Application Form No.- 26538686 dated - 25/05/2024. After examining the application with respect to pollution angle, Consent to Establish (CTE) is granted subject to the compliance of following conditions :

1. Consent to Establish is being issued for following specific details :

A- Site along with geo-coordinates :

B- Main Raw Material :

Main Raw Material Details		
Name of Raw Material	Raw Material Unit Name	Raw Material Quantity
coal	Metric Tonnes/Day	300000

C- Product with capacity :

Product Detail	
Name of Product	Product Quantity
Fly Ash	170000

D- By-Product if any with capacity :

By Product Detail			
Name of By Product	Unit Name	Licence Product Capacity	Install Product Capacity
None	Metric Tonnes/Day	00	00

2. Water Requirement (in KLD) and its Source :

Source of Water Details		
Source Type	Name of Source	Quantity (KL/D)
River	Canal	0.0

3. Quantity of effluent (In KLD) :

Effluent Details	
Source Consumption	Quantity (KL/D)
Others(Dust Suppression)	60.0

4. Fuel used in the equipment/machinery Name and Quantity (per day) :

Fuel Consumption Details		
Fuel	Consumption(tpd/kld)	Use
Coal	00	00

5. For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.
- For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.
2. You are directed to furnish the progress of Establishment of plant and machinery, green belt, Effluent Treatment Plant and Air pollution control devices, by 10th day of completion of subsequent quarter in the Board.
3. Copy of the work order/purchase order, regarding instruction and supply of proposed Effluent Treatment Plant/Sewerage Treatment Plant /Air Pollution control System shall be submitted by the industry till 31/12/2028 to the Board.
4. Industry will not start its operation, unless CTO is obtained under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and control of Pollution) Act, 1981 from the Board.
5. It is mandatory to submit Air and Water consent Application, complete in all respect, four months before start of operation, to the U.P. Pollution Control Board.
6. Legal action under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 may be initiated against the industry With out any prior information, in case of non compliance of above conditions.

Specific Conditions:

1. Kindly refer your application for Consent to establish dated 25.05.2024 vide which you have stated that the fly ash of Lalitpur Power Generation Company Ltd. shall transported for land filling under the agreement with Khasra No./Gata No. 1078/1 Khadobara, 2649/6 Mirchwara, 2399 Mirchwara, 2251mi Mirchwara, 1821 Semra Bhag Nagar, 1839 Semra Bhag Nagar, 1022, 1023 Mirchwara lalitpur, 661 Dailwara, 392/2 Roda, 389/1 Roda, 1944mi Panari, 46 Masora Kalan, 30,34/2,32/2 Masora Kalan, 613 Tila, 387/3, 497/2 Roda Distict-Lalitpur. to reclaim the agriculture land in this regard a conditional Consent to establish is being issued subjected that the transportation of fly ash shall be covered vehicles to control the ambient air quality as per prescribed norms of fly ash disposal issued by Ministry of Environment and Climate Change, Government of India.
2. In any case of public nuisance complaint this conditional Consent to establish shall be treated as canceled so this is your prime duty to observed and maintain the proper cover of Fly ash Flying in near by area.
3. This permission have no authorization for the production of Fly ash generation and having effect that the transportation of fly ash from Lalitpur Power Generation Company Ltd, Mirchwara, Lalitpur premises to agriculture land of agreemented farmer for reclamation of soil only.
4. The Industry Submit A bank Guarantee amounting to Rs. 50,000.00 (Fifty Thousand) within 15 days as an assurance to comply with the code of Practice as well as provisions of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981.
5. This conditional permission is being issued in regard of Letter No.-468/18-2/2019 dated 20-092020 under the provisions of MSME (Establishment and Operations) Act of 2020.
6. The Board reserves the right to revoke this conditional consent to establish which has granted at any time in case that industry is violating any of the provision of the Air (Prevention & Control of Pollution) Act, 1981 and water (Prevention & Control of Pollution) Act, 1974 and as amended time to time.

Please note that consent to Establish will be revoked, in case of, non compliance ot any of the above mentioned conditions. Board reserves its right for amendment or cancellation of any of the conditions specified above. Industry is directed to submit its first compliance report regarding above mentioned specific and general conditions till 01/08/2024 in this office. Ensure to submit the regular compliance report otherwise this Consent to Establish will be revoked.

822

147

Deepa
Arora

Digitally signed by
Deepa Arora
Date: 2024.07.01
12:04:28 +05'30'
REGIONAL OFFICER

Dated:- 01/07/2024

Copy To -

CEO-2, U.P. POLLUTION CONTROL BOARD, LUCKNOW.

Deepa
Arora

Digitally signed by
Deepa Arora
Date: 2024.07.01
12:04:51 +05'30'
REGIONAL OFFICER



मिशन LIFE - पर्यावरण के लिए जीवन शैली
(Lifestyle For Environment)
जनसहभागिता का सन्देश



- स्वच्छता – देशसेवा में अपने परिवेश की स्वच्छता हेतु अपना सक्रिय योगदान सुनिश्चित करें
- संकल्प लें -एकल उपयोग प्लास्टिक उत्पाद जैसे कप, तश्तरी, चम्मच, स्ट्रॉ, ईयरबड्स आदि का उपयोग न हो एवं पर्यावरण अनुकूल विकल्पों जैसे कागज/पत्तों से बने बोने या कटलरी को प्राथमिकता दी जाय |
- एकल उपयोग प्लास्टिक उत्पाद के प्रयोग को रोकने एवं प्लास्टिक बैग के बजाय कपड़े के थैले का उपयोग करने मात्र से 375 मिलियन टन ठोस (प्लास्टिक) कचरे का उत्सर्जन बचाया जा सकता है
- चक्रीय अर्थव्यवस्था (सर्कुलर इकोनॉमी) का समुचित कार्यान्वयन वर्ष 2030 तक लगभग 14 लाख करोड़ रुपये की अतिरिक्त बचत उत्पन्न कर सकता है | वेस्ट /अपशिष्ट फेंकने के पूर्व सोचें, ये किसी का संसाधन तो नहीं ...?
- अनुपयोगी इलेक्ट्रिक / इलेक्ट्रॉनिक उत्पाद को कचरे में फेंकने से रुकें | इसके उपयुक्त निस्तारण हेतु इसे प्राधिकृत ई – वेस्ट रीसाइकलर को दें | प्राधिकृत ई-रीसाइक्लिंग डकार्ड में अनुपयोगी इलेक्ट्रिक / इलेक्ट्रॉनिक उत्पाद को देने मात्र से 0.75 मिलियन टन तक ई-कचरे का पुनर्चक्रण किया जा सकता है एवं ई-कचरे के विषम पर्यावरणीय दुष्प्रभाव से बचा जा सकता है
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- घरेलू स्तर पर कम से कम ठोस अपशिष्ट का उत्सर्जन करें और इनका श्राव्हीकरण करें
- उपयोगी शेष खाद्य सामग्री आपके स्वयं प्रयास अथवा निकटस्थ सक्रिय स्वयं सेवी संस्थाओं की सहायता से समाज के वंचित वर्ग तक पहुंचाई जा सकती है | वहीं अनुपयोगी भोजन /खाद्य सामग्री को कंपोस्ट (वर्मी कम्पोस्ट) करने से 15 अरब टन भोजन को नष्ट होने से बचाया जा सकता है
- ध्यान रखें - उपयुक्त नल और शावर के उपयोग से पानी की खपत को 30 - 40% तक कम किया जा सकता है। एवं उपयोग में न होने पर नलों को बंद रखने मात्र से 9 ट्रिलियन लीटर पानी बचाया जा सकता है
- ट्रैफिक लाइट/रेलवे क्रॉसिंग पर कार/स्कूटर के इंजन बंद करने मात्र से 22.5 बिलियन kWh तक ऊर्जा की बचत हो सकती है
- परम्परागत बल्ब के स्थान पर CFL का उपयोग बिजली की खपत में प्रभावी कमी लाते हैं | उपयोग में न होने पर बिजली उपकरणों को बंद करें | स्टार रेटेड विद्युत उपकरणों के उपयोग को प्राथमिकता दें

हमारे द्वारा अपनी जीवन शैली की प्राथमिकताओं का उचित और पर्यावरण अनुकूल पुनर्निर्धारण समाज और पर्यावरण के प्रति हमारा दायित्व है।

ANNEXURE-R-30

LPGCL

30

Details NOC taken from UPPCB for low-lying area reclamation

Sl.	Details of Consent to Establish (CTE)	Area (hect)
1	129828/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2021 Dated:- 14/07/2021	7.32
2	153971/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2022 Dated:- 18/05/2022	3.22
3	172973/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2022 Dated:- 27/01/2023	18.38
4	185253/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2023 Dated:- 17/06/2023	21.91
5	194928/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2023 Dated:- 15/12/2023	5.16
6	202744/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2024 Dated:- 06/03/2024	6.95
7	211573/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2024 Dated:- 01/07/2024	7.89
	Total	70.83

**A Study Report on Groundwater Quality
and its Comparison with the Baseline Data
for the Lalitpur Power Generation
Company Limited, Lalitpur (U.P.)**



Report Prepared for:

Lalitpur Power Generation Company Limited (LPGCL)

By:

M. Dinesh Kumar and Nitin Bassi
Institute for Resource Analysis and Policy (IRAP), Hyderabad
URL: www.irapindia.org
December 2021

1 Background

Lalitpur Power Generation Company Limited (LPGCL), a subsidiary of Bajaj Group, is operating a three-unit 1,980 MW supercritical thermal power plant in Lalitpur district, Uttar Pradesh. To reduce its carbon footprint, the plant is equipped with modern technologies and advanced automatic monitoring and control with high-efficiency electrostatic precipitators. The first unit was commissioned in 2015, and the second and third ones in 2016.

The thermal power plant depends on public reservoirs in the district for meeting its water demands, viz., *Rajghat* and *Kachnoda*. An ash pond is constructed that acts as a landfill for the coal combustion products released from the plant, i.e., bottom ash and fly ash. In line with the statutory requirement, LPGCL has undertaken water harvesting and water pollution control interventions around its power plant to reduce the adverse impact on the local water environment. On a request from LPGCL, a study was undertaken by the Institute for Resource Analysis and Policy (IRAP) to assess the impact of water harvesting and water pollution control interventions on the quality of local groundwater resources and changes (if any) with respect to the baseline conditions. This report presents the findings of the study.

2 Objective of the Study

The main objectives of the study were to:

- i. Analyze the present (pre-monsoon of 2021) groundwater quality for the area surrounding the Lalitpur Thermal Power Plant.
- ii. Compare the present groundwater quality with the baseline (pre-monsoon of 2010) conditions.

3 Approach and Data Sets Used

LPGCL has undertaken several interventions pertaining to water harvesting and groundwater recharge in their campus and the surrounding areas. Such interventions serve a dual purpose: first is the augmentation of surface water storage and groundwater recharge at the local scale; and second, is the improvement in water quality through dilution of minerals in the local water sources. Further, water pollution control interventions have been designed and implemented within the campus of Lalitpur Thermal Power Plant (LTPP) to ensure that the leachate from the ash pond does not contaminate the nearby water resources, especially groundwater in the shallow aquifers.

The LPGCL laboratory tests groundwater samples collected from various sources in and around the LTPP site for physical, chemical, and bacteriological parameters following the Standard Indian testing methods. Testing is also done for heavy metals. Overall, testing is done for four groundwater sources (handpumps near ash pond in the LTPP, and villages *Semra*, *Udaipura*, and *Mirchwara*) covering 40 water quality parameters. One of the groundwater monitoring sources is within the campus of LTPP, its location is provided in Figure 1.

First of all, a macro analysis on groundwater quality in district Lalitpur and block Bar (where the LTPP is located) was performed. It covered analysis of electrical conductivity (EC), nitrate, fluoride, bacteriological contamination, pesticides, and heavy metals in shallow aquifers. The information needed for this analysis was accessed from a report of the Central Ground Water Board (CGWB, 2017). Thereafter, data on groundwater samples collected and tested during March 2021 (pre-monsoon) by LPGCL were analyzed.

Finally, the results of the present groundwater sample analysis were compared with the baseline data (pre-monsoon of 2010) provided by the LPGCL. For this, three groundwater sources (handpumps near ash pond in the LTPP, and villages *Udaipura* and *Mirchwara*) for which data on 31 water quality parameters was available for both present and baseline years were selected.

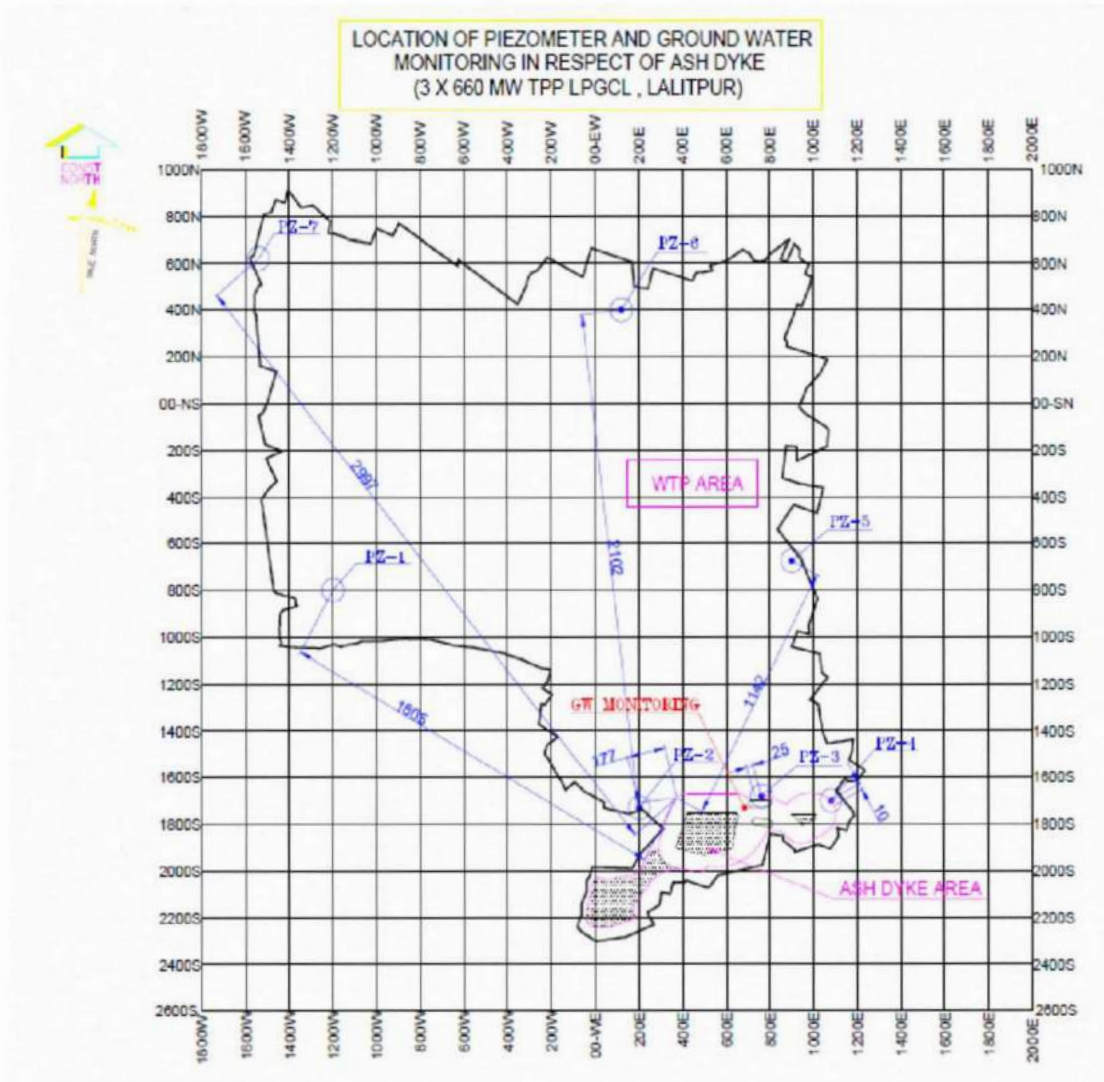


Figure 1: Location of groundwater monitoring source within the LTPP

(Source: Map provided by LPGCL)

4 Groundwater Quality in Lalitpur District of Uttar Pradesh

The analysis of the groundwater samples collected during 2017 by the Central Ground Water Board (CGWB) from the observation wells in Lalitpur district shows that the average electrical conductivity (EC) of groundwater is $1,014 \mu\text{S cm}^{-1}$, with a lowest of $199 \mu\text{S cm}^{-1}$ to a high of $3245 \mu\text{S cm}^{-1}$. Nevertheless, in most parts of the district, the EC value varies from 750 to $1500 \mu\text{S cm}^{-1}$ (refer to Figure 2). The average concentration of total dissolved solids (TDS) is 547.0 mg/l. About 97% of the analysed groundwater samples fall in the category of freshwater, and only 3% in the brackish water category. The high EC and TDS

(up to 2392.8 mg/l for the latter) of groundwater in the latter category makes it unsuitable even for irrigation.

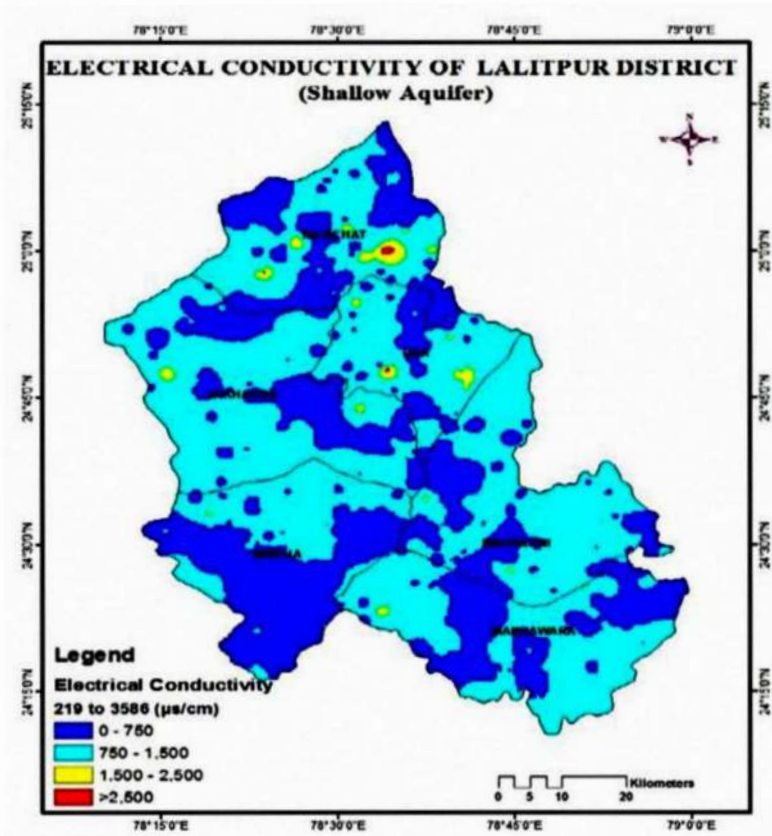
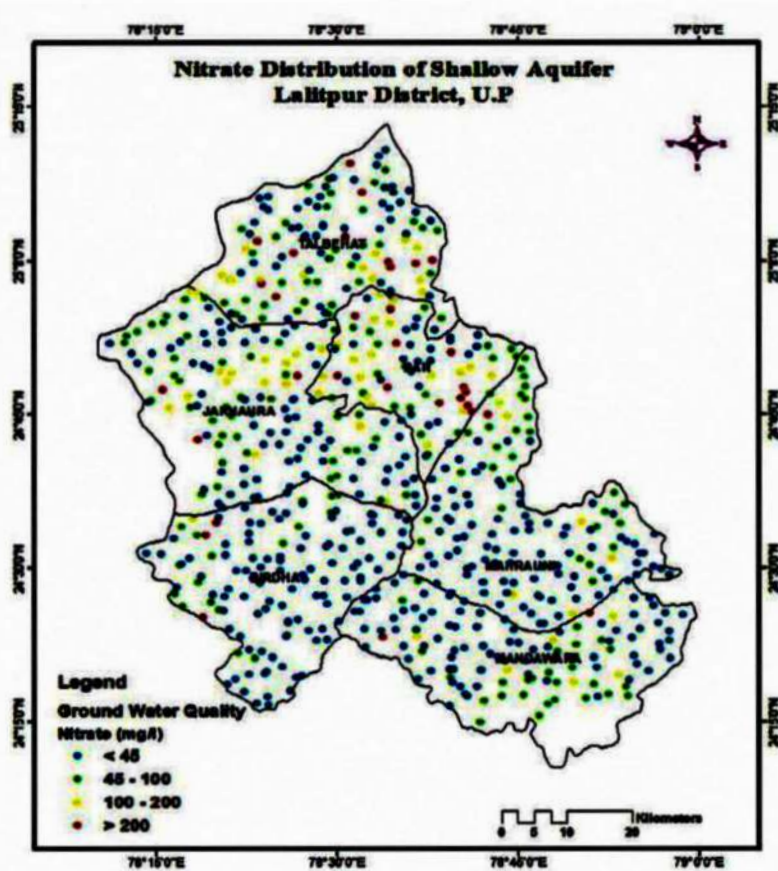


Figure 2: Distribution of EC values in shallow aquifers of district Lalitpur

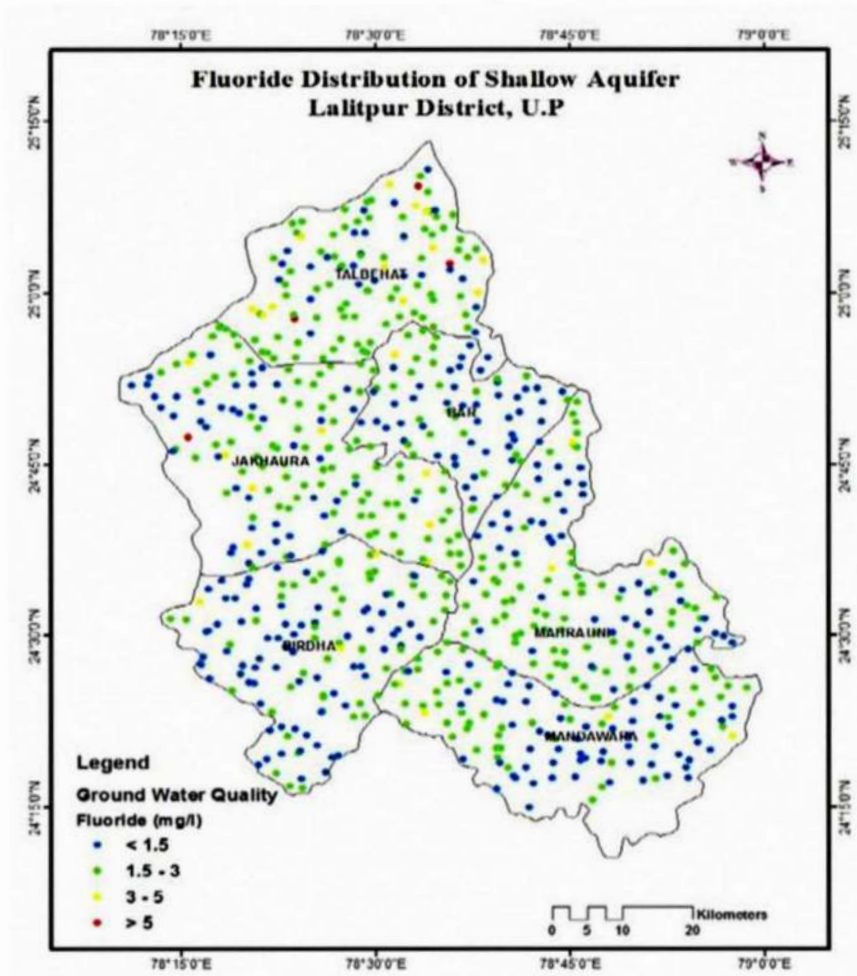
(Source: CGWB, 2017)



The average concentration of nitrate is 54.4 mg/l, with higher values in the groundwater samples in the northern blocks of the district (refer to Figure 3). Even the average concentration of nitrate exceeds

the maximum permissible limit for drinking water use (as per IS 10500: 2012).

Figure 3: Distribution of Nitrate concentration in shallow aquifers of district Lalitpur (CGWB, 2017)



Further, fluoride concentration exceeds the prescribed 1.5 mg/l drinking water maximum permissible limit (specification allowed as per IS 10500: 2012 in absence of alternate sources) in about 54.6% of the groundwater samples. Mahrauni, Talbehata, and Jakhaura are the

worst affected blocks (refer to Figure 4).

Figure 4: Distribution of Fluoride concentration in shallow aquifers of district Lalitpur

(Source: CGWB, 2017)

A significant number of groundwater samples were found to be bacteriologically contaminated. Out of the 33 groundwater samples collected for bacteriological investigation, the total coliform was found in 51.5% whereas faecal coliform was found in 42.4% of the analysed groundwater samples. Inadequate maintenance of wells and unsanitary conditions existing around the wells were found to be the major reasons for the bacteriological contamination of groundwater.

However, pesticide presence was not detected in 66 groundwater samples collected for the purpose. Heavy metals too were detected in a very small fraction of the total 699

groundwater samples that were analysed. The concentration of Cadmium (Cd), Chromium (Cr), Nickel (Ni), and Lead (Pb) exceeded the maximum permissible limit for drinking water use (as per IS 10500: 2012) in only 1.9%, 0.3%, 0.3%, and 0.6% of analysed samples respectively. Further, the concentration of Arsenic (As) exceeds the maximum permissible in 1.1% of the samples.

5 Comparison of the Present Status of Groundwater Quality with the Baseline

The laboratory test results of the groundwater samples collected during March 2021 were analyzed for determining the concentration of 31 different water quality parameters from the handpumps near the LTPP ash pond, and the villages *Udaipura* and *Mirchwara*. The estimated values of concentration of these parameters are presented in Table 1. The baseline (March 2010) water quality status of the same three monitored groundwater sources vis-à-vis 31 different physical, chemical, and bacteriological parameters and toxic substances along with their maximum permissible limit for drinking water use (as per IS 10500: 2012) is also presented in Table 1.

It is observed that except for a few parameters, groundwater quality has either remained the same or improved with respect to the baseline. The elements whose concentration differs from the baseline during the plant operation years are TDS, Ca, Cl, Mg, Mn, NO₃, SO₄, CaCO₃, Total Hardness, and Zn. Nevertheless, except for the Alkalinity (CaCO₃) and the Total Hardness in the groundwater sample collected near the ash pond, the values for the present year (pre-monsoon of 2021) with respect to all the three groundwater sources tested remain well within the maximum permissible limits for drinking water supply and level with the baseline data. The testing of the groundwater samples in district Lalitpur by the CGWB (2017) observed that the total hardness in the groundwater samples was up to 1316.7 mg/l. Further, it was observed that the Ca-Mg-HCO₃ is the dominant hydro-geochemical facies (referring to the characteristics of the rock) in the groundwater. Thus, the high CaCO₃ and the Total Hardness can be attributed to the geo-genic (naturally occurring) factors.

Further, the TDS values for all the groundwater samples are within the permissible limit for drinking water (as per the IS 10500: 2012). It is also to be noted that the presence

of toxic metals including those associated with fly ash in the analyzed groundwater samples is far below the permissible limits (such as As, Pb, Hg, and Cr) and the baseline data.

Table 1: Comparison of the present groundwater quality with the baseline

Sr. No.	Parameters	Unit	Plant Site/ Near		Mirchwara village		Udaipura village		Permissible Limit as per IS 10500: 2012
			Baseline*	Present*	Baseline*	Present*	Baseline*	Present*	
A Bacteriological									
1	E. Coli	MPN/100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent
2	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent
B Physical									
3	Color	Hazen	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	15
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
6	Turbidity	(NTU)	1.00	<1.00	1.00	<1.00	1.00	<1.00	5
7	pH	-	7.20	7.02	7.10	6.38	-	6.72	6.5-8.5
8	Total Dissolved Solid (TDS)	mg/l	632.00	988.00	688.00	728.00	502.00	494.00	2000
C Chemical									
9	Aluminium (as Al)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.2
10	Anionic Detergents (as MBAS)	mg/l	<0.01	<0.10	<0.01	<0.10	<0.01	<0.10	1.0
11	Boron (as B)	mg/l	0.05	<0.10	0.02	<0.10	0.15	<0.10	1.0
12	Calcium (as Ca)	mg/l	117.21	196.39	100.00	96.19	90.00	88.17	200
13	Chloride (as Cl)	mg/l	136.00	203.51	87.00	103.71	69.00	66.53	1000
14	Fluoride (as F)	mg/l	0.86	0.82	0.90	0.54	1.00	0.52	1.5

Sr. No.	Parameters	Unit	Plant Site/ Near						Permissible Limit as per IS 10500: 2012
			Ash Pond		Mirchwara village		Udaipura village		
			Baseline*	Present*	Baseline*	Present*	Baseline*	Present*	
15	Free Residual Chlorine	mg/l	<0.1	<0.1	<0.2	<0.1	<0.3	<0.1	1.0
16	Iron (as Fe)	mg/l	0.3	0.3	0.3	0.3	0.1	0.1	0.3
17	Magnesium (as Mg)	mg/l	54.60	79.22	41.80	42.77	36.00	39.85	100
18	Manganese (as Mn)	mg/l	<0.01	<0.10	<0.01	2.84	<0.01	0.04	0.3
19	Nitrate (as NO ₃)	mg/l	23.70	10.16	38.60	7.85	4.08	9.12	45
20	Selenium (as Se)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
21	Sulphate (as SO ₄)	mg/l	111.00	114.32	68.00	70.95	45.00	42.22	400
22	Total Alkalinity (as CaCO ₃)	mg/l	610.00	961.00	240.00	208.00	279.00	284.00	600
23	Total Hardness	mg/l	516.00	820.00	398.00	416.00	378.00	384.00	600
24	Zinc (as Zn)	mg/l	<0.1	0.22	<0.1	0.07	<0.1	0.21	15
D	Toxic Substances								
25	Cadmium (as Cd)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003
26	Cyanide (as CN)	mg/l	<0.02	<0.01	<0.02	<0.01	<0.02	<0.01	0.05
27	Lead (as Pb)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
28	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
29	Polynuclear Aromatic Hydrocarbons	mg/l	Nil	<0.0001	Nil	<0.0001	Nil	<0.0001	0.0001

Sr. No.	Parameters	Unit	Plant Site/ Near		Mirchwara village		Udaipura village		Permissible Limit as per IS 10500: 2012
			Ash Pond						
			Baseline*	Present*	Baseline*	Present*	Baseline*	Present*	
	(PAH)								
30	Total Arsenic (as As)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05
31	Total Chromium (as Cr)	mg/l	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	0.05

(Source: Based on the LPGCL conducted laboratory test results and BIS 2012)

Notes:

*Baseline refers to the pre-monsoon of the year 2010 and the present refers to the pre-monsoon of the year 2021.

-Cells with red colour indicates parameters whose value has increased at present in comparison to the baseline.

-Cells with green colour indicate the maximum permissible limit for drinking water use as per IS 10500: 2012.

6 Conclusion

Overall, our analysis shows that various interventions undertaken by LPGCL within the campus and surrounding areas of the Lalitpur Thermal Power Plant for augmenting water resources and controlling water pollution have helped ameliorate the groundwater quality. The analysis of water samples undertaken as per the water quality testing protocols did not show the presence of any toxic substances associated with fly ash in the groundwater sources. Further, the higher concentration of CaCO₃ and Total Hardness in groundwater samples (above the maximum permissible limit) is because of geo-genic (naturally occurring) reasons. Though in some cases, the marginal changes in the value of certain parameters led to a variation in the other associated parameters due to local topographic conditions and the other natural water streams flowing through the area, they

are still well within the maximum permissible limit for potable water and level with baseline data.

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A Study Report on Groundwater Quality 162 and its Comparison with the Baseline Data for the Lalitpur Power Generation Company Limited, Lalitpur (U.P.)



Report Prepared for:

Lalitpur Power Generation Company Limited (LPGCL)

By:

M. Dinesh Kumar and Saikat Mandal
Institute for Resource Analysis and Policy (IRAP), Hyderabad
URL: www.irapindia.org
October 31, 2022

1 Background

Lalitpur Power Generation Company Limited (LPGCL), a subsidiary of Bajaj Group, is operating a 3x 660MW (1,980 MW) supercritical thermal power plant in Lalitpur district, Uttar Pradesh. To reduce its carbon footprint, the plant is equipped with modern technologies and advanced automatic monitoring and control with high-efficiency electrostatic precipitators. The first unit was commissioned in 2015, and the second and third ones in 2016.

The thermal power plant depends on public reservoirs in the district for meeting its water demands, viz., *Rajghat* and *Kachnoda*. An ash pond is constructed that acts as a landfill for the coal combustion products released from the plant, i.e., bottom ash and fly ash. In line with the statutory requirement, LPGCL has undertaken water harvesting and water pollution control interventions around its power plant to reduce the adverse impact on the local water environment. On a request from LPGCL, a study was undertaken by the Institute for Resource Analysis and Policy (IRAP) to assess the impact of water harvesting and water pollution control interventions on the quality of local groundwater resources and changes (if any) with respect to the baseline conditions. This report presents the findings of the study.

2 Objective of the Study

The main objectives of the study were to:

- Analyse the present (pre-monsoon of 2022) groundwater quality for the area surrounding the Lalitpur Thermal Power Plant.
- Compare the present groundwater quality with the earlier (pre-monsoon of 2021) conditions.
- Compare the present groundwater quality with the baseline (pre-monsoon of 2010) conditions.

3 Approach and Data Sets Used

LPGCL has undertaken several interventions pertaining to water harvesting and groundwater recharge in their campus and the surrounding areas. Such interventions serve a dual purpose: first is the augmentation of surface water storage and groundwater recharge at the local scale; and second, is the improvement in water quality through dilution of minerals in the local water sources. Further, water pollution control interventions have been designed and implemented at ash pond of Lalitpur Thermal Power Plant (LTPP) to ensure that the leachate from the ash pond does not contaminate the nearby water resources, especially groundwater in the shallow aquifers.

The LPGCL is conducting a regular monitoring of ground water and analysis of samples collected from various groundwater sources in and around the LTPP through an independent testing laboratory duly approved by the Ministry of Environment, Forests & Climate Change (MoEFCC) and also accredited by NABL. The groundwater testing is performed by the agency lab covering physical, chemical, and bacteriological parameters following the Standard Indian testing methods. Testing is also done for heavy metals. Overall, testing is done for four groundwater sources (handpumps near ash pond in the LTPP, and villages *Semra*, *Udaipura*, and *Mirchwara*) covering 40 water quality parameters. One of the groundwater monitoring sources is within the campus of LTPP, its location is provided in Figure 1.

First of all, a macro analysis on groundwater quality in district Lalitpur and block Bar (where the LTPP is located) was performed. It covered analysis of electrical conductivity (EC), nitrate, fluoride, bacteriological contamination, pesticides, and heavy metals in shallow aquifers. The information needed for this analysis was accessed from a report of the Central Ground Water Board (CGWB, 2017).

Thereafter, data on groundwater samples collected and tested during March 2021 (pre-monsoon) by LPGCL were analyzed.

Finally, the results of the present groundwater sample analysis were compared with the baseline data (pre-monsoon of 2010) provided by the LPGCL. For this, three groundwater sources (handpumps near ash pond in the LTPP, and villages *Udaipura* and *Mirchwara*) for which data on 31 water quality parameters was available for both present and baseline years were selected.

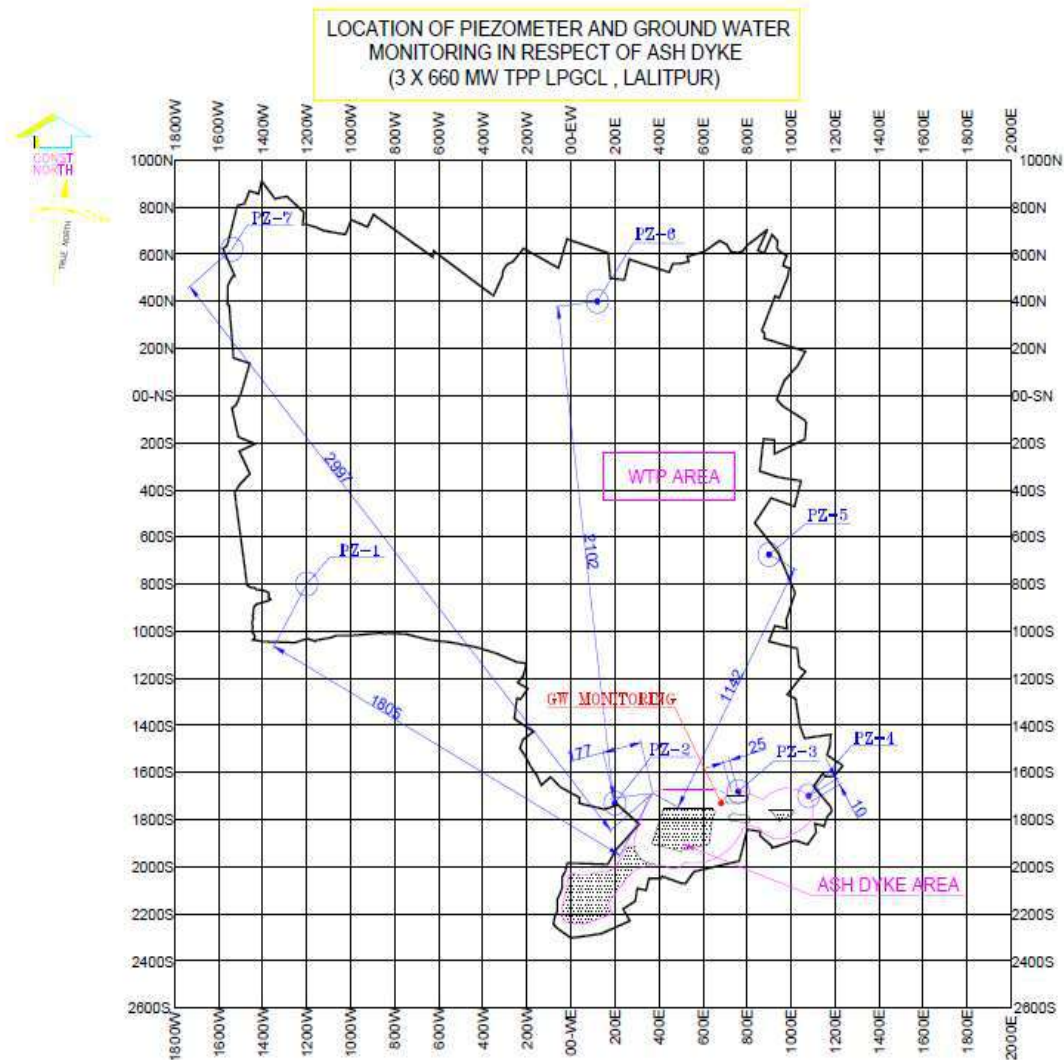


Figure 1: Location of groundwater monitoring source within the LTPP

(Source: Map provided by LPGCL)

4 Groundwater Quality in Lalitpur District of Uttar Pradesh

The analysis of the groundwater samples collected during 2017 by the Central Ground Water Board (CGWB) from the observation wells in Lalitpur district shows that the average electrical conductivity (EC) of groundwater is $1,014 \mu\text{S cm}^{-1}$, with a lowest of $199 \mu\text{S cm}^{-1}$ to a high of $3245 \mu\text{S cm}^{-1}$. Nevertheless, in most parts of the district, the EC value varies from 750 to $1500 \mu\text{S cm}^{-1}$ (refer to Figure 2). The average concentration of total dissolved solids (TDS) is 547.0 mg/l . About 97% of the analysed groundwater samples fall in the category of freshwater, and only 3% in the brackish water

category. The high EC and TDS (up to 2392.8 mg/l for the latter) of groundwater in the latter category makes it unsuitable even for irrigation.

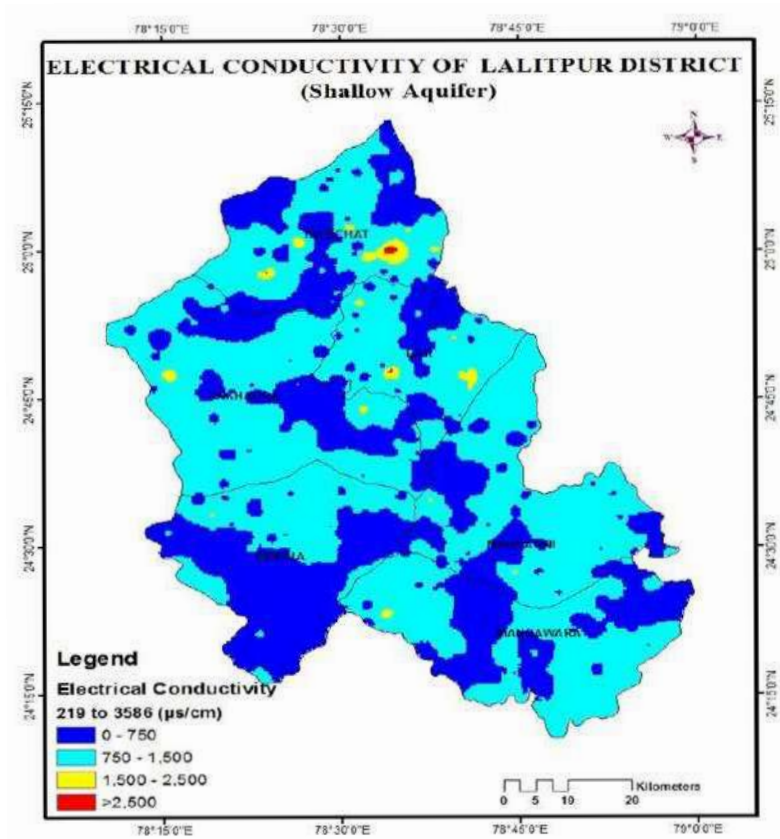
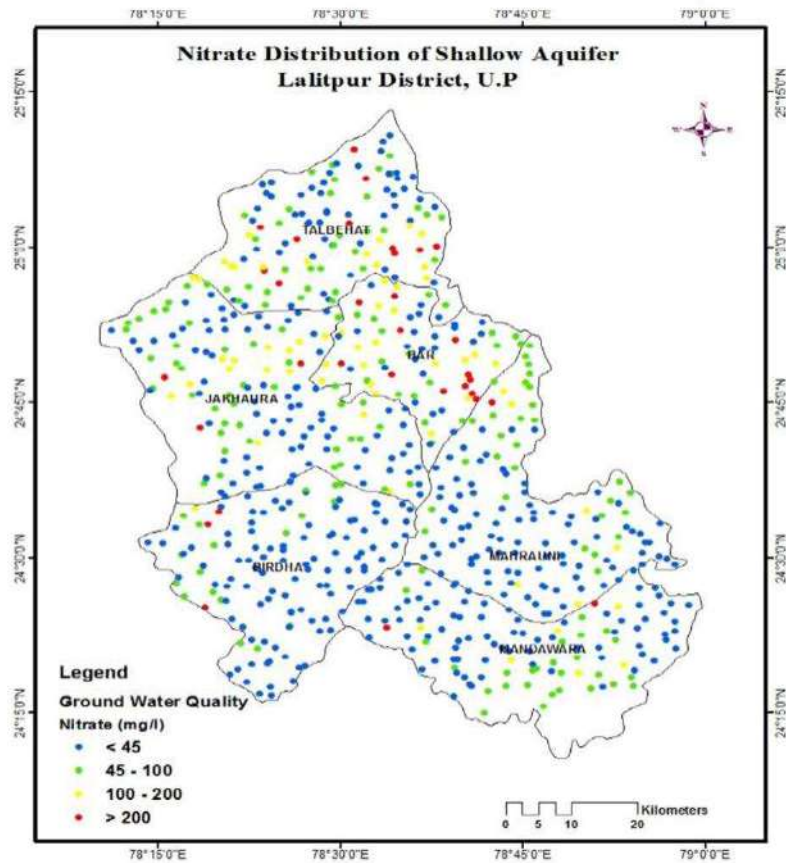
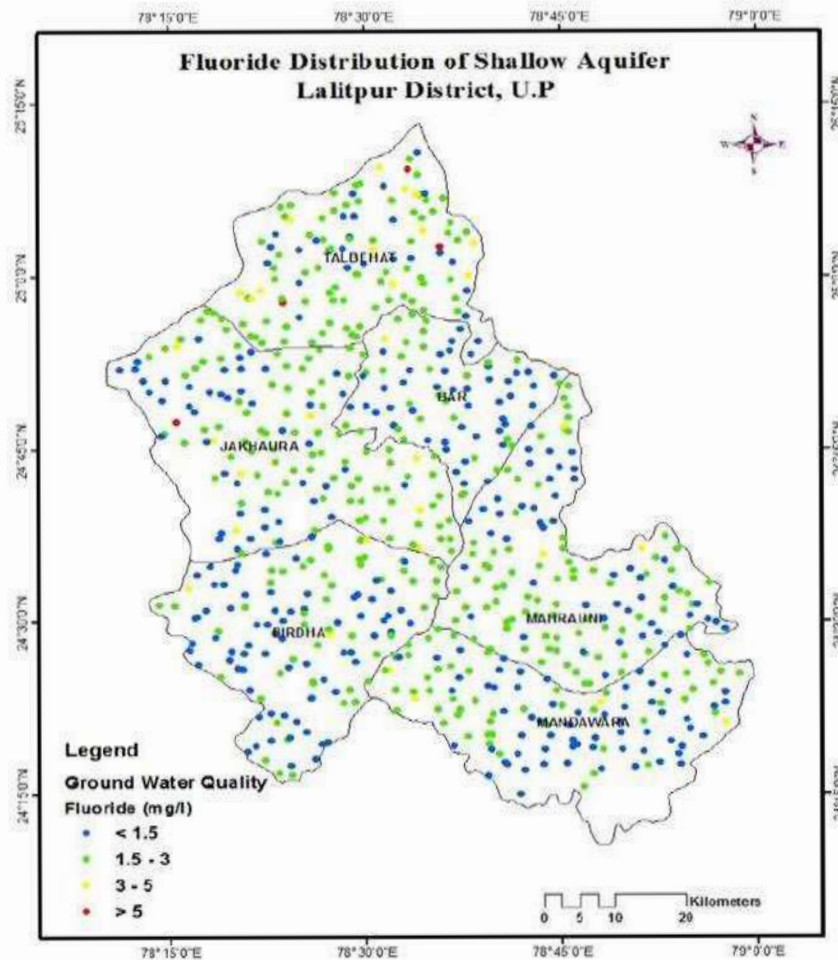


Figure 2: Distribution of EC values in shallow aquifers of district Lalitpur
(Source: CGWB, 2017)

The average concentration of nitrate is 54.4 mg/l, with higher values in the groundwater samples in the northern blocks of the district (refer to Figure 3). Even the average concentration of nitrate exceeds the maximum permissible limit for 100 ppm for drinking water use (as per IS 10500: 2012).

Figure 3: Distribution of Nitrate concentration in shallow aquifers of district Lalitpur
(CGWB, 2017)





Further, fluoride concentration exceeds the prescribed 1.5 mg/l drinking water maximum permissible limit (specification allowed as per IS 10500: 2012 in absence of alternate sources) in about 54.6% of the groundwater samples. Mahrauni, Talbehata, and Jakhaura are the worst affected blocks (refer to Figure 4).

Figure 4: Distribution of Fluoride concentration in shallow aquifers of district Lalitpur
(Source: CGWB, 2017)

A significant number of groundwater samples were found to be bacteriologically contaminated. Out of the 33 groundwater samples collected for bacteriological investigation, the total coliform was found in 51.5% whereas faecal coliform was found in 42.4% of the analysed groundwater samples. Inadequate maintenance of wells and unsanitary conditions existing around the wells were found to be the major reasons for the bacteriological contamination of groundwater.

However, pesticide presence was not detected in 66 groundwater samples collected for the purpose. Heavy metals too were detected in a very small fraction of the total 699 groundwater samples that were analysed. The concentration of Cadmium (Cd), Chromium (Cr), Nickel (Ni), and Lead (Pb) exceeded the maximum permissible limit for drinking water use (as per IS 10500: 2012) in only 1.9%, 0.3%, 0.3%, and 0.6% of analysed samples respectively. Further, the concentration of Arsenic (As) exceeds the maximum permissible in 1.1% of the samples.

5 Comparison of the Present Status of Groundwater Quality with the earlier (pre-monsoon of 2021) conditions and baseline condition

The laboratory test results of the groundwater samples collected during March 2021 were analyzed for determining the concentration of 31 different water quality parameters from the handpumps near the LTPP ash pond, and the villages *Udaipura* and *Mirchwara*. The estimated values of concentration of these parameters are presented in Table 1. The baseline (March 2010) water quality status of the same three monitored groundwater sources vis-à-vis 31 different physical, chemical, and bacteriological parameters and toxic substances along with their maximum permissible limit for drinking water use (as per IS 10500: 2012) is also presented in Table 1.

It is observed that for all the parameters, groundwater quality has either remained more or less the same or has improved with respect to the baseline, and in most cases as compared to the previous year (i.e., 2021). The only two parameters whose values have increased marginally as compared to the baseline are iron and nitrate, whose concentrations were slightly above the baseline in one village (0.201 as against 0.1 mg/litre in Udaipura for iron, and 4.62 as compared to 4.02 mg/litre for nitrate in the same village). Moreover, the values of all the physical, chemical, bacteriological parameters and toxic substances) remained within the permissible limits for drinking water supply for most cases except for total dissolved solids, total hardness, alkalinity and calcium in whose cases, the values marginally exceeded the permissible limits. Nevertheless, the values were far below the maximum permissible limits (of 600 mg/litre for both alkalinity and total hardness, 2000 mg/litre for TDS and 75 mg/litre for calcium).

The testing of the groundwater samples in district Lalitpur (outside the project area) by the CGWB (2017) observed that the total hardness in the groundwater samples was up to 1316.7 mg/l. Further, it was observed that the Ca-Mg-HCO₃ is the dominant hydro-geochemical facies (referring to the characteristics of the rock) in the groundwater. Yet the concentration of these chemical compounds in groundwater in the plant site and project area was far below these levels and within permissible limits. Further, the TDS values for all the groundwater samples reduced from the base line values are already within the permissible limit for drinking water (as per the IS 10500: 2012) in one location and almost came close to the permissible limit in the other two locations. It is also to be noted that the presence of toxic metals including those associated with fly ash in the analyzed groundwater samples is far below the permissible limits (such as As, Pb, Hg, and Cr) and the baseline data.

Table 1: Values of Water Quality Parameters obtained from Sample Tests (Base line, previous year and present, 2022)

Sr. No.	Parameters	Unit	Plant Site/ Near Ash Pond			Mirchwara village			Udaipura Village			Permissible Limit as per IS 10500: 2012
			Baseline	Previous year*	Present**	Baseline	Previous year*	Present**	Baseline	Previous year*	Present**	
A	Bacteriological											
1	E. Coli	MPN/100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
2	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
B	Physical											
3	Colour	Hazen	<1.00	<1.00	<1.00	<1.00	<1.00	<1.0	<1.0	<1.00	<1.0	15
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
6	Turbidity	(NTU)	1.00	<1.00	<1.0	1.00	<1.00	<1.0	<1.0	1.00	<1.0	5
7	pH	-	7.20	7.02	7.22	7.10	6.38	7.09	-	6.72	7.32	6.5-8.5
8	Total Dissolved Solid (TDS)	mg/l	632.00	988.00	556	688.00	728.00	522	502.00	494.00	428	500
C	Chemical											
9	Aluminium (as Al)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.2
10	Anionic Detergents (as MBAS)	mg/l	<0.01	<0.10	<0.1	<0.01	<0.10	<0.1	<0.1	<0.01	<0.1	1.0
11	Boron (as B)	mg/l	0.05	<0.10	<0.1	0.02	<0.10	<0.1	0.15	<0.1	<0.1	1.0
12	Calcium (as Ca)	mg/l	117.21	196.39	86.58	100.00	96.19	83.77	90.00	88.17	82.56	75
13	Chloride (as Cl)	mg/l	136.00	203.51	33.06	87.00	103.71	33.06	69.00	66.53	57.02	200

Sr. No.	Parameters	Unit	Plant Site/ Near Ash Pond			Mirchwara village			Udaipura Village			Permissible Limit as per IS 10500: 2012
			Baseline	Previous year*	Present**	Baseline	Previous year*	Present**	Baseline	Previous year*	Present**	
28	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
29	Polynuclear Aromatic Hydrocarbons (PAH)	mg/l	Nil	<0.0001	<0.0001	Nil	<0.0001	<0.0001	Nil	<0.0001	<0.0001	0.0001
30	Total Arsenic (as As)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05
31	Total Chromium (as Cr)	mg/l	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	0.05

(Source: Based on the LPGCL conducted laboratory test results and BIS 2012)

Notes:

'Baseline' refers to the pre-monsoon of the year 2010

*Previous year refers to the pre-monsoon of the year 2021

** 'Present' refers to the pre-monsoon of the year 2022.

6 Conclusion

Overall, the analysis shows that the various interventions undertaken by LPGCL within the campus and surrounding areas of the Lalitpur Thermal Power Plant for augmenting water resources and controlling water pollution have helped ameliorate the groundwater quality. The analysis of water samples undertaken as per the water quality testing protocols did not show the presence of any toxic substances associated with fly ash in the groundwater sources.

References

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Report Prepared for:

Lalitpur Power Generation Company Limited (LPGCL)

By:

Saikat Mandal, Niranjana Vedantam and M Dinesh Kumar
Institute for Resource Analysis and Policy (IRAP), Hyderabad
URL: www.irapindia.org
September 26, 2023

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2 Objective of the Study

The main objectives of the study were to:

- Analyse the present (pre-monsoon of 2023) groundwater quality for the area surrounding the Lalitpur Thermal Power Plant.
- Compare the present groundwater quality with the earlier (pre-monsoon of 2022) conditions.
- Compare the present groundwater quality with the baseline (pre-monsoon of 2010) conditions.

3 Approach and Data Sets Used

LPGCL has undertaken several interventions pertaining to water harvesting and groundwater recharge in their campus and the surrounding areas. Such interventions serve a dual purpose: first is the augmentation of surface water storage and groundwater recharge at the local scale; and second, is the improvement in water quality through dilution of minerals in the local water sources. Further, water pollution control interventions have been designed and implemented at ash pond of Lalitpur Thermal Power Plant (LTPP) to ensure that the leachate from the ash pond does not contaminate the nearby water resources, especially groundwater in the shallow aquifers.

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Thereafter, data on groundwater samples collected and tested during March 2021 (pre-monsoon) by LPGCL were analyzed.

Finally, the results of the present groundwater sample analysis were compared with the baseline data (pre-monsoon of 2010) provided by the LPGCL. For this, three groundwater sources (handpumps near ash pond in the LTPP, and villages *Udaipura* and *Mirchwara*) for which data on 31 water quality parameters was available for both present and baseline years were selected.

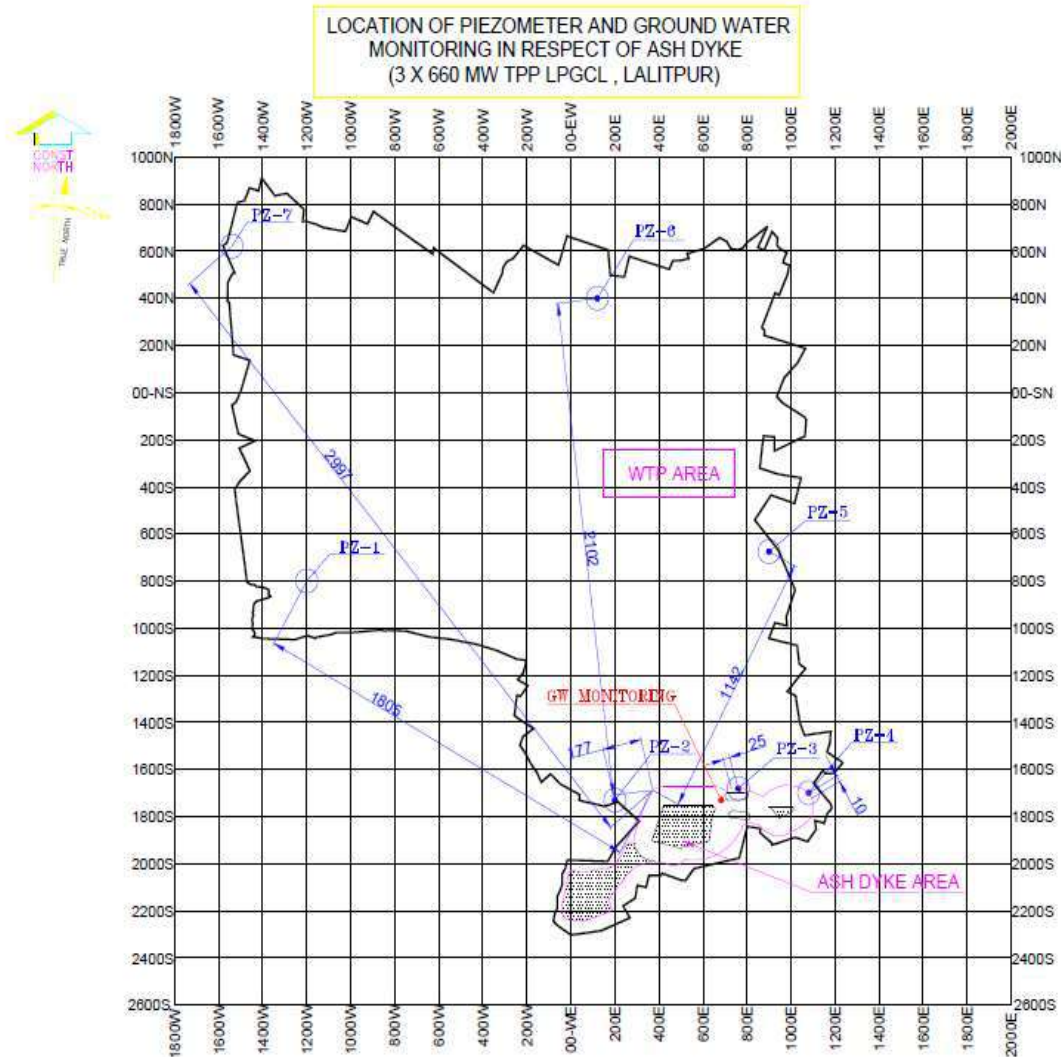


Figure 1: Location of groundwater monitoring source within the LTPP

(Source: Map provided by LPGCL)

4 Groundwater Quality in Lalitpur District of Uttar Pradesh

The analysis of the groundwater samples collected during 2017 by the Central Ground Water Board (CGWB) from the observation wells in Lalitpur district shows that the average electrical conductivity (EC) of groundwater is 1,014 $\mu\text{S cm}^{-1}$, with a lowest of 199 $\mu\text{S cm}^{-1}$ to a high of 3245 $\mu\text{S cm}^{-1}$. Nevertheless, in most parts of the district, the EC value varies from 750 to 1500 $\mu\text{S cm}^{-1}$ (refer to Figure 2). The average concentration of total dissolved solids (TDS) is 547.0 mg/l. About 97% of the analysed groundwater samples fall in the category of freshwater, and only 3% in the brackish water

category. The high EC and TDS (up to 2392.8 mg/l for the latter) of groundwater in the latter category makes it unsuitable even for irrigation.

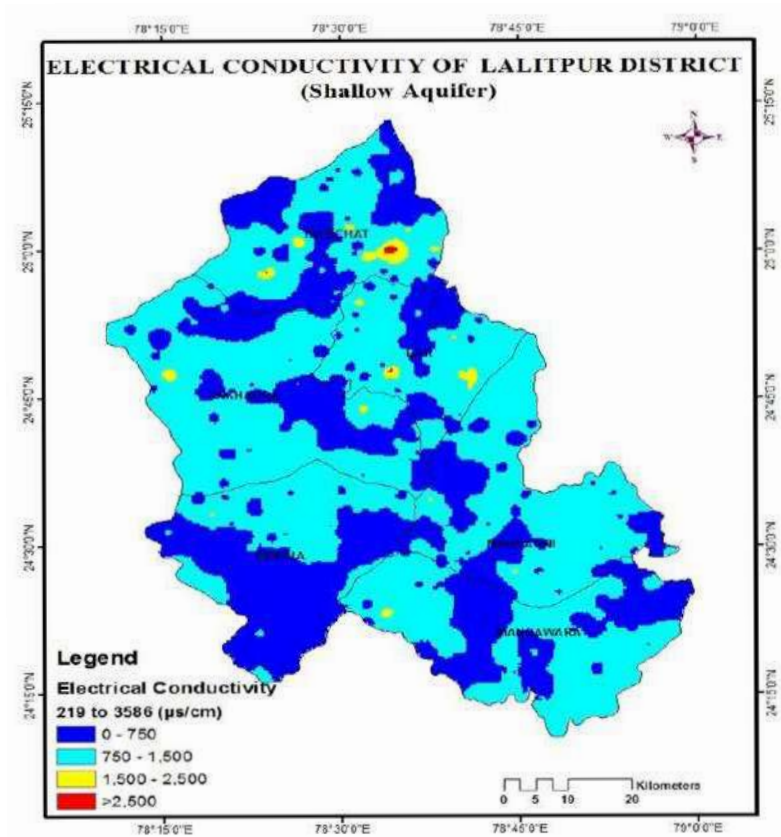


Figure 2: Distribution of EC values in shallow aquifers of district Lalitpur
(Source: CGWB, 2017)

The average concentration of nitrate is 54.4 mg/l, with higher values in the groundwater samples in the northern blocks of the district (refer to Figure 3). Even the average concentration of nitrate exceeds the maximum permissible limit for 100 ppm for drinking water use (as per IS 10500: 2012).

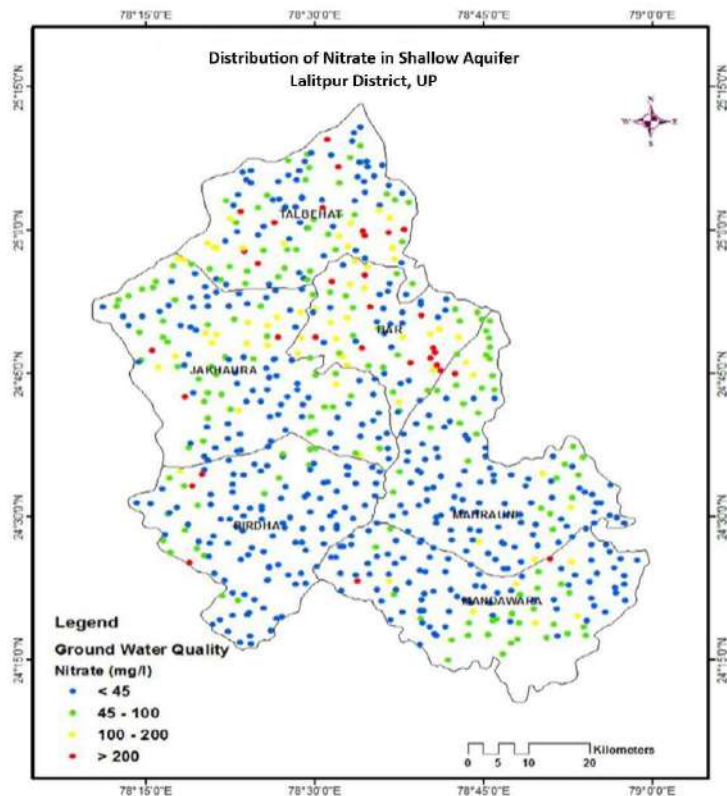


Figure 3: Distribution of Nitrate concentration in shallow aquifers of district Lalitpur (CGWB, 2017)

Further, fluoride concentration exceeds the prescribed 1.5 mg/l drinking water maximum permissible limit (specification allowed as per IS 10500: 2012 in absence of alternate sources) in about 54.6% of the groundwater samples. Mahrauni, Talbehata, and Jakhaura are the worst affected blocks (refer to Figure 4).

A significant number of groundwater samples were found to be bacteriologically contaminated. Out of the 33 groundwater samples collected for bacteriological investigation, the total coliform was found in 51.5% whereas faecal coliform was found in 42.4% of the analysed groundwater samples. Inadequate maintenance of wells and unsanitary conditions existing around the wells were found to be the major reasons for the bacteriological contamination of groundwater.

However, pesticide presence was not detected in 66 groundwater samples collected for the purpose. Heavy metals too were detected in a very small fraction of the total 699 groundwater samples that were analysed. The concentration of Cadmium (Cd), Chromium (Cr), Nickel (Ni), and Lead (Pb) exceeded the maximum permissible limit for drinking water use (as per IS 10500: 2012) in only 1.9%, 0.3%, 0.3%, and 0.6% of analysed samples respectively. Further, the concentration of Arsenic (As) exceeds the maximum permissible in 1.1% of the samples.

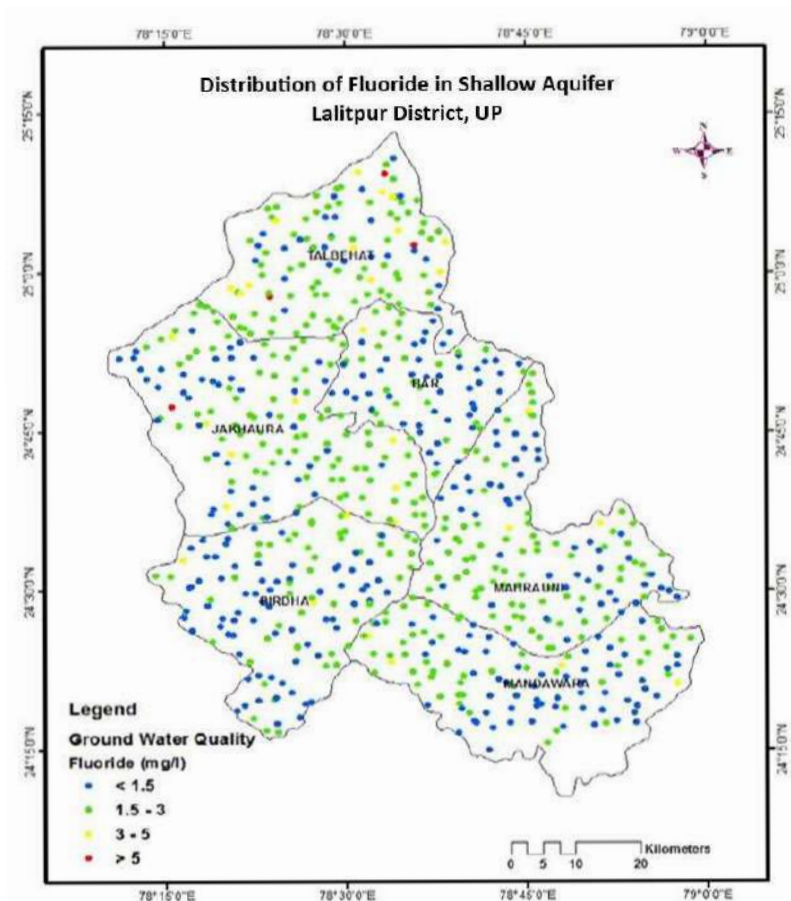


Figure 4: Distribution of Fluoride concentration in shallow aquifers of district Lalitpur
(Source: CGWB, 2017)

5 Comparison of the Present Status of Groundwater Quality with the earlier (pre-monsoon of 2022) conditions and baseline condition

The laboratory test results of the groundwater samples collected during June 2023 were analyzed for determining the concentration of 31 different water quality parameters from the handpumps near the LTPP ash pond, and the villages *Udaipura* and *Mirchwara*. The estimated values of concentration of these parameters are presented in Table 1. The baseline (March 2010) water quality status of the same three monitored groundwater sources vis-à-vis 31 different physical, chemical, and bacteriological parameters and toxic substances along with their maximum permissible limit for drinking water use (as per IS 10500: 2012) is also presented in Table 1.

It is observed that for all the parameters, groundwater quality has either remained more or less the same or has improved with respect to the baseline, and in most cases as compared to the previous year (i.e., 2022). The only two parameters whose values have increased marginally as compared to the baseline are iron and nitrate, whose concentrations were slightly above the baseline in one village (0.201 as against 0.1 mg/litre in Udaipura for iron, and 4.62 as compared to 4.02 mg/litre for nitrate in the same village). Moreover, the values of all the physical, chemical, bacteriological parameters and toxic substances) remained within the permissible limits for drinking water supply for most cases except for total dissolved solids, total hardness, alkalinity and calcium in whose cases, the values marginally exceeded the permissible limits. Nevertheless, the values were far below the maximum permissible limits (of 600 mg/litre for both alkalinity and total hardness, 2000 mg/litre for TDS and 75 mg/litre for calcium).

The testing of the groundwater samples in district Lalitpur (outside the project area) by the CGWB (2017) observed that the total hardness in the groundwater samples was up to 1316.7 mg/l. Further, it was observed that the Ca-Mg-HCO₃ is the dominant hydro-geochemical facies (referring to the characteristics of the rock) in the groundwater. Yet the concentration of these chemical compounds in groundwater at the plant site and project area was far below these levels and within permissible limits. Further, the values of TDS, total alkalinity and total hardness for all the groundwater samples, which showed decline from the base line values in most cases, are almost came close to the permissible limit in all the three locations. It is also to be noted that the presence of toxic metals including those associated with fly ash in the analyzed groundwater samples is far below the permissible limits (such as As, Pb, Hg, and Cr) and the baseline data.

Table 1: Values of Water Quality Parameters obtained from Sample Tests (Base line, previous year and present, 2023)

Sr. No.	Parameters	Unit	Plant Site/ Near Ash Pond			Mirchwara village			Udaipura Village			Permissible Limit as per IS 10500: 2012
			Baseline	Previous year*	Present**	Baseline	Previous year*	Present**	Baseline	Previous year*	Present**	
A	Bacteriological											
1	E. Coli	MPN/100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
2	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
B	Physical											
3	Colour	Hazen	<1.00	<1.00	<1.00	<1.00	<1.0	<5.0	<1.0	<1.0	<5.0	15
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
6	Turbidity	(NTU)	1	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0	<1.0	5
7	pH	-	7.2	7.22	7.26	7.1	7.09	7.46	-	7.32	7.38	6.5-8.5
8	Total Dissolved Solid (TDS)	mg/l	632	556	591	688	522	510	502	428	630	500
C	Chemical											
9	Aluminium (as Al)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.03	<0.01	<0.01	<0.03	0.2
10	Anionic Detergents (as MBAS)	mg/l	<0.01	<0.1	<0.02	<0.01	<0.1	<0.02	<0.1	<0.1	<0.02	1
11	Boron (as B)	mg/l	0.05	<0.1	<0.05	0.02	<0.1	0.1	0.15	<0.1	<0.5	1

12	Calcium (as Ca)	mg/l	117.21	86.58	78	100	83.77	81.2	90	82.56	70.1	75
13	Chloride (as Cl)	mg/l	136	33.06	40	87	33.06	38	69	57.02	65	200
14	Fluoride (as F)	mg/l	0.86	0.62	0.58	0.9	0.69	0.48	1	0.9	0.58	1
15	Free Residual Chlorine	mg/l	<0.1	<0.1	<0.2	<0.2	<0.1	<0.2	<0.3	<0.1	<0.2	1
16	Iron (as Fe)	mg/l	0.3	0.221	0.14	0.3	0.221	0.2	0.1	0.201	0.17	0.3
17	Magnesium (as Mg)	mg/l	54.6	23.33	25	41.8	26.98	28	36	20.41	35	100
18	Manganese (as Mn)	mg/l	<0.01	<0.1	<0.1	<0.01	<0.1	<0.1	<0.01	<0.1	<0.1	0.3
19	Nitrate (as NO3)	mg/l	23.7	5.12	4.81	38.6	4.82	4.2	4.08	4.62	4.98	45
20	Selenium (as Se)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
21	Sulphate (as SO4)	mg/l	111	18.03	24.3	68	19.36	22.8	45	14.92	23.2	400
22	Total Alkalinity (as CaCO3)	mg/l	610	292	290	240	242	210	279	224	290	200
23	Total Hardness	mg/l	516	312	312	398	320	290	378	290	319	200
24	Zinc (as Zn)	mg/l	<0.1	0.141	0.101	<0.1	0.162	<0.05	<0.1	0.109	0.182	15
D	Toxic Substances											
25	Cadmium (as Cd)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003
26	Cyanide (as CN)	mg/l	<0.02	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	0.05
27	Lead (as Pb)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01

28	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
29	Polynuclear Aromatic Hydrocarbons (PAH)	mg/l	Nil	<0.0001	<0.0001	Nil	<0.0001	<0.0001	Nil	<0.0001	<0.0001	0.0001
30	Total Arsenic (as As)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05
31	Total Chromium (as Cr)	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05

(Source: Based on the LPGCL conducted laboratory test results and BIS 2012)

Notes:

'Baseline' refers to the pre-monsoon of the year 2010

*Previous year refers to the pre-monsoon of the year 2022

** 'Present' refers to the pre-monsoon of the year 2023.

6 Conclusion

Overall, the analysis shows that the various interventions undertaken by LPGCL within the campus and surrounding areas of the Lalitpur Thermal Power Plant for augmenting water resources and controlling water pollution have helped ameliorate the groundwater contamination and maintain water quality parameters within permissible limits. The analysis of water samples undertaken as per the water quality testing protocols did not show the presence of any toxic substances associated with fly ash in the groundwater sources.

References

Bureau of Indian Standards. (2012). Indian Standard, drinking water- specification (second revision). Bureau of Indian Standards, New Delhi, India.

Central Ground Water Board. (2017). *Aquifer maps and ground water management plan of Lalitpur district, Uttar Pradesh*. Central Ground Water Board, Northern Region, Lucknow, India.

A Study Report on Groundwater Quality and its Comparison with the Baseline Data for the Lalitpur Power Generation Company Limited, Lalitpur (U.P.)



Report Prepared for:

Lalitpur Power Generation Company Limited (LPGCL)

By:

Saikat Mandal, Niranjana Vedantam and M Dinesh Kumar
Institute for Resource Analysis and Policy (IRAP), Hyderabad
URL: www.irapindia.org
June 26, 2024

1 Background

Lalitpur Power Generation Company Limited (LPGCL), a subsidiary of Bajaj Group, is operating a 3x 660MW (1,980 MW) supercritical thermal power plant in Lalitpur district, Uttar Pradesh. To reduce its carbon footprint, the plant is equipped with modern technologies and advanced automatic monitoring and control with high-efficiency electrostatic precipitators. The first unit was commissioned in 2015, and the second and third ones in 2016.

The thermal power plant depends on public reservoirs in the district for meeting its water demands, viz., *Rajghat* and *Kachnoda*. An ash pond is constructed that acts as a landfill for the coal combustion products released from the plant, i.e., bottom ash and fly ash. In line with the statutory requirement, LPGCL has undertaken water harvesting and water pollution control interventions around its power plant to reduce the adverse impact on the local water environment. On a request from LPGCL, a study was undertaken by the Institute for Resource Analysis and Policy (IRAP) to assess the impact of water harvesting and water pollution control interventions on the quality of local groundwater resources and changes (if any) with respect to the baseline conditions. This report presents the findings of the study.

2 Objective of the Study

The main objectives of the study were to:

- Analyse the present (pre-monsoon of 2023) groundwater quality for the area surrounding the Lalitpur Thermal Power Plant.
- Compare the present groundwater quality with the baseline (pre-monsoon of 2010) conditions.

3 Approach and Data Sets Used

LPGCL has undertaken several interventions pertaining to water harvesting and groundwater recharge in their campus and the surrounding areas. Such interventions serve a dual purpose: first is the augmentation of surface water storage and groundwater recharge at the local scale; and second, is the improvement in water quality through dilution of minerals in the local water sources. Further, water pollution control interventions have been designed and implemented at ash pond of Lalitpur Thermal Power Plant (LTPP) to ensure that the leachate from the ash pond does not contaminate the nearby water resources, especially groundwater in the shallow aquifers.

The LPGCL is conducting a regular monitoring of ground water and analysis of samples collected from various groundwater sources in and around the LTPP through an independent testing laboratory duly approved by the Ministry of Environment, Forests & Climate Change (MoEFCC) and also accredited by NABL. The groundwater testing is performed by the agency lab covering physical, chemical, and bacteriological parameters following the Standard Indian testing methods. Testing is also done for heavy metals. Overall, testing is done for four groundwater sources (handpumps near ash pond in the LTPP, and villages *Semra*, *Udaipura*, and *Mirchwara*) covering 40 water quality parameters. One of the groundwater monitoring sources is within the campus of LTPP, its location is provided in Figure 1.

First of all, a macro analysis on groundwater quality in district Lalitpur and block Bar (where the LTPP is located) was performed. It covered analysis of electrical conductivity (EC), nitrate, fluoride, bacteriological contamination, pesticides, and heavy metals in shallow aquifers. The information needed for this analysis was accessed from a report of the Central Ground Water Board (CGWB, 2017). Thereafter, data on groundwater samples collected and tested during March 2021 (pre-monsoon) by LPGCL were analyzed.

Finally, the results of the present groundwater sample analysis were compared with the baseline data (pre-monsoon of 2010) provided by the LPGCL. For this, three groundwater sources (handpumps near ash pond in the LTPP, and villages *Udaipura* and *Mirchwara*) for which data on 31 water quality parameters was available for both present and baseline years were selected.

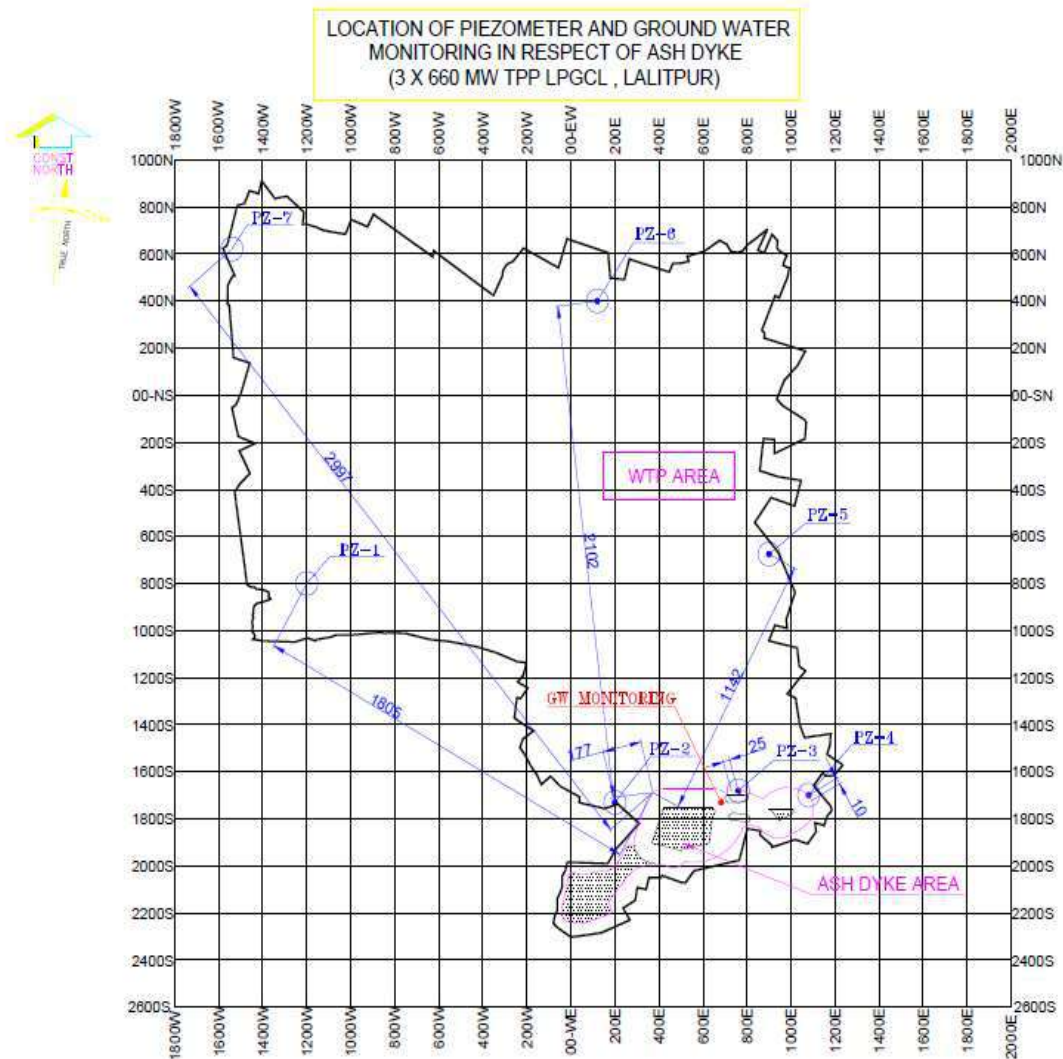


Figure 1: Location of groundwater monitoring source within the LTPP

(Source: Map provided by LPGCL)

4 Groundwater Quality in Lalitpur District of Uttar Pradesh

The analysis of the groundwater samples collected during 2017 by the Central Ground Water Board (CGWB) from the observation wells in Lalitpur district shows that the average electrical conductivity (EC) of groundwater is 1,014 $\mu\text{S cm}^{-1}$, with a lowest of 199 $\mu\text{S cm}^{-1}$ to a high of 3245 $\mu\text{S cm}^{-1}$. Nevertheless, in most parts of the district, the EC value varies from 750 to 1500 $\mu\text{S cm}^{-1}$ (refer to Figure 2). The average concentration of total dissolved solids (TDS) is 547.0 mg/l. About 97% of the analysed groundwater samples fall in the category of freshwater, and only 3% in the brackish water category. The high EC and TDS (up to 2392.8 mg/l for the latter) of groundwater in the latter category makes it unsuitable even for irrigation.

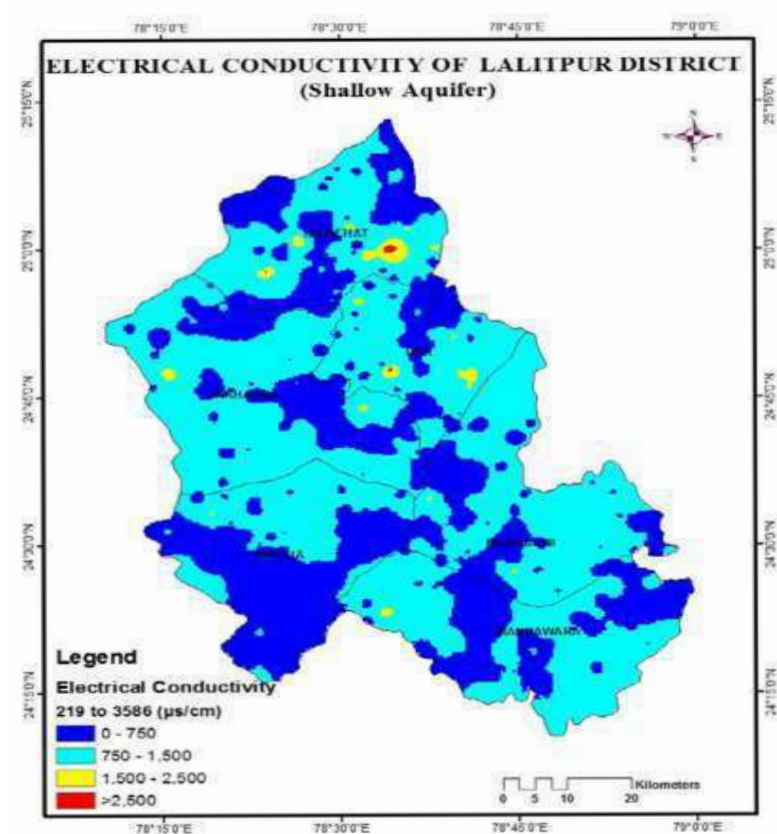


Figure 2: Distribution of EC values in shallow aquifers of district Lalitpur
(Source: CGWB, 2017)

The average concentration of nitrate is 54.4 mg/l, with higher values in the groundwater samples in the northern blocks of the district (refer to Figure 3). Even the average concentration of nitrate exceeds the maximum permissible limit for 100 ppm for drinking water use (as per IS 10500: 2012).

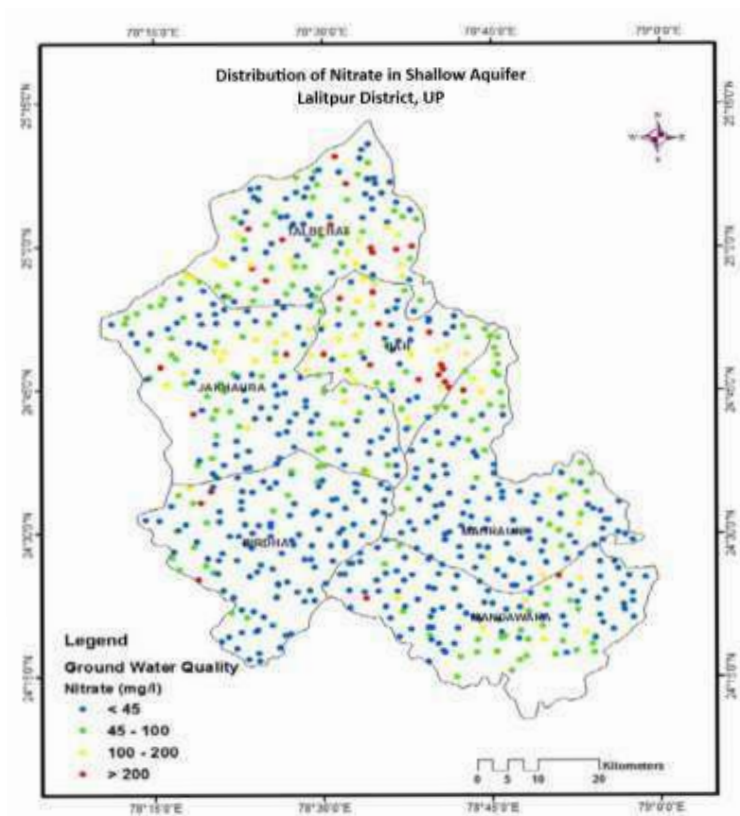


Figure 3: Distribution of Nitrate concentration in shallow aquifers of district Lalitpur (CGWB, 2017)

Further, fluoride concentration exceeds the prescribed 1.5 mg/l drinking water maximum permissible limit (specification allowed as per IS 10500: 2012 in absence of alternate sources) in about 54.6% of the groundwater samples. Mahrauni, Talbehat, and Jakhaura are the worst affected blocks (refer to Figure 4).

A significant number of groundwater samples were found to be bacteriologically contaminated. Out of the 33 groundwater samples collected for bacteriological investigation, the total coliform was found in 51.5% whereas faecal coliform was found in 42.4% of the analysed groundwater samples. Inadequate maintenance of wells and unsanitary conditions existing around the wells were found to be the major reasons for the bacteriological contamination of groundwater.

However, pesticide presence was not detected in 66 groundwater samples collected for the purpose. Heavy metals too were detected in a very small fraction of the total 699 groundwater samples that were analysed. The concentration of Cadmium (Cd), Chromium (Cr), Nickel (Ni), and Lead (Pb) exceeded the maximum permissible limit for drinking water use (as per IS 10500: 2012) in only 1.9%, 0.3%, 0.3%, and 0.6% of analysed samples respectively. Further, the concentration of Arsenic (As) exceeds the maximum permissible in 1.1% of the samples.

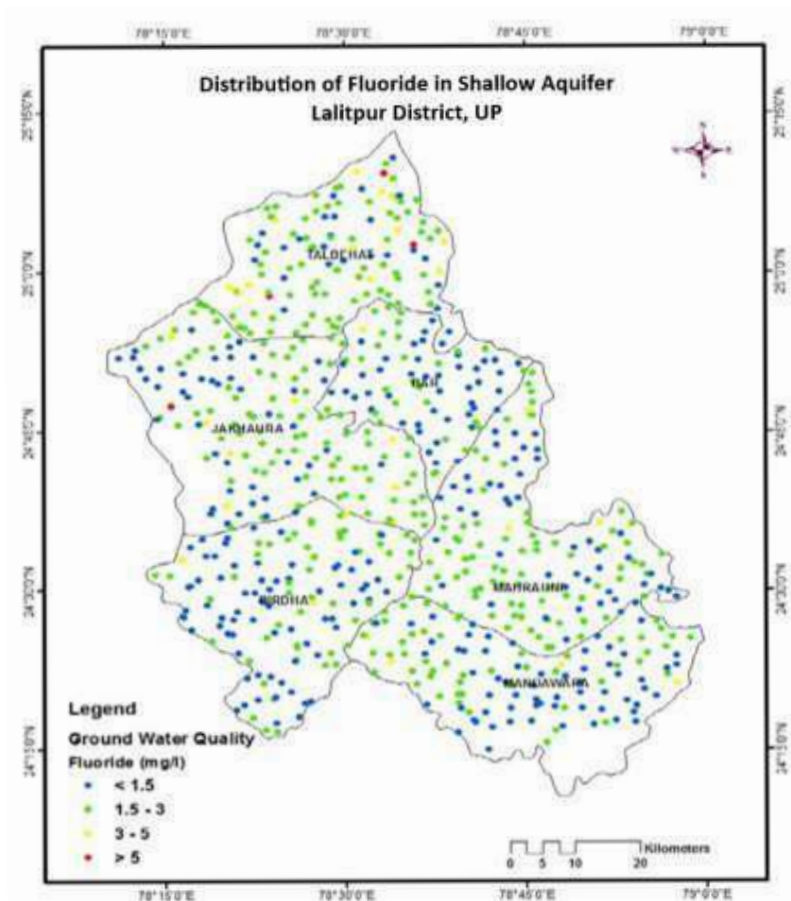


Figure 4: Distribution of Fluoride concentration in shallow aquifers of district Lalitpur
(Source: CGWB, 2017)

5 Comparison of the Present Status of Groundwater Quality baseline condition

The laboratory test results of the groundwater samples collected during June 2023 were analyzed for determining the concentration of 31 different water quality parameters from the handpumps near the LTPP ash pond, and the villages *Udaipura* and *Mirchwara*. The estimated values of concentration of these parameters are presented in Table 1. The baseline (March 2010) water quality status of the same three monitored groundwater sources vis-à-vis 31 different physical, chemical, and bacteriological parameters and toxic substances along with their maximum permissible limit for drinking water use (as per IS 10500: 2012) is also presented in Table 1.

It is observed that for all the parameters, groundwater quality has either remained more or less the same or has improved with respect to the baseline. The only two parameters whose values have increased marginally as compared to the baseline are iron and nitrate, whose concentrations were slightly above the baseline in one village (0.17 for current year as against 0.1 mg/litre for baseline in Udaipura for iron, and 4.98 as compared to 4.08 mg/litre for nitrate in the same village). Moreover, the values of all the physical, chemical, bacteriological parameters and toxic substances) remained within the permissible limits for drinking water supply for most cases except for total dissolved solids, total hardness, alkalinity and calcium in whose cases, the values marginally exceeded the permissible limits. Nevertheless, the values were far below the maximum permissible limits (of 600 mg/litre for both alkalinity and total hardness, 2000 mg/litre for TDS and 75 mg/litre for calcium).

The testing of the groundwater samples in district Lalitpur (outside the project area) by the CGWB (2017) observed that the total hardness in the groundwater samples was up to 1316.7 mg/l. Further, it was observed that the Ca-Mg-HCO₃ is the dominant hydro-geochemical facies (referring to the characteristics of the rock) in the groundwater. Yet the concentration of these chemical compounds in groundwater at the plant site and project area was far below these levels and within permissible limits. Further, the values of TDS, total alkalinity and total hardness for all the groundwater samples, which showed decline from the base line values in most cases, are almost came close to the permissible limit in all the three locations. It is also to be noted that the presence of toxic metals including those associated with fly ash in the analyzed groundwater samples is far below the permissible limits (such as As, Pb, Hg, and Cr) and the baseline data.

Table 1: Values of Water Quality Parameters obtained from Sample Tests (Base line, present, 2023)

Sr. No.	Parameters	Unit	Plant Site/ Near Ash Pond		Mirchwara village		Udaipura Village		Permissible Limit as per IS 10500: 2012
			Baseline	Present**	Baseline	Present**	Baseline	Present**	
A	Bacteriological								
1	E. Coli	MPN/100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent
2	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent
B	Physical								
3	Colour	Hazen	<1.00	<5.0	<1.00	<5.0	<1.00	<5.0	15
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
6	Turbidity	(NTU)	1	<1.0	1	<1.0	<1.0	<1.0	5
7	pH	-	7.2	7.26	7.1	7.46	-	7.32	6.5-8.5
8	Total Dissolved Solid (TDS)	mg/l	632	591	688	510	502	423	500
C	Chemical								
9	Aluminium (as Al)	mg/l	<0.01	<0.03	<0.01	<0.03	<0.01	<0.03	0.2
10	Anionic Detergents (as MBAS)	mg/l	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	1
11	Boron (as B)	mg/l	0.05	<0.5	0.02	<0.5	0.15	<0.5	1
12	Calcium (as Ca)	mg/l	117.21	78	100	81.2	90	62.0	75
13	Chloride (as Cl)	mg/l	136	40	87	38	69	55.0	200
14	Fluoride (as F)	mg/l	0.86	0.58	0.9	0.48	1	0.52	1

15	Free Residual Chlorine	mg/l	<0.1	<0.2	<0.1	<0.2	<0.1	<0.2	1
16	Iron (as Fe)	mg/l	0.3	0.14	0.3	0.2	0.1	0.15	0.3
17	Magnesium (as Mg)	mg/l	54.6	25	41.8	28	36	23.0	100
18	Manganese (as Mn)	mg/l	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	0.3
19	Nitrate (as NO ₃)	mg/l	23.7	4.81	38.6	4.2	4.08	4.6	45
20	Selenium (as Se)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
21	Sulphate (as SO ₄)	mg/l	111	24.3	68	22.8	45	0.14	400
22	Total Alkalinity (as CaCO ₃)	mg/l	610	290	240	210	279	230	200
23	Total Hardness	mg/l	516	312	398	290	378	288	200
24	Zinc (as Zn)	mg/l	<0.1	0.101	<0.1	<0.05	<0.1	0.13	15
D	Toxic Substances								
25	Cadmium (as Cd)	mg/l	<0.001	<0.003	<0.001	<0.003	<0.001	<0.003	0.003
26	Cyanide (as CN)	mg/l	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05
27	Lead (as Pb)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
28	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
29	Polynuclear Aromatic Hydrocarbons (PAH)	mg/l	Nil	<0.0001	Nil	<0.0001	Nil	<0.0001	0.0001
30	Total Arsenic (as As)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05
31	Total Chromium (as Cr)	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05

(Source: Based on the LPGCL conducted laboratory test results and BIS 2012)

Notes:

'Baseline' refers to the pre-monsoon of the year 2010

** 'Present' refers to the pre-monsoon of the year 2023.

6 Conclusion

Overall, the analysis shows that the various interventions undertaken by LPGCL within the campus and surrounding areas of the Lalitpur Thermal Power Plant for augmenting water resources and controlling water pollution have helped ameliorate the groundwater contamination and maintain water quality parameters within permissible limits. The analysis of water samples undertaken as per the water quality testing protocols did not show the presence of any toxic substances associated with fly ash in the groundwater sources.

References

Bureau of Indian Standards. (2012). Indian Standard, drinking water- specification (second revision). Bureau of Indian Standards, New Delhi, India.

Central Ground Water Board. (2017). *Aquifer maps and ground water management plan of Lalitpur district, Uttar Pradesh*. Central Ground Water Board, Northern Region, Lucknow, India.



Analyzing for an Assured Future

869 **ANNEXURE-R-35** 194

NOIDA TESTING LABORATORIES

(An ISO : 9001 : 2015, ISO 14001:2015 & ISO 45001:2018 & NABL Accredited Laboratory)
MoEF & CC (Ministry of Environment, Forest & Climate Change), UPPCB & HSPCB Recognized Laboratory
+91-9313611642, 8510081921, 7503031145, 8527870572, 7503031146, 9999794369

TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Ground Water	W-210919-04	28/09/2019

Issued To: M/S Lalitpur Power Generation Company Limited
Village-Mirchwara & Buragaon Tehsil-Mehroni Distt- Lalitpur (U.P) India

SAMPLING & ANALYSIS DATA

Sample Received on : 21/09/2019
Sample Drawn By : Mr. Mohit Sharma (NTL)
Sample Drawn On : 20/09/2019
Sample Quantity : 2.0 Lt.
Analysis Duration : 21/09/2019 To 28/09/2019
Sample Description : Ground Water collected from Near- Railway Hand Pump

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	6.98	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	596	mg/l	500	2000

Contd. To report Code W-210919-04(Page 1 of 3)



Analyzing for an Assured
Future

870

195

NOIDA TESTING LABORATORIES

(An ISO : 9001 : 2015, ISO 14001:2015 & ISO 45001:2018 & NABL Accredited Laboratory)
MoEF & CC (Ministry of Environment, Forest & Climate Change), UPPCB & HSPCB Recognized Laboratory
+91-9313611642, 8510081921, 7503031145, 8527870572, 7503031146, 9999794369

TEST CERTIFICATE

Contd. from report Code W-210919-04 (Page 2 of 3)

GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents(as MBAS)	Annex K of IS-13428	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	113.8	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	48.73	mg/l	250	1000
9.	Copper (as Cu)	IS : 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	0.76	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.274	mg/l	0.3	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	15.43	mg/l	30	100
14.	Manganese (as Mn)	Clause 35 of IS 3025	0.22	mg/l	0.1	0.3
15.	Mineral Oil	Clause 6 of IS: 3025	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	9.32	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	71.52	mg/l	200	400
20.	Sulphide(as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	328	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 21)	348	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.21	mg/l	5.0	15

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TEST CERTIFICATE

Contd From report Code W-210919-04 (Page 3 of 3)

Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	Annex L of IS-13428	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	0.05
10.	Total Chromium (as Cr)	Annex J of IS-13428	<0.05	mg/l	0.05	No Relaxation

Remarks: Based on above tested parameter, Water sample does not meet as per IS-10500:2012 in desirable limit, but fall in extended limit, Water can be drink if there is no alternative source.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. This test report will not be used for any publicity/legal purpose.
5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

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TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Ground Water	W-210919-03	28/09/2019

Issued To: M/S Lalitpur Power Generation Company Limited
Village-Mirchwara & Buragaon Tehsil-Mehroni Distt- Lalitpur (U.P) India

SAMPLING & ANALYSIS DATA

Sample Received on : 21/09/2019
 Sample Drawn By : Mr.Yashi Sharma (NTL)
 Sample Drawn On : 20/09/2019
 Sample Quantity : 2.0 Lt.
 Analysis Duration : 20/09/2019 To 28/09/2019
 Sample Description : Hand Pump water Collected from Near- Ash Pond

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	7.22	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	1089	mg/l	500	2000

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TEST CERTIFICATE

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GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents(as MBAS)	Annex K of IS-13428	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	218.03	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	93.40	mg/l	250	1000
9.	Copper (as Cu)	IS : 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	2.01	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.241	mg/l	0.3	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	25.03	mg/l	30	100
14.	Manganese (as Mn)	Clause 35 of IS 3025	<0.1	mg/l	0.1	0.3
15.	Mineral Oil	Clause 6 of IS: 3025	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	11.60	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	108.9	mg/l	200	400
20.	Sulphide(as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	224	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 21)	648	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.68	mg/l	5.0	15

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TEST CERTIFICATE

Contd From report Code W-210919-03 (Page 3 of 3)

Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	Annex L of IS-13428	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	0.05
10.	Total Chromium (as Cr)	Annex J of IS-13428	<0.05	mg/l	0.05	No Relaxation

Remarks: Based on above tested parameter, Water sample does not meet as per IS-10500:2012 specification. Water is not fit for the drinking purpose.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
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5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

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TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Ground Water	W-210919-05	28/09/2019

Issued To: M/S Lalitpur Power Generation Company Limited
Village-Mirchwara & Buragaon Tehsil-Mehroni Distt- Lalitpur (U.P) India

SAMPLING & ANALYSIS DATA

Sample Received on : 21/09/2019
Sample Drawn By : Mr. Yashi Sharma (NTL)
Sample Drawn On : 20/09/2019
Sample Quantity : 2.0 Lt.
Analysis Duration : 20/09/2019 To 28/09/2019
Sample Description : Ground Water Collected from Semra Village Hand Pump

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	7.36	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	428	mg/l	500	2000

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GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents(as MBAS)	Annex K of IS-13428	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	33.67	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	54.10	mg/l	250	1000
9.	Copper (as Cu)	IS : 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	0.38	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.149	mg/l	0.3	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	24.3	mg/l	30	100
14.	Manganese (as Mn)	Clause 35 of IS 3025	<0.1	mg/l	0.1	0.3
15.	Mineral Oil	Clause 6 of IS: 3025	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	6.10	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	43.66	mg/l	200	400
20.	Sulphide(as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	248	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	184	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.201	mg/l	5.0	15

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TEST CERTIFICATE

Contd From report Code W-210919-05 (Page 3 of 3)

Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	Annex L of IS-13428	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	0.05
10.	Total Chromium (as Cr)	Annex J of IS-13428	<0.05	mg/l	0.05	No Relaxation

Remarks: Based on above tested parameter, Water sample does not meet as per IS-10500:2012 desirable limit, but fall in extended limit. Water can be drink if there is no alternative source.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
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TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Ground Water	W-210919-06	28/09/2019

Issued To: M/S Lalitpur Power Generation Company Limited
Village-Mirchwara & Buragaon Tehsil-Mehroni Distt- Lalitpur (U.P) India

SAMPLING & ANALYSIS DATA

Sample Received on : 21/09/2019
 Sample Drawn By : Mr. Yashi Sharma (NTL)
 Sample Drawn On : 20/09/2019
 Sample Quantity : 2.0 Lt.
 Analysis Duration : 20/09/2019 To 28/09/2019
 Sample Description : Water sample Collected from Mirchwara Hand Pump

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	6.87	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	860	mg/l	500	2000

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GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents(as MBAS)	Annex K of IS-13428	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	141.08	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	158.0	mg/l	250	1000
9.	Copper (as Cu)	IS : 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	0.84	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.298	mg/l	0.3	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	7.78	mg/l	30	100
14.	Manganese (as Mn)	Clause 35 of IS 3025	3.02	mg/l	0.1	0.3
15.	Mineral Oil	Clause 6 of IS: 3025	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	12.32	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	87.72	mg/l	200	400
20.	Sulphide(as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	204	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	384	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.28	mg/l	5.0	15

Contd.To report Code W-210919-06 (Page 2 of 3)

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Contd From report Code W-210919-06 (Page 3 of 3)

Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	Annex L of IS-13428	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	0.05
10.	Total Chromium (as Cr)	Annex J of IS-13428	<0.05	mg/l	0.05	No Relaxation

Remarks: Based on above tested parameter, Water sample does not meet as per IS-10500:2012 limit. Water is not fit for drinking purpose.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
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TEST CERTIFICATE

Test Report of Ground Water	Report Code W-210920-01	Date of Issue 30/09/2020
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Issued To: M/S Lalitpur Power Generation Company Limited
Village-Mirchwara & Buragaon Tehsil-Mehroni Distt- Lalitpur (U.P) India

SAMPLING & ANALYSIS DATA

Sample Received on : 21/09/2020
 Sample Drawn By : Mr. Mohit Sharma (NTL)
 Sample Drawn On : 20/09/2020
 Sample Quantity : 2.0 Lt.
 Analysis Duration : 21/09/2020 To 30/09/2020
 Sample Description : Hand Pump water Collected from Near- Ash Pond

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	7.36	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	1052	mg/l	500	2000

Contd. To report Code W-210920-01 (Page 1 of 3)



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GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents(as MBAS)	Annex K of IS- 13428	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	136.27	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	159.65	mg/l	250	1000
9.	Copper (as Cu)	IS : 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	1.82	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.824	mg/l	1.0	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	77.52	mg/l	30	100
14.	Manganese (as Mn)	Clause 35 of IS 3025	<0.1	mg/l	0.1	0.3
15.	Mineral Oil	Clause 6 of IS: 3025	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	10.30	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	374.9	mg/l	200	400
20.	Sulphide (as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	112	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 21)	660	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.023	mg/l	5.0	15

Contd.To report Code W-210920-01(Page 2 of 3)

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Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	Annex L of IS-13428	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	0.05
10.	Total Chromium (as Cr)	Annex J of IS-13428	<0.05	mg/l	0.05	No Relaxation

Remarks: Based on above tested parameter, Water sample does not meet as per IS-10500:2012 specification. Water is not fit for the drinking purpose.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
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TEST CERTIFICATE

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Test Report of	Report Code	Date of Issue
Ground Water	W-210920-02	30/09/2020

Issued To: **M/S Lalitpur Power Generation Company Limited**
Village-Mirchwara & Buragaon Tehsil-Mehroni Distt- Lalitpur (U.P) India

SAMPLING & ANALYSIS DATA

Sample Received on : 21/09/2020
 Sample Drawn By : Mr. Mohit Sharma (NTL)
 Sample Drawn On : 20/09/2020
 Sample Quantity : 2.0 Lt.
 Analysis Duration : 21/09/2020 To 30/09/2020
 Sample Description : Ground Water Collected from Semra Village Hand Pump

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	6.86	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	792	mg/l	500	2000

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GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	0.112	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents(as MBAS)	Annex K of IS-13428	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	110.62	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	124.17	mg/l	250	1000
9.	Copper (as Cu)	IS : 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	0.89	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	2.56	mg/l	1.0	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	62.937	mg/l	30	100
14.	Manganese (as Mn)	Clause 35 of IS 3025	0.075	mg/l	0.1	0.3
15.	Mineral Oil	Clause 6 of IS: 3025	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	7.31	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	51.81	mg/l	200	400
20.	Sulphide(as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	320	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	536	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.022	mg/l	5.0	15

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Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	0.010	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	Annex L of IS-13428	0.012	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	0.05
10.	Total Chromium (as Cr)	Annex J of IS-13428	<0.05	mg/l	0.05	No Relaxation

Remarks: Based on above tested parameter, Water sample does not meet as per IS-10500:2012 desirable limit, but fall in extended limit. Water can be drink if there is no alternative source.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
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TEST CERTIFICATE

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Test Report of	Report Code	Date of Issue
Ground Water	W-210920-03	30/09/2020

Issued To: M/S Lalitpur Power Generation Company Limited
Village-Mirchwara & Buragaon Tehsil-Mehroni Distt- Lalitpur (U.P) India

SAMPLING & ANALYSIS DATA

Sample Received on : 20/09/2020
 Sample Drawn By : Mr. Mohit Sharma (NTL)
 Sample Drawn On : 14/03/2020
 Sample Quantity : 2.0 Lt.
 Analysis Duration : 21/09/2020 To 30/09/2020
 Sample Description : Ground Water collected from Near- Udaypura Railway Hand Pump

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	6.88	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	526	mg/l	500	2000

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GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	0.119	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents(as MBAS)	Annex K of IS-13428	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	78.55	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	63.07	mg/l	250	1000
9.	Copper (as Cu)	IS : 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	0.43	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.289	mg/l	0.3	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	41.80	mg/l	30	100
14.	Manganese (as Mn)	Clause 35 of IS 3025	0.088	mg/l	0.1	0.3
15.	Mineral Oil	Clause 6 of IS: 3025	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	5.32	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	25.04	mg/l	200	400
20.	Sulphide(as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	272	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 21)	368	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.160	mg/l	5.0	15

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Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	Annex L of IS-13428	0.016	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	0.05
10.	Total Chromium (as Cr)	Annex J of IS-13428	<0.05	mg/l	0.05	No Relaxation

Remarks: Based on above tested parameter, Water sample does not meet as per IS-10500:2012 in desirable limit, but fall in extended limit, Water can be drink if there is no alternative source.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. This test report will not be used for any publicity/legal purpose.
5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

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Test Report of	Report Code	Date of Issue
Ground Water	W-210920-04	30/09/2020

Issued To: M/S Lalitpur Power Generation Company Limited
Village-Mirchwara & Buragaon Tehsil-Mehroni Distt- Lalitpur (U.P) India

SAMPLING & ANALYSIS DATA

Sample Received on : 21/09/2020
 Sample Drawn By : Mr. Mohit Sharma (NTL)
 Sample Drawn On : 20/09/2020
 Sample Quantity : 2.0 Lt.
 Analysis Duration : 21/09/2020 To 30/09/2020
 Sample Description : Water sample Collected from Mirchwara Hand Pump

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	6.90	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	556	mg/l	500	2000

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GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents(as MBAS)	Annex K of IS-13428	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	59.31	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	59.13	mg/l	250	1000
9.	Copper (as Cu)	IS : 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	0.43	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.982	mg/l	1.0	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	31.10	mg/l	30	100
14.	Manganese (as Mn)	Clause 35 of IS 3025	0.026	mg/l	0.1	0.3
15.	Mineral Oil	Clause 6 of IS: 3025	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	5.10	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	60.48	mg/l	200	400
20.	Sulphide(as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	196	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	276	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	2.78	mg/l	5.0	15

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Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	Annex L of IS-13428	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	0.05
10.	Total Chromium (as Cr)	Annex J of IS-13428	<0.05	mg/l	0.05	No Relaxation

Remarks: Based on above tested parameter, Water sample does not meet as per IS-10500:2012 desirable limit, but fall in extended limit. Water can be drink if there is no alternative source.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
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Test Report of	Report Code	Date of Issue
Ground Water	W-210920-05	30/09/2020

Issued To: M/S Lalitpur Power Generation Company Limited
Village-Mirchwara & Buragaon Tehsil-Mehroni Distt- Lalitpur (U.P) India

SAMPLING & ANALYSIS DATA

Sample Received on : 21/09/2020
 Sample Drawn By : Mr. Mohit Sharma (NTL)
 Sample Drawn On : 20/09/2020
 Sample Quantity : 2.0 Lt.
 Analysis Duration : 21/09/2020 To 30/09/2020
 Sample Description : Water sample Collected from Rajwara Village Hand Pump

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	8.06	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	282	mg/l	500	2000

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GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents(as MBAS)	Annex K of IS- 13428	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	36.07	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	20.69	mg/l	250	1000
9.	Copper (as Cu)	IS : 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	-	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.820	mg/l	1.0	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	19.93	mg/l	30	100
14.	Manganese (as Mn)	Clause 35 of IS 3025	0.019	mg/l	0.1	0.3
15.	Mineral Oil	Clause 6 of IS: 3025	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	2.84	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	4.81	mg/l	200	400
20.	Sulphide(as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	198	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	172	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.012	mg/l	5.0	15

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Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	Annex L of IS-13428	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	0.05
10.	Total Chromium (as Cr)	Annex J of IS-13428	0.018	mg/l	0.05	No Relaxation

Remarks: Based on above tested parameter, Water sample does not meet as per IS-10500:2012 desirable limit, but fall in extended limit. Water can be drink if there is no alternative source.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
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221

Test Report of	Report Code	Date of Issue
Ground Water	W-210920-06	30/09/2020

Issued To: **M/S Lalitpur Power Generation Company Limited**
Village-Mirchwara & Buragaon Tehsil-Mehroni Distt- Lalitpur (U.P) India

SAMPLING & ANALYSIS DATA

Sample Received on : 21/09/2020
Sample Drawn By : Mr. Mohit Sharma (NTL)
Sample Drawn On : 20/09/2020
Sample Quantity : 2.0 Lt.
Analysis Duration : 21/09/2020 To 30/09/2020
Sample Description : Water sample Collected from Kachnaudha Village Hand Pump

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	7.23	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	348	mg/l	500	2000

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GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents(as MBAS)	Annex K of IS-13428	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	53.70	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	30.58	mg/l	250	1000
9.	Copper (as Cu)	IS : 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	0.34	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.820	mg/l	1.0	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	29.65	mg/l	30	100
14.	Manganese (as Mn)	Clause 35 of IS 3025	0.019	mg/l	0.1	0.3
15.	Mineral Oil	Clause 6 of IS: 3025	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	2.84	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	3.85	mg/l	200	400
20.	Sulphide(as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	276	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	256	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.012	mg/l	5.0	15

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Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	Annex L of IS-13428	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	0.05
10.	Total Chromium (as Cr)	Annex J of IS-13428	0.018	mg/l	0.05	No Relaxation

Remarks: Based on above tested parameter, Water sample meet as per IS-10500:2012 desirable limit, limit. Water is fit for drinking purpose

Notes:

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TEST CERTIFICATE

224

Test Report of	Report Code	Date of Issue
Ground Water	W-200921-059	28/09/2021

Issued To: M/s Lalitpur Power Generation Company Limited
Address: Village- Mirchwara and Burogaon, Tehsil- Mahroni, Lalitpur-284123 (U.P)
 India

SAMPLING & ANALYSIS DATA

Sample Received on : 20/09/2021
 Sample Drawn By : Mr. Deepak Sharma (NTL)
 Sample Drawn On : 16/09/2021
 Sample Quantity : 2.0 Lt.
 Analysis Duration : 20/09/2021 To 28/09/2021
 Sample Description : Hand Pump water Collected from Near- Ash Pond

MICROBIOLOGICAL REQUIREMENT RESULT

S.No.	Parameter	Test Method	Results	Requirements as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.No.	Parameter	Test Method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.00	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.00	NTU	1	5
5.	pH value	IS-3025(P-11)	7.23	-	6.5 - 8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	1128.0	mg/l	500	2000

GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminium (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.10	mg/l	0.5	No Relaxation
3.	Anionic Detergents (as MBAS)	Annex K of IS- 13428	<0.10	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.10	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.10	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	221.36	mg/l	75	200

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7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.00	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	235.18	mg/l	250	1000
9.	Fluoride (as F)	IS: 3025 (P-60)	0.862	mg/l	1.0	1.5
10.	Free Residual Chlorine	IS: 3025 (P-26)	BDL	mg/l	0.2	1.0
11.	Iron (as Fe)	IS: 3025(P-53)	0.278	mg/l	1.0	No Relaxation
12.	Magnesium (as Mg)	IS: 3025 (P-46)	79.36	mg/l	30	100
13.	Manganese (as Mn)	Clause 35 of IS 3025	<0.1	mg/l	0.1	0.3
14.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	14.34	mg/l	45	No Relaxation
15.	Selenium (as Se)	IS: 3025 (P- 56)	BDL	mg/l	0.01	No Relaxation
16.	Silver (as Ag)	Annex J IS: 13428	BDL	mg/l	0.1	No Relaxation
17.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	121.80	mg/l	200	400
18.	Sulphide (as H ₂ S)	IS-3025 (P-29)	BDL	mg/l	0.05	No Relaxation
19.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	824.0	mg/l	200	600
20.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	880.0	mg/l	200	600
21.	Zinc (as Zn)	IS: 3025 (P- 49)	0.32	mg/l	5.0	15
22.	Phenolic Compound as (C ₆ H ₅ OH)	IS: 3025 (P- 43)	BDL	mg/l	0.001	0.002

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic Hydro Carbons	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Total Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	No Relaxation
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation

BDL: Below Detection limit.

Remarks: Based on above tested parameter, Water sample does not meet as per IS-10500:2012 specification. Water is not fit for drinking purpose.

Notes:

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226

Test Report of	Report Code	Date of Issue
Ground Water	W-200921-060	28/09/2021

Issued To: M/s Lalitpur Power Generation Company Limited
 Address: Village- Mirchwara and Burogaon, Tehsil- Mahroni, Lalitpur-284123 (U.P)
 India

SAMPLING & ANALYSIS DATA

Sample Received on : 20/09/2021
 Sample Drawn By : Mr. Deepak Sharma (NTL)
 Sample Drawn On : 16/09/2021
 Sample Quantity : 2.0 Lt.
 Analysis Duration : 20/09/2021 To 28/09/2021
 Sample Description : Hand Pump water Collected from Semra Village

MICROBIOLOGICAL REQUIREMENT RESULT				
S.No.	Parameter	Test Method	Results	Requirements as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.No.	Parameter	Test Method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.00	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.00	NTU	1	5
5.	pH value	IS-3025(P-11)	7.02	-	6.5 - 8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	720.0	mg/l	500	2000

GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminium (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.10	mg/l	0.5	No Relaxation
3.	Anionic Detergents (as MBAS)	Annex K of IS-13428	<0.10	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.10	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.10	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	110.27	mg/l	75	200

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7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.00	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	125.80	mg/l	250	1000
9.	Fluoride (as F)	IS: 3025 (P-60)	0.716	mg/l	1.0	1.5
10.	Free Residual Chlorine	IS: 3025 (P-26)	BDL	mg/l	0.2	1.0
11.	Iron (as Fe)	IS: 3025(P-53)	0.158	mg/l	1.0	No Relaxation
12.	Magnesium (as Mg)	IS: 3025 (P-46)	51.62	mg/l	30	100
13.	Manganese (as Mn)	Clause 35 of IS 3025	<0.1	mg/l	0.1	0.3
14.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	9.21	mg/l	45	No Relaxation
15.	Selenium (as Se)	IS: 3025 (P- 56)	BDL	mg/l	0.01	No Relaxation
16.	Silver (as Ag)	Annex J IS: 13428	BDL	mg/l	0.1	No Relaxation
17.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	86.34	mg/l	200	400
18.	Sulphide (as H ₂ S)	IS-3025 (P-29)	BDL	mg/l	0.05	No Relaxation
19.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	360.0	mg/l	200	600
20.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	489.0	mg/l	200	600
21.	Zinc (as Zn)	IS: 3025 (P- 49)	0.21	mg/l	6.0	15
22.	Phenolic Compound as (C ₆ H ₅ OH)	IS: 3025 (P- 43)	BDL	mg/l	0.001	0.002

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic Hydro Carbons	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Total Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	No Relaxation
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation

BDL: Below Detection limit.

Remarks: Based on above tested parameter, Water sample does not meet as per IS-10500:2012 desirable limit, but fall in extended limit. Water can be drink if there is no alternative source.

Notes:

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228

Test Report of	Report Code	Date of Issue
Ground Water	W-200921-061	28/09/2021

Issued To: M/s Lalitpur Power Generation Company Limited
Address: Village- Mirchwara and Burogaon, Tehsil- Mahroni, Lalitpur-284123 (U.P)
India

SAMPLING & ANALYSIS DATA

Sample Received on : 20/09/2021
Sample Drawn By : Mr. Deepak Sharma (NTL)
Sample Drawn On : 16/09/2021
Sample Quantity : 2.0 Lt.
Analysis Duration : 20/09/2021 To 28/09/2021
Sample Description : Hand Pump water Collected from Near Udaypura Railway Station

MICROBIOLOGICAL REQUIREMENT RESULT

S.No.	Parameter	Test Method	Results	Requirements as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.No.	Parameter	Test Method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.00	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.00	NTU	1	5
5.	pH value	IS-3025(P-11)	6.87	-	6.5 - 8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	695.0	mg/l	500	2000

GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminium (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.10	mg/l	0.5	No Relaxation
3.	Anionic Detergents (as MBAS)	Annex K of IS-13428	<0.10	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.10	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.10	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	92.02	mg/l	75	200

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7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.00	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	72.15	mg/l	250	1000
9.	Fluoride (as F)	IS: 3025 (P-60)	0.512	mg/l	1.0	1.5
10.	Free Residual Chlorine	IS: 3025 (P-26)	BDL	mg/l	0.2	1.0
11.	Iron (as Fe)	IS: 3025(P-53)	0.149	mg/l	1.0	No Relaxation
12.	Magnesium (as Mg)	IS: 3025 (P-46)	45.96	mg/l	30	100
13.	Manganese (as Mn)	Clause 35 of IS 3025	<0.1	mg/l	0.1	0.3
14.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	7.02	mg/l	45	No Relaxation
15.	Selenium (as Se)	IS: 3025 (P- 56)	BDL	mg/l	0.01	No Relaxation
16.	Silver (as Ag)	Annex J IS: 13428	BDL	mg/l	0.1	No Relaxation
17.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	58.23	mg/l	200	400
18.	Sulphide (as H ₂ S)	IS-3025 (P-29)	BDL	mg/l	0.05	No Relaxation
19.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	312.0	mg/l	200	600
20.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	420.0	mg/l	200	600
21.	Zinc (as Zn)	IS: 3025 (P- 49)	0.24	mg/l	7.0	15
22.	Phenolic Compound as (C ₆ H ₅ OH)	IS: 3025 (P- 43)	BDL	mg/l	0.001	0.002

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic Hydro Carbons	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Total Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	No Relaxation
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation

BDL: Below Detection limit.

Remarks: Based on above tested parameter, Water sample does not meet as per IS-10500:2012 desirable limit, but fall in extended limit. Water can be drink if there is no alternative source.

Notes:

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TEST CERTIFICATE

230

Test Report of	Report Code	Date of Issue
Ground Water	W-200921-062	28/09/2021

Issued To: M/s Lalitpur Power Generation Company Limited
 Address: Village- Mirchwara and Burogaon, Tehsil- Mahroni, Lalitpur-284123 (U.P)
 India

SAMPLING & ANALYSIS DATA

Sample Received on : 20/09/2021
 Sample Drawn By : Mr. Deepak Sharma (NTL)
 Sample Drawn On : 16/09/2021
 Sample Quantity : 2.0 Lt.
 Analysis Duration : 20/09/2021 To 28/09/2021
 Sample Description : Hand Pump water Collected from Village Mirchwara

MICROBIOLOGICAL REQUIREMENT RESULT

S.No.	Parameter	Test Method	Results	Requirements as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.No.	Parameter	Test Method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.00	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.00	NTU	1	5
5.	pH value	IS-3025(P-11)	7.12	-	6.5 - 8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	910.0	mg/l	500	2000

GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminium (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.10	mg/l	0.5	No Relaxation
3.	Anionic Detergents (as MBAS)	Annex K of IS- 13428	<0.10	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.10	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.10	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	98.18	mg/l	75	200

Laboratory : GT-20, Sector-117, Noida Gautam Budh Nagar - 201301

Branch Office : IP-2, Haridwar, Uttrakhand

Branch Office : Gayatri Nagar, Katgodam, Haldwani, Uttrakhand

E. : noida.laboratory@gmail.com, info@noidalabs.com W. : www.noidalabs.com



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(An ISO :9001 : 2015 & ISO 45001 : 2018 Certified Laboratory)

MoEF & CC (Ministry of Environment, Forest & Climate Change), UPPCB & HSPCB Recognized Laboratory

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7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.00	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	121.46	mg/l	250	1000
9.	Fluoride (as F)	IS: 3025 (P-60)	0.508	mg/l	1.0	1.5
10.	Free Residual Chlorine	IS: 3025 (P-26)	BDL	mg/l	0.2	1.0
11.	Iron (as Fe)	IS: 3025(P-53)	0.249	mg/l	1.0	No Relaxation
12.	Magnesium (as Mg)	IS: 3025 (P-46)	56.76	mg/l	30	100
13.	Manganese (as Mn)	Clause 35 of IS 3025	0.21	mg/l	0.1	0.3
14.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	8.68	mg/l	45	No Relaxation
15.	Selenium (as Se)	IS: 3025 (P- 56)	BDL	mg/l	0.01	No Relaxation
16.	Silver (as Ag)	Annex J IS: 13428	BDL	mg/l	0.1	No Relaxation
17.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	78.16	mg/l	200	400
18.	Sulphide (as H ₂ S)	IS-3025 (P-29)	BDL	mg/l	0.05	No Relaxation
19.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	256.0	mg/l	200	600
20.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	480.0	mg/l	200	600
21.	Zinc (as Zn)	IS: 3025 (P- 49)	0.25	mg/l	8.0	15
22.	Phenolic Compound as (C ₆ H ₅ OH)	IS: 3025 (P- 43)	BDL	mg/l	0.001	0.002

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic Hydro Carbons	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Total Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	No Relaxation
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation

BDL: Below Detection limit.

Remarks: Based on above tested parameter, Water sample does not meet as per IS-10500:2012 limit. Water is not fit for drinking purpose.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. This test report will not be used for any publicity/legal purpose.
5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

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Laboratory : GT-20, Sector-117, Noida Gautam Budh Nagar - 201301

Branch Office : IP-2, Haridwar, Uttrakhand

Branch Office : Gayatri Nagar, Katgodam, Haldwani, Uttrakhand

E. : noida.laboratory@gmail.com, info@noidalabs.com W.: www.noidalabs.com



(An ISO 9001:2015, 14001:2015, 45001:2018 & MOEF Accredited Lab)

Job Description : Environmental Testing, ETP/STP Manufacturing, ETP/STP Plant Operation Pollution NOC Etc.

Lab - H1-837, Near Pollution Control Board, RIICO Industrial Area, Bhiwadi, Distt. Alwar (Rajasthan)-301019

Ph. No. : 01493-294022, 09694666022, Email : asiaenvirolab@gmail.com, Website : www.asiaenvirolab.com

Test Report of	Report Code	Date of Issue
Ground Water	W-260922-01	30/09/2022

Issued To: M/S Lalitpur Power Generation Company Limited
Village-Mirchwara & Buragaon Tehsil-Mehroni Distt- Lalitpur (U.P) India

SAMPLING & ANALYSIS DATA

Sample Description	Ground Water
Sample Drawn On	24/09/2022
Sample Drawn By	Mr. Vivek Kumar (Asia Enviro Lab)
Sampling Location	Near- Udaipura Railway Station Hand Pump
Sample Quantity & Packing	2.0 liter in Pet Bottle for Chemical Testing & 500 ml Sterilized Glass Bottle for microbiological Testing
Sample Received On	26/09/2022
Analysis Duration	26/09/2022 to 30/09/2022

MICROBIOLOGICAL REQUIREMENT**RESULTS**

S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	7.17	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	488	mg/l	500	2000

Contd. To report Code W-260922-01 (Page 1 of 3)

- Note: 1. The result listed refer only to the tested samples and applicable parameters.
2. Sample will be destroyed one month from the date of issue of test certificate.
3. Any complaints about this report should be communicated within 7 days of issue of this report
4. The report is Not to be reproduced-wholly or in part and can Not be used as an evidence in the Court of law and should Not be used in any advertising Media without our special permission in writing.



Contd. from report Code W-26092201 (Page 2 of 3)

GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents(as MBAS)	APIHA-23 rd edit	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	81.76	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	62.32	mg/l	250	1000
9.	Copper (as Cu)	IS: 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	0.82	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.698	mg/l	1.0	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	22.36	mg/l	30	100
14.	Manganese (as Mn)	IS: 3025 (P-59)	<0.1	mg/l	0.1	0.3
15.	Mineral Oil	IS: 3025 (P-39)	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	4.88	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	52.1	mg/l	200	400
20.	Sulphide (as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	228	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	296	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.201	mg/l	5.0	15

Cont. To report Code W-260922-01(Page 2 of 3)

Note: 1. The result listed refer only to the tested samples and applicable parameters.

2. Sample will be destroyed one month from the date of issue of test certificate.

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Contd From report Code W-260922-01 (Page 3 of 3)

Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.05	No Relaxation
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation

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- Note:**
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Test Report of Ground Water	Report Code W-260922-02	Date of Issue 30/09/2022
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Issued To: **M/S Lalitpur Power Generation Company Limited**
Village-Mirchwara & Buragaon Tehsil-Mehroni Distt- Lalitpur (U.P) India

SAMPLING & ANALYSIS DATA

Sample Description	Ground Water
Sample Drawn On	24/09/2022
Sample Drawn By	Mr. Vivek Kumar (Asia Enviro Lab)
Sampling Location	Near- Ash Pond Hand Pump
Sample Quantity & Packing	2.0 litre in Pet Bottle for Chemical Testing & 500 ml Sterilized Glass Bottle for microbiological Testing
Sample Received On	26/09/2022
Analysis Duration	26/09/2022 to 30/09/2022

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	7.04	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	564	mg/l	500	2000

Contd. To report Code W-260922-02 (Page 1 of 3)

- Note: 1. The result listed refer only to the tested samples and applicable parameters.
 2. Sample will be destroyed one month from the date of issue of test certificate.
 3. Any complaints about this report should be communicated within 7 days of issue of this report.
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GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents (as MBAS)	APHA-23 rd edit	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	86.58	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	36.02	mg/l	250	1000
9.	Copper (as Cu)	IS: 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	0.55	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.185	mg/l	1.0	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	27.22	mg/l	30	100
14.	Manganese (as Mn)	IS: 3025 (P-59)	<0.1	mg/l	0.1	0.3
15.	Mineral Oil	IS: 3025 (P-39)	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	5.41	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	63.2	mg/l	200	400
20.	Sulphide (as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	308	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	328	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.150	mg/l	5.0	15

Note: 1. The result listed refer only to the tested samples and applicable parameters.
 2. Sample will be destroyed one month from the date of issue of test certificate.
 3. Any complaints about this report should be communicated within 7 days of issue of this report.
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Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.05	No Relaxation
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation

Checked BY

AUTHORIZED SIGNATORY

- Note: 1. The result listed refer only to the tested samples and applicable parameters.
2. Sample will be destroyed one month from the date of issue of test certificate.
3. Any complaints about this report should be communicated within 7 days of issue of this report.
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Test Report of	Report Code	Date of Issue
Ground Water	W-260922-03	30/09/2022

Issued To: M/S Lalitpur Power Generation Company Limited
Village-Mirchwara & Buragaon Tehsil-Mehroni Distt- Lalitpur (U.P) India

SAMPLING & ANALYSIS DATA

Sample Description	Ground Water
Sample Drawn On	26/09/2022
Sample Drawn By	Mr. Vivek Kumar (Asia Enviro Lab)
Sampling Location	Hand Pump water at Mirchwara village
Sample Quantity & Packing	2.0 liter in Pet Bottle for Chemical Testing & 500 ml Sterilized Glass Bottle for microbiological Testing
Sample Received On	26/09/2022
Analysis Duration	26/09/2022 to 30/09/2022

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	6.83	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	326	mg/l	500	2000

Contd To report Code W-260922-03 (Page 1 of 3)

- Note:**
- The result listed refer only to the tested samples and applicable parameters.
 - Sample will be destroyed one month from the date of issue of test certificate.
 - Any complaints about this report should be communicated within 7 days of issue of this report.
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GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents (as MBAS)	APHA-23 rd edit	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	69.74	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	48.0	mg/l	250	1000
9.	Copper (as Cu)	IS: 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	0.31	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.098	mg/l	1.0	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	18.47	mg/l	30	100
14.	Manganese (as Mn)	IS: 3025 (P-59)	<0.1	mg/l	0.1	0.3
15.	Mineral Oil	IS: 3025 (P-39)	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	2.28	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	6.03	mg/l	200	400
20.	Sulphide (as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	185	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	250	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.096	mg/l	5.0	15

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Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as as)	IS-3025(P-37)	<0.01	mg/l	0.05	No Relaxation
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation


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Test Report of	Report Code	Date of Issue
Ground Water	W-260922-04	30/09/2022

Issued To: **M/S Lalitpur Power Generation Company Limited**
Village-Mirchwara & Buragaon Tehsil-Mehroni Distt- Lalitpur (U.P) India

SAMPLING & ANALYSIS DATA

Sample Description	Ground Water
Sample Drawn On	24/09/2022
Sample Drawn By	Mr. Vivek Kumar (Asia Enviro Lab)
Sampling Location	Hand Pump water at Seemra Village
Sample Quantity & Packing	2.0 liter in Pet Bottle for Chemical Testing & 500 ml Sterilized Glass Bottle for microbiological Testing
Sample Received On	26/09/2022
Analysis Duration	26/09/2022 to 30/09/2022

MICROBIOLOGICAL REQUIREMENT

RESULTS

S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	6.92	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	446	mg/l	500	2000

Contd. To report Code W-260922-04 (Page 1 of 3)

- Note: 1. The result listed refer only to the tested samples and applicable parameters.
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GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents (as MBAS)	APHA-23 rd edit.	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	129.06	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	48.99	mg/l	250	1000
9.	Copper (as Cu)	IS: 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	0.62	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.142	mg/l	1.0	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	12.58	mg/l	30	100
14.	Manganese (as Mn)	IS: 3025 (P-59)	<0.1	mg/l	0.1	0.3
15.	Mineral Oil	IS: 3025 (P-39)	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	3.18	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	21.03	mg/l	200	400
20.	Sulphide (as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	230	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	374	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.201	mg/l	5.0	15

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Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as as)	IS-3025(P-37)	<0.01	mg/l	0.05	No Relaxation
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation

DDL- Below detection limit.

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TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Ground Water	W-140322-054	21/03/2022

Issued To: M/s Lalitpur Power Generation Company Limited

Address: Village- Mirchwara and Burogaon, Tehsil- Mahroni, Lalitpur-284123 (U.P) India

SAMPLING & ANALYSIS DATA

Sample Drawn on : 10/03/2022
 Sample Drawn By : Mr. Deepak Sharma (NTL)
 Sample Received On : 14/03/2022
 Sample Quantity : 2.0 Lt.
 Analysis Duration : 14/03/2022 to 21/03/2022
 Sample Description : Hand Pump water Collected from Near- Ash Pond

MICROBIOLOGICAL REQUIREMENT RESULT

S.No.	Parameter	Test Method	Results	Requirements as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-15185	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-15185	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.No.	Parameter	Test Method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.00	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.00	NTU	1	5
5.	pH value	IS-3025(P-11)	7.21	-	6.5 - 8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	548	mg/l	500	2000

GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminium (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.10	mg/l	0.5	No Relaxation
3.	Anionic Detergents (as MBAS)	Annex K of IS-13428	<0.10	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.10	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.10	mg/l	0.5	2.4
6.	Calcium (as Ca)	IS: 3025 (P- 40)	86.0	mg/l	75	200

Laboratory : GT-20, Sector-117, Noida Gautam Budh Nagar - 201301

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S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
7.	Chloramines (as Cl ₂)	IS: 3025 (P-26)	<1.00	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P-32)	30.12	mg/l	250	1000
9.	Fluoride (as F)	IS: 3025 (P-60)	0.60	mg/l	1.0	1.5
10.	Free Residual Chlorine	IS: 3025 (P-26)	BDL	mg/l	0.2	1.0
11.	Iron (as Fe)	IS: 3025(P-53)	0.212	mg/l	1.0	No Relaxation
12.	Magnesium (as Mg)	IS: 3025 (P-46)	15.4	mg/l	30	100
13.	Manganese (as Mn)	Clause 35 of IS 3025	<0.1	mg/l	0.1	0.3
14.	Nitrate (as NO ₃)	IS: 3025 (P-34)	21.20	mg/l	45	No Relaxation
15.	Selenium (as Se)	IS: 3025 (P-56)	BDL	mg/l	0.01	No Relaxation
16.	Silver (as Ag)	Annex J IS: 13428	BDL	mg/l	0.1	No Relaxation
17.	Sulphate (as SO ₄)	IS: 3025 (P-24)	97.8	mg/l	200	400
18.	Sulphide (as H ₂ S)	IS-3025 (P-29)	BDL	mg/l	0.05	No Relaxation
19.	Alkalinity (as Ca CO ₃)	IS: 3025 (P-23)	206.0	mg/l	200	600
20.	Total Hardness (as CaCO ₃)	IS: 3025 (P-23)	512.0	mg/l	200	600
21.	Zinc (as Zn)	IS: 3025 (P-49)	<0.1	mg/l	5.0	15
22.	Phenolic Compound as (C ₆ H ₅ OH)	IS: 3025 (P-43)	BDL	mg/l	0.001	0.002

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic Hydro Carbons	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Total Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	No Relaxation
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation

BDL: Below Detection limit.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
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TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Ground Water	W-140322-055	21/03/2022

Issued To: M/s Lalitpur Power Generation Company Limited
Address: Village- Mirchwara and Burogaon, Tehsil- Mahroni, Lalitpur-284123 (U.P)
India

SAMPLING & ANALYSIS DATA

Sample Drawn on : 10/03/2022
Sample Drawn By : Mr. Deepak Sharma (NTL)
Sample Received On : 14/03/2022
Sample Quantity : 2.0 Lt.
Analysis Duration : 14/03/2022 to 21/03/2022
Sample Description : Hand Pump water Collected from Semra Village

MICROBIOLOGICAL REQUIREMENT RESULT

S.No.	Parameter	Test Method	Results	Requirements as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-15185	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-15185	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.No.	Parameter	Test Method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.00	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.00	NTU	1	5
5.	pH value	IS-3025(P-11)	7.26	-	6.5 - 8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	640.0	mg/l	500	2000

GENERAL PARAMETERS CONCERNING UNDESIRABLE SUBSTANCES IN EXCESSIVE AMOUNTS

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminium (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.10	mg/l	0.5	No Relaxation
3.	Anionic Detergents (as MBAS)	Annex K of IS- 13428	<0.10	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.10	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.10	mg/l	0.5	2.4
6.	Calcium (as Ca)	IS: 3025 (P- 40)	92.24	mg/l	75	200

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7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.00	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	52.18	mg/l	250	1000
9.	Fluoride (as F)	IS: 3025 (P-60)	0.86	mg/l	1.0	1.5
10.	Free Residual Chlorine	IS: 3025 (P-26)	BDL	mg/l	0.2	1.0
11.	Iron (as Fe)	IS: 3025(P-53)	0.172	mg/l	1.0	No Relaxation
12.	Magnesium (as Mg)	IS: 3025 (P-46)	32.60	mg/l	30	100
13.	Manganese (as Mn)	Clause 35 of IS 3025	<0.1	mg/l	0.1	0.3
14.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	21.50	mg/l	45	No Relaxation
15.	Selenium (as Se)	IS: 3025 (P- 56)	BDL	mg/l	0.01	No Relaxation
16.	Silver (as Ag)	Annex J IS: 13428	BDL	mg/l	0.1	No Relaxation
17.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	41.20	mg/l	200	400
18.	Sulphide (as H ₂ S)	IS-3025 (P-29)	BDL	mg/l	0.05	No Relaxation
19.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	198.0	mg/l	200	600
20.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	260.0	mg/l	200	600
21.	Zinc (as Zn)	IS: 3025 (P- 49)	0.12	mg/l	6.0	15
22.	Phenolic Compound as (C ₆ H ₅ OH)	IS: 3025 (P- 43)	BDL	mg/l	0.001	0.002

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic Hydro Carbons	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Total Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	No Relaxation
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation

BDL: Below Detection limit.

Notes:

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TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Ground Water	W-140322-056	21/03/2022

Issued To: M/s Lalitpur Power Generation Company Limited
Address: Village- Mirchwara and Burogaon, Tehsil- Mahroni, Lalitpur-284123 (U.P) India

SAMPLING & ANALYSIS DATA

Sample Drawn on : 10/03/2022
Sample Drawn By : Mr. Deepak Sharma (NTL)
Sample Received On : 14/03/2022
Sample Quantity : 2.0 Lt.
Analysis Duration : 14/03/2022 to 21/03/2022
Sample Description : Hand Pump water Collected from Near Udaipura Railway Station

MICROBIOLOGICAL REQUIREMENT RESULT

S.No.	Parameter	Test Method	Results	Requirements as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-15185	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-15185	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.No.	Parameter	Test Method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.00	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.00	NTU	1	5
5.	pH value	IS-3025(P-11)	7.35	-	6.5 - 8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	416.0	mg/l	500	2000

GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminium (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.10	mg/l	0.5	No Relaxation
3.	Anionic Detergents (as MBAS)	Annex K of IS-13428	<0.10	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.10	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.10	mg/l	0.5	2.4
6.	Calcium (as Ca)	IS: 3025 (P- 40)	82.30	mg/l	75	200

Laboratory : GT-20, Sector-117, Noida Gautam Budh Nagar - 201301

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7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.00	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	56.40	mg/l	250	1000
9.	Fluoride (as F)	IS: 3025 (P-60)	0.92	mg/l	1.0	1.5
10.	Free Residual Chlorine	IS: 3025 (P-26)	BDL	mg/l	0.2	1.0
11.	Iron (as Fe)	IS: 3025(P-53)	0.174	mg/l	1.0	No Relaxation
12.	Magnesium (as Mg)	IS: 3025 (P-46)	3.88	mg/l	30	100
13.	Manganese (as Mn)	Clause 35 of IS 3025	<0.1	mg/l	0.1	0.3
14.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	4.57	mg/l	45	No Relaxation
15.	Selenium (as Se)	IS: 3025 (P- 56)	BDL	mg/l	0.01	No Relaxation
16.	Silver (as Ag)	Annex J IS: 13428	BDL	mg/l	0.1	No Relaxation
17.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	14.60	mg/l	200	400
18.	Sulphide (as H ₂ S)	IS-3025 (P-29)	BDL	mg/l	0.05	No Relaxation
19.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	212.0	mg/l	200	600
20.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	289.0	mg/l	200	600
21.	Zinc (as Zn)	IS: 3025 (P- 49)	<0.1	mg/l	7.0	15
22.	Phenolic Compound as (C ₆ H ₅ OH)	IS: 3025 (P- 43)	BDL	mg/l	0.001	0.002

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic Hydro Carbons	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Total Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	No Relaxation
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation

BDL: Below Detection limit.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

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TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Ground Water	W-140322-057	21/03/2022

Issued To: M/s Lalitpur Power Generation Company Limited
Address: Village- Mirchwara and Burogaon, Tehsil- Mahroni, Lalitpur-284123 (U.P)
India

SAMPLING & ANALYSIS DATA

Sample Drawn on : 10/03/2022
Sample Drawn By : Mr. Deepak Sharma (NTL)
Sample Received On : 14/03/2022
Sample Quantity : 2.0 Lt.
Analysis Duration : 14/03/2022 to 21/03/2022
Sample Description : Hand Pump water Collected from Village Mirchwara

MICROBIOLOGICAL REQUIREMENT RESULT

S.No.	Parameter	Test Method	Results	Requirements as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-15185	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-15185	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.No.	Parameter	Test Method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.00	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.00	NTU	1	5
5.	pH value	IS-3025(P-11)	7.02	-	6.5 - 8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	518.0	mg/l	500	2000

GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminium (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.10	mg/l	0.5	No Relaxation
3.	Anionic Detergents (as MBAS)	Annex K of IS-13428	<0.10	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.10	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.10	mg/l	0.5	2.4
6.	Calcium (as Ca)	IS: 3025 (P- 40)	95.26	mg/l	75	200

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7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.00	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	68.20	mg/l	250	1000
9.	Fluoride (as F)	IS: 3025 (P-60)	0.95	mg/l	1.0	1.5
10.	Free Residual Chlorine	IS: 3025(P-26)	BDL	mg/l	0.2	1.0
11.	Iron (as Fe)	IS: 3025(P-53)	0.154	mg/l	1.0	No Relaxation
12.	Magnesium (as Mg)	IS: 3025 (P-46)	16.02	mg/l	30	100
13.	Manganese (as Mn)	Clause 35 of IS 3025	<0.1	mg/l	0.1	0.3
14.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	31.18	mg/l	45	No Relaxation
15.	Selenium (as Se)	IS: 3025 (P- 56)	BDL	mg/l	0.01	No Relaxation
16.	Silver (as Ag)	Annex J IS: 13428	BDL	mg/l	0.1	No Relaxation
17.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	22.60	mg/l	200	400
18.	Sulphide (as H ₂ S)	IS-3025 (P-29)	BDL	mg/l	0.05	No Relaxation
19.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	234.0	mg/l	200	600
20.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	316.0	mg/l	200	600
21.	Zinc (as Zn)	IS: 3025 (P- 49)	<0.1	mg/l	8.0	15
22.	Phenolic Compound as (C ₆ H ₅ OH)	IS: 3025 (P- 43)	BDL	mg/l	0.001	0.002

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic Hydro Carbons	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Total Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	No Relaxation
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation

BDL: Below Detection limit.

Notes:

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TEST REPORT

Page No. : 1 of 3

TEST REPORT No. NCL/ED-055/23/09/23		DATE OF REPORT : 30/09/2023
Name and Address of Customer	M/S LALITPUR POWER GENERATION COMPANY LIMITED. Village-Mirchwara and Burogaon, Tehsil-Mahroni, Lalitpur-284123 (U.P) India	

SAMPLING DETAILS

Sample Name	: Ground Water	Analysis End Date	: 30/09/2023
Analysis Start Date	: 23/09/2023	Sample ID No.	: NCL/ED-055/23/09/23
Date of Sampling	: 19/09/2023	Sample Receipt Date	: 23/09/2023
Time of Sampling	: 01:30 PM	Environmental Condition	: 25±2°C
Sampling Done By	: NCL		
Sampling Description	: Ground Water		
Sampling Location	: Hand Pump Water Collected From Near Ash Pond		
Sampling Protocol	: IS:3025 (P-1)	Sample Quantity	: 5+1 Ltr
Packing Condition	: Sealed	Packing	: PVC BOTTLE

TEST RESULT

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
1	Colour	Hazen	APHA 23rd 2120 (B)	BDL(DL-5.0)	5.0	15
2	Odour	-	IS 3025-5:2018	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025-7 & 8:1984 (RA 2017)	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	APHA 23rd 2130 (B)	BDL(DL-1.0)	1.0	5
5	Total Dissolved Solids	mg/l	APHA 23rd 2540 (C)	572	500	2000
6	Nitrate (as NO ₃)	mg/l	IS 3025-34:1988 (RA 2019)	BDL(DL-0.5)	45	No relaxation
7	Nitrite (as NO ₂)	mg/l	APHA 4500-NO ₂ (B)	BDL(DL-0.5)	0.02	No relaxation
8	Total Hardness (as CaCO ₃)	mg/l	APHA 23rd 2340 (C)	308	200	600
9	Chloride (as Cl)	mg/l	APHA 23rd 4500 (B)	44	250	1000
10	Sulphate (as SO ₄)	mg/l	APHA 23rd 4500 (E)	24.5	200	400
11	Fluoride (as F)	mg/l	APHA 23rd 4500 F (D)	0.52	1.0	1.5
12	Total Alkalinity as CaCO ₃	mg/l	APHA 23rd 2320 (B)	284	200	600
13	Cyanide (CN)	mg/l	IS 3025-27:1986 (RA 2019)	BDL(DL-0.05)	0.05	No relaxation
14	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	IS 3025-43:1992 (RA 2019)	BDL(DL-0.001)	0.001	0.002
15	Anionic Detergents (as MBAS)	mg/l	APHA 23rd 5540 (C)	BDL(DL-0.5)	0.20	1.0

ED-055/23/09/23-1



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E-mail : newconlab@gmail.com, newconlabfinance@gmail.com



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Page No.: 2 of 3

TEST REPORT No. NCL/ED-056/23/09/23

DATE OF REPORT : 30/09/2023

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
16	pH Value	-	APHA 23rd 4500 H+ (B)	7.32	6.5-8.5	No relaxation
17	Residual Free Chlorine	mg/l	APHA 23rd 4500 Cl (B)	BDL(DL-0.2)	0.2	1.0
18	Ammonia (as total ammonia-N)	mg/l	APHA 23rd 4500 NH3 (F)	BDL(DL-0.5)	0.50	No relaxation
19	Chloramines (as Cl2)	mg/l	APHA 23rd 4500 Cl (G)	BDL(DL-0.2)	4.0	No relaxation
20	Iron (as Fe)	mg/l	APHA 23rd 3111 (B)	0.16	0.3	No relaxation
21	Manganese (as Mn)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.01)	0.10	0.3
22	Zinc (as Zn)	mg/l	APHA 23rd 3111 (B)	0.104	5.0	15
23	Magnesium (Mg)	mg/l	APHA 23rd 3500 Mg (B)	30	30.0	100
24	Lead (as Pb)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.001)	0.01	No relaxation
25	Calcium (as Ca)	mg/l	APHA 23rd 3500 Ca (B)	74	75.0	200
26	Selenium (as Se)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.01	No relaxation
27	Arsenic (as As)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.01	No relaxation
28	Cadmium (as Cd)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.003	No relaxation
29	Boron (as B)	mg/l	APHA 23rd 4500 B (B)	BDL(DL-1.0)	0.50	1.0
30	Molybdenum (as Mo)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.07	No relaxation
31	Chromium (as Cr)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.001)	0.05	No relaxation
32	Aluminum (as Al)	mg/l	APHA 23rd 3500 (Al)	BDL(DL-0.001)	0.03	0.2
33	Mercury (as Hg)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.0005)	0.001	No relaxation
34	Barium (as Ba)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.70	No relaxation
35	Nickel (as Ni)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.001)	0.02	No relaxation
36	Silver (as Ag)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.10	No relaxation
37	Poly Chlorinated Biphenyls (PCB)	mg/l	APHA-6431 (B)	BDL(DL-0.005)	0.0005	No relaxation
38	Polynuclear Aromatic Hydrocarbon (PAH)	mg/l	APHA 6440	BDL(DL-0.005)	0.0001	No relaxation
39	E. coli	cfu/100ml	IS 15185	Absent	Absent	Absent
40	Total coliform	cfu/100ml	IS 15185	Absent	Absent	Absent
41	Bromodichloromethane	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.06	No relaxation

ED-056/23/09/23-2



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E-mail : newconlab@gmail.com, newconlabfinance@gmail.com



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Page No.: 3 of 3

TEST REPORT No. NCL/ED-065/23/09/23

DATE OF REPORT : 30/09/2023

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
42	Bromoform	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.1	No relaxation
43	Sulphide (as H ₂ S)	mg/l	IS 3025-29: 1986 (RA 2019)	BDL(DL-0.05)	0.05	No relaxation
44	Copper (as Cu)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.001)	0.05	1.5
45	Mineral oil	mg/l	Clause 6 of IS 3025: 1991 (39)	BDL(DL-0.1)	0.50	No relaxation
46	Dibromochloromethane	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.1	No relaxation
47	Chloroform	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.2	No relaxation

End of Report

Remarks : BDL-BELOW DETECTION LIMIT.

ED-066/23/09/23-3



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TEST REPORT

Page No.: 1 of 3

TEST REPORT No. NCL/ED-056/23/09/23		DATE OF REPORT : 30/09/2023
Name and Address of Customer	M/S LALITPUR POWER GENERATION COMPANY LIMITED. Village-Mirchwara and Burogaon, Tehsil-Mahroni, Lalitpur-284123 (U.P) India	

SAMPLING DETAILS

Sample Name	: Ground Water	Analysis End Date	: 30/09/2023
Analysis Start Date	: 23/09/2023	Sample ID No.	: NCL/ED-056/23/09/23
Date of Sampling	: 19/09/2023	Sample Receipt Date	: 23/09/2023
Time of Sampling	: 01:40 PM	Environmental Condition	: 25±2°C
Sampling Done By	: NCL		
Sampling Description	: Ground Water		
Sampling Location	: Hand Pump Water Collected From Village Mirchwara		
Sampling Protocol	: IS:3025 (P-1)	Sample Quantity	: 5+1 Ltr
Packing Condition	: Sealed	Packing	: PVC BOTTLE

TEST RESULT

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
1	Colour	Hazen	APHA 23rd 2120 (B)	BDL(DL-5.0)	5.0	15
2	Odour	-	IS 3025-5:2016	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025-7 & 8:1984 (RA 2017)	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	APHA 23rd 2130 (B)	BDL(DL-1.0)	1.0	5
5	Total Dissolved Solids	mg/l	APHA 23rd 2540 (C)	518	500	2000
6	Nitrate (as NO ₃)	mg/l	IS 3025-34:1988 (RA 2019)	BDL(DL-0.5)	45	No relaxation
7	Nitrite (as NO ₂)	mg/l	APHA-450C (B)	BDL(DL-0.5)	Not Specified	Not Specified
8	Total Hardness (as CaCO ₃)	mg/l	APHA 23rd 2340 (C)	280	200	600
9	Chloride (as Cl)	mg/l	APHA 23rd 4500 (B)	42	250	1000
10	Sulphate (as SO ₄)	mg/l	APHA 23rd 4500 (E)	21.4	200	400
11	Sulphide (as H ₂ S)	mg/l	IS 3025-29: 1986 (RA 2019)	BDL(DL-0.05)	0.05	No relaxation
12	Fluoride (as F)	mg/l	APHA 23rd 4500 F (D)	0.42	1.0	1.5
13	Total Alkalinity as CaCO ₃	mg/l	APHA 23rd 2320 (B)	200	200	600
14	Cyanide (CN)	mg/l	IS 3025-27:1986 (RA 2019)	BDL(DL-0.05)	0.05	No relaxation
15	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	IS 3025-43:1992 (RA 2019)	BDL(DL-0.001)	0.001	0.002

ED-056/23/09/23-1

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TEST REPORT No. NCL/ED-056/23/09/23

DATE OF REPORT : 30/09/2023

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
16	Anionic Detergents (as MBAS)	mg/l	APHA 23rd 5540 (C)	BDL(DL-0.5)	0.20	1.0
17	pH Value	-	APHA 23rd 4500 H+ (B)	7.42	6.5-8.5	No relaxation
18	Residual Free Chlorine	mg/l	APHA 23rd 4500 Cl (B)	BDL(DL-0.2)	0.2	1.0
19	Ammonia (as total ammonia-N)	mg/l	APHA 23rd 4500 NH3 (F)	BDL(DL-0.5)	0.50	No relaxation
20	Chloramines (as Cl2)	mg/l	APHA 23rd 4500 Cl (G)	BDL(DL-0.2)	4.0	No relaxation
21	Iron (as Fe)	mg/l	APHA 23rd 3111 (B)	0.22	0.3	No relaxation
22	Manganese (as Mn)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.01)	0.10	0.3
23	Zinc (as Zn)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.1)	5.0	15
24	Magnesium (Mg)	mg/l	APHA 23rd 3500 Mg (B)	28.0	30.0	100
25	Lead (as Pb)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.001)	0.01	No relaxation
26	Calcium (as Ca)	mg/l	APHA 23rd 3500 Ca (B)	66	75.0	200
27	Selenium (as Se)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.01	No relaxation
28	Arsenic (as As)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.01	No relaxation
29	Cadmium (as Cd)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.003	No relaxation
30	Boron (as B)	mg/l	APHA 23rd 4500 B (B)	BDL(DL-1.0)	0.50	1.0
31	Molybdenum (as Mo)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.07	No relaxation
32	Chromium (as Cr)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.01)	0.05	No relaxation
33	Aluminum (as Al)	mg/l	APHA 23rd 3500 (A)	BDL(DL-0.001)	0.03	0.2
34	Mercury (as Hg)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.0005)	0.001	No relaxation
35	Copper (as Cu)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.001)	0.05	1.5
36	Mineral oil	mg/l	Clause 6 of IS 3025: 1991 (39)	BDL(DL-0.1)	0.50	No relaxation
37	Barium (s Ba)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.70	No relaxation
38	Bromofom	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.1	No relaxation
39	Dibromochloromethane	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.1	No relaxation
40	Bromodichloromethane	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.06	No relaxation
41	Chloroform	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.2	No relaxation
42	Nickel (as Ni)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.001)	0.02	No relaxation

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E-mail : newconlab@gmail.com, newconlabfinance@gmail.com



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TEST REPORT No. NCL/ED-056/23/09/23

DATE OF REPORT : 30/09/2023

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
43	Silver (as Ag)	mg/l	IS 3025 Part 65 : 2014	BDL(DL-0.001)	0.10	No relaxation
44	Poly Chlorinated Biphenyls (PCB)	mg/l	APHA-6431 (B)	BDL(DL-0.005)	0.0005	No relaxation
45	Polynuclear Aromatic Hydrocarbon (PAH)	mg/l	APHA 6440	BDL(DL-0.005)	0.0001	No relaxation
46	E. coli	cfu/100ml	IS 15185	Absent	Absent	Absent
47	Total coliform	cfu/100ml	IS 15185	Absent	Absent	Absent

End of Report

Remarks : BDL-BELOW DETECTION LIMIT.

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TEST REPORT

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TEST REPORT No. NCL/ED-058/23/09/23		DATE OF REPORT : 30/09/2023
Name and Address of Customer	M/S LALITPUR POWER GENERATION COMPANY LIMITED. Village-Mirchwara and Burogaon, Tehsil-Mahroni, Lalitpur-284123 (U.P) India	

SAMPLING DETAILS

Sample Name	: Ground Water	Analysis End Date	: 30/09/2023
Analysis Start Date	: 23/09/2023	Sample ID No.	: NCL/ED-058/23/09/23
Date of Sampling	: 19/09/2023	Sample Receipt Date	: 23/09/2023
Time of Sampling	: 12:10 PM	Environmental Condition	: 25±2°C
Sampling Done By	: NCL		
Sampling Description	: Ground Water		
Sampling Location	: Hand Pump Water Collected From Semra Village		
Sampling Protocol	: IS:3025 (P-1)	Sample Quantity	: 5+1 Ltr
Packing Condition	: Sealed	Packing	: PVC BOTTLE

TEST RESULT

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
1	Colour	Hazen	APHA 23rd 2120 (B)	BDL(DL-5.0)	5.0	15
2	Odour	-	IS 3025-5:2018	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025-7 & 8:1984 (RA 2017)	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	APHA 23rd 2130 (B)	BDL(DL-1.0)	1.0	5
5	Total Dissolved Solids	mg/l	APHA 23rd 2540 (C)	626	500	2000
6	Nitrate (as NO ₃)	mg/l	IS 3025-34:1986 (RA 2019)	BDL(DL-0.5)	45	No relaxation
7	Nitrite (as NO ₂)	mg/l	APHA-450C (B)	BDL(DL-0.5)	Not Specified	Not Specified
8	Total Hardness (as CaCO ₃)	mg/l	APHA 23rd 2340 (C)	315	200	600
9	Chloride (as Cl)	mg/l	APHA 23rd 4500 (B)	70	250	1000
10	Sulphate (as SO ₄)	mg/l	APHA 23rd 4500 (E)	22.6	200	400
11	Sulphide (as H ₂ S)	mg/l	IS 3025-29: 1986 (RA 2019)	BDL(DL-0.05)	0.05	No relaxation
12	Fluoride (as F)	mg/l	APHA 23rd 4500 F (D)	0.52	1.0	1.5
13	Total Alkalinity as CaCO ₃	mg/l	APHA 23rd 2320 (B)	280	200	600
14	Cyanide (CN)	mg/l	IS 3025-27: 1986 (RA 2019)	BDL(DL-0.05)	0.05	No relaxation
15	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	IS 3025-43:1992 (RA 2019)	BDL(DL-0.001)	0.001	0.002

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TEST REPORT No. NCL/ED-058/23/09/23

DATE OF REPORT : 30/09/2023

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
16	Anionic Detergents (as MBAS)	mg/l	APHA 23rd 5540 (C)	BDL(DL-0.5)	0.20	1.0
17	pH Value	-	APHA 23rd 4500 H+ (B)	7.34	6.5-8.5	No relaxation
18	Residual Free Chlorine	mg/l	APHA 23rd 4500 Cl (B)	BDL(DL-0.2)	0.2	1.0
19	Ammonia (as total ammonia-N)	mg/l	APHA 23rd 4500 NH ₃ (F)	BDL(DL-0.5)	0.50	No relaxation
20	Chloramines (as Cl ₂)	mg/l	APHA 23rd 4500 Cl (G)	BDL(DL-0.2)	4.0	No relaxation
21	Iron (as Fe)	mg/l	APHA 23rd 3111 (B)	0.15	0.3	No relaxation
22	Manganese (as Mn)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.01)	0.10	0.3
23	Zinc (as Zn)	mg/l	APHA 23rd 3111 (B)	0.186	5.0	15
24	Magnesium (Mg)	mg/l	APHA 23rd 3500 Mg (B)	27.0	30.0	100
25	Lead (as Pb)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.001)	0.01	No relaxation
26	Calcium (as Ca)	mg/l	APHA 23rd 3500 Ca (B)	82	75.0	200
27	Selenium (as Se)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.01	No relaxation
28	Arsenic (as As)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.01	No relaxation
29	Cadmium (as Cd)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.003	No relaxation
30	Boron (as B)	mg/l	APHA 23rd 4500 B (B)	BDL(DL-1.0)	0.50	1.0
31	Molybdenum (as Mo)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.07	No relaxation
32	Chromium (as Cr)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.01)	0.05	No relaxation
33	Aluminum (as Al)	mg/l	APHA 23rd 3500 (Al)	BDL(DL-0.001)	0.03	0.2
34	Mercury (as Hg)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.0005)	0.001	No relaxation
35	Copper (as Cu)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.001)	0.05	1.5
36	Mineral oil	mg/l	Clause 6 of IS 3025: 1991 (39)	BDL(DL-0.1)	0.50	No relaxation
37	Barium (as Ba)	mg/l	IS 3025 Part 65 ; 2014	BDL(DL-0.001)	0.70	No relaxation
38	Bromoform	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.1	No relaxation
39	Dibromochloromethane	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.1	No relaxation
40	Bromodichloromethane	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.06	No relaxation
41	Chloroform	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.2	No relaxation
42	Nickel (as Ni)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.001)	0.02	No relaxation

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TEST REPORT No. NCL/ED-058/23/09/23

DATE OF REPORT : 30/09/2023

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
43	Silver (as Ag)	mg/l	IS 3025 Part 65 : 2014	BDL(DL-0.001)	0.10	No relaxation
44	Poly Chlorinated Biphenyls (PCB)	mg/l	APHA-6431 (B)	BDL(DL-0.005)	0.0005	No relaxation
45	Polynuclear Aromatic Hydrocarbon (PAH)	mg/l	APHA 6440	BDL(DL-0.005)	0.0001	No relaxation
46	E. coli	cfu/100ml	IS 15185	Absent	Absent	Absent
47	Total coliform	cfu/100ml	IS 15185	Absent	Absent	Absent

End of Report

Remarks : BDL-BELOW DETECTION LIMIT.

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TEST REPORT

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TEST REPORT No. NCL/ED-059/23/09/23		DATE OF REPORT : 30/09/2023
Name and Address of Customer	M/S LALITPUR POWER GENERATION COMPANY LIMITED. Village-Mirchwara and Burogaon, Tehsil-Mahroni, Lalitpur-284123 (U.P) India	

SAMPLING DETAILS

Sample Name	: Ground Water	Analysis End Date	: 30/09/2023
Analysis Start Date	: 23/09/2023	Sample ID No.	: NCL/ED-059/23/09/23
Date of Sampling	: 19/09/2023	Sample Receipt Date	: 23/09/2023
Time of Sampling	: 12:20 PM	Environmental Condition	: 25±2°C
Sampling Done By	: NCL	Sample Quantity	: 5+1 Ltr
Sampling Description	: Ground Water	Packing	: PVC BOTTLE
Sampling Location	: Hand Pump Water Near Railway Station		
Sampling Protocol	: IS:3025 (P-1)		
Packing Condition	: Sealed		

TEST RESULT

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
1	Colour	Hazen	APHA 23rd 2120 (B)	BDL(DL-5.0)	5.0	15
2	Odour	-	IS 3025-5:2018	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025-7 & 8:1984 (RA 2017)	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	APHA 23rd 2130 (B)	BDL(DL-1.0)	1.0	5
5	Total Dissolved Solids	mg/l	APHA 23rd 2540 (C)	434	500	2000
6	Nitrate (as NO ₃)	mg/l	IS 3025-34:1988 (RA 2019)	BDL(DL-0.5)	45	No relaxation
7	Nitrite (as NO ₂)	mg/l	APHA-450C (B)	BDL(DL-0.5)	Not Specified	Not Specified
8	Total Hardness (as CaCO ₃)	mg/l	APHA 23rd 2340 (C)	298	200	600
9	Chloride (as Cl)	mg/l	APHA 23rd 4500 (B)	58	250	1000
10	Sulphate (as SO ₄)	mg/l	APHA 23rd 4500 (E)	BDL(DL-10.0)	200	400
11	Sulphide (as H ₂ S)	mg/l	IS 3025-29: 1986 (RA 2019)	BDL(DL-0.05)	0.05	No relaxation
12	Fluoride (as F)	mg/l	APHA 23rd 4500 F (D)	0.53	1.0	1.5
13	Total Alkalinity as CaCO ₃	mg/l	APHA 23rd 2320 (B)	220	200	600
14	Cyanide (CN)	mg/l	IS 3025-27:1986 (RA 2019)	BDL(DL-0.05)	0.05	No relaxation
15	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	IS 3025-43:1992 (RA 2019)	BDL(DL-0.001)	0.001	0.002

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TEST REPORT No. NCL/ED-059/23/09/23

DATE OF REPORT : 30/09/2023

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
16	Anionic Detergents (as MBAS)	mg/l	APHA 23rd 5540 (C)	BDL(DL-0.5)	0.20	1.0
17	pH Value	-	APHA 23rd 4500 H+ (B)	7.36	6.5-8.5	No relaxation
18	Residual Free Chlorine	mg/l	APHA 23rd 4500 Cl (B)	BDL(DL-0.2)	0.2	1.0
19	Ammonia (as total ammonia-N)	mg/l	APHA 23rd 4500 NH3 (F)	BDL(DL-0.5)	0.50	No relaxation
20	Chloramines (as Cl2)	mg/l	APHA 23rd 4500 Cl (G)	BDL(DL-0.2)	4.0	No relaxation
21	Iron (as Fe)	mg/l	APHA 23rd 3111 (B)	0.16	0.3	No relaxation
22	Manganese (as Mn)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.01)	0.10	0.3
23	Zinc (as Zn)	mg/l	APHA 23rd 3111 (B)	0.14	5.0	15
24	Magnesium (Mg)	mg/l	APHA 23rd 3500 Mg (B)	29.0	30.0	100
25	Lead (as Pb)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.001)	0.01	No relaxation
26	Calcium (as Ca)	mg/l	APHA 23rd 3500 Ca (B)	71	75.0	200
27	Selenium (as Se)	mg/l	IS 3025 Part 65 : 2014	BDL(DL-0.001)	0.01	No relaxation
28	Arsenic (as As)	mg/l	IS 3025 Part 65 : 2014	BDL(DL-0.001)	0.01	No relaxation
29	Cadmium (as Cd)	mg/l	IS 3025 Part 65 : 2014	BDL(DL-0.001)	0.003	No relaxation
30	Boron (as B)	mg/l	APHA 23rd 4500 B (B)	BDL(DL-1.0)	0.50	1.0
31	Molybdenum (as Mo)	mg/l	IS 3025 Part 65 : 2014	BDL(DL-0.001)	0.07	No relaxation
32	Chromium (as Cr)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.01)	0.05	No relaxation
33	Aluminum (as Al)	mg/l	APHA 23rd 3500 (Al)	BDL(DL-0.001)	0.03	0.2
34	Mercury (as Hg)	mg/l	IS 3025 Part 65 : 2014	BDL(DL-0.0005)	0.001	No relaxation
35	Copper (as Cu)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.001)	0.05	1.5
36	Mineral oil	mg/l	Clause 6 of IS 3025: 1991 (39)	BDL(DL-0.1)	0.50	No relaxation
37	Barium (s Ba)	mg/l	IS 3025 Part 65 : 2014	BDL(DL-0.001)	0.70	No relaxation
38	Bromoform	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.1	No relaxation
39	Dibromochloromethane	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.1	No relaxation
40	Bromodichloromethane	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.06	No relaxation
41	Chloroform	mg/l	NCL/SOP/INST/112	BDL(DL-0.005)	0.2	No relaxation
42	Nickel (as Ni)	mg/l	APHA 23rd 3111 (B)	BDL(DL-0.001)	0.02	No relaxation

ED-059/23/09/23-2



Checked by

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory

1. The test report refers only to the particular sample/s submitted for testing and listed parameters.
2. Endorsement of the same is neither Inferred nor implied.
3. Laboratory shall maintain the confidentiality of all Information related to the samples & test reports.
4. Complaints about this report should be communicated within 10 days of the issue date of this report.
5. The report is not to be produced wholly or in part without prior permission of the Managing Partner. All disputes subject to Ghaziabad Jurisdiction.

Laboratory : A-1/156, Sector-17, (Swadeshi Compound) Kavi Nagar Industrial Area, GHAZIABAD - 201 002 (U.P.)

Mobile : 9810430345, 9205501788 | Website : www.newconlab.in

E-mail : newconlab@gmail.com, newconlabfinance@gmail.com



Newcon Consultants & Laboratories

(GOVERNMENT APPROVED TESTING LABORATORIES)

An ISO 9001 : 2015, ISO 14001 : 2015, ISO 45001 : 2018 Certified Laboratory

Page No.: 3 of 3

TEST REPORT No. NCL/ED-059/23/09/23

DATE OF REPORT : 30/09/2023

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
43	Silver (as Ag)	mg/l	IS 3025 Part 65 : 2014	BDL(DL-0.001)	0.10	No relaxation
44	Poly Chlorinated Biphenyls (PCB)	mg/l	APHA-6431 (B)	BDL(DL-0.005)	0.0005	No relaxation
45	Polynuclear Aromatic Hydrocarbon (PAH)	mg/l	APHA 6440	BDL(DL-0.005)	0.0001	No relaxation
46	E. coli	cfu/100ml	IS 15185	Absent	Absent	Absent
47	Total coliform	cfu/100ml	IS 15185	Absent	Absent	Absent

End of Report

Remarks : BDL-BELOW DETECTION LIMIT.

ED-059/23/09/23-3



Soma
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FOR NEWCON CONSULTANTS & LABORATORIES

[Signature]
Authorized Signatory

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Laboratory : A-1/156, Sector-17, (Swadeshi Compound) Kavi Nagar Industrial Area, GHAZIABAD - 201 002 (U.P.)

Mobile : 9810430345, 9205501788 | Website : www.newconlab.in

E-mail : newconlab@gmail.com, newconlabfinance@gmail.com



Contd. To report Code W-200323-01 (Page 1 of 3)

Test Report of	Report Code	Date of Issue
Ground Water	W-200323-01	27/03/2023

ISSUED TO: M/S LALITPUR POWER GENERATION COMPANY LIMITED
VILLAGE-MIRCHWARA-BUROGAON-CHIGLAUWA, BAR-BANPUR ROAD,
BLOCK BAR, LALITPUR- 284123 (U.P) INDIA

SAMPLING & ANALYSIS DATA

Sample Description	Ground Water
Sample Drawn On	18/03/2023
Sample Drawn By	Mr. Vivek Kumar (Asia Enviro Lab)
Sampling Location	Near- Udaipura Railway Station Hand Pump
Sample Quantity & Packing	2.0 litre in Pet Bottle for Chemical Testing & 500 ml Sterilized Glass Bottle for microbiological Testing
Sample Received On	20/03/2023
Analysis Duration	20/03/2023 to 27/03/2023

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622 :1981	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622:1981	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	7.42	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	446	mg/l	500	2000

- Note: 1. The result listed refer only to the tested samples and applicable parameters.
 2. Sample will be destroyed one month from the date of issue of test certificate.
 3. Any complaints about this report should be communicated within 7 days of issue of this report.
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Contd. from report Code W-200323-01(Page 2 of 3)

GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents(as MBAS)	APHA-23 rd edit	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	78.56	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	57.02	mg/l	250	1000
9.	Copper (as Cu)	IS : 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	0.63	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.201	mg/l	1	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	28.19	mg/l	30	100
14.	Manganese (as Mn)	IS: 3025 (P-59)	<0.1	mg/l	0.1	0.3
15.	Mineral Oil	IS: 3025 (P-39)	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	4.81	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	24.09	mg/l	200	400
20.	Sulphide (as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	242	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	312	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.116	mg/l	5.0	15

Contd.To report Code W-200323-01(Page 2 of 3)

Note: 1. The result listed refer only to the tested samples and applicable parameters.

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Contd From report Code W-200323-01 (Page 3 of 3)

Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Polynuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APIIA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	0.05
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation


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AUTHORIZED SIGNATORY

Note: 1. The result listed refer only to the tested samples and applicable parameters.
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Contd. To report Code W-200323-02(Page 1 of 3)

Test Report of Ground Water	Report Code W-200323-02	Date of Issue 27/03/2023
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**ISSUED TO: M/S LALITPUR POWER GENERATION COMPANY LIMITED
VILLAGE-MIRCHWARA-BUROGAON-CHIGLAUWA, BAR-BANPUR ROAD,
BLOCK BAR, LALITPUR- 284123 (U.P) INDIA**

SAMPLING & ANALYSIS DATA

Sample Description	Ground Water
Sample Drawn On	18/03/2023
Sample Drawn By	Mr. Vivek Kumar (Asia Enviro Lab)
Sampling Location	Near- Ash Pond Hand Pump
Sample Quantity & Packing	2.0 litre in Pet Bottle for Chemical Testing & 500 ml Sterilized Glass Bottle for microbiological Testing
Sample Received On	20/03/2023
Analysis Duration	20/03/2023 to 27/03/2023

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Haze n Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	7.34	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	582	mg/l	500	2000

Note: 1. The result listed refer only to the tested samples and applicable parameters.
 2. Sample will be destroyed one month from the date of issue of test certificate.
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(An ISO 9001:2015, 14001:2015, 45001:2018 & MOEF Approved Lab)

Job Description : Environmental Testing, ETP/STP Manufacturing, ETP/STP Plant Operation, Pollution NOC Etc.

Lab - H1-837, Near Pollution Control Board, RIICO Industrial Area, Bhiwadi, Distt. Alwar (Rajasthan)-301019

Ph. No. : 01493-294022, 09694686022, Email : asiaenvirolab@gmail.com, Website : www.asiaenvirolab.com

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GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents(as MBAS)	APHA-23 rd edit	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	81.76	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	38.4	mg/l	250	1000
9.	Copper (as Cu)	IS : 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	0.69	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.186	mg/l	1	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	28.19	mg/l	30	100
14.	Manganese (as Mn)	IS: 3025 (P-59)	<0.1	mg/l	0.1	0.3
15.	Mineral Oil	IS: 3025 (P-39)	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	5.31	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	27.80	mg/l	200	400
20.	Sulphide(as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	310	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	320	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.109	mg/l	5.0	15

Note: 1. The result listed refer only to the tested samples and applicable parameters.

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Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Polynuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APIIA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	0.05
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation


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AUTHORIZED SIGNATORY

Note: 1. The result listed refer only to the tested samples and applicable parameters.
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Test Report of	Report Code	Date of Issue
Ground Water	W-200323-03	27/03/2023

**ISSUED TO: M/S LALITPUR POWER GENERATION COMPANY LIMITED
VILLAGE-MIRCHWARA-BUROGAON-CHIGLAUWA, BAR-BANPUR ROAD,
BLOCK BAR, LALITPUR- 284123 (U.P) INDIA**

SAMPLING & ANALYSIS DATA

Sample Description	Ground Water
Sample Drawn On	18/03/2023
Sample Drawn By	Mr. Vivek Kumar (Asia Enviro Lab)
Sampling Location	Hand Pump water at Mirchwara village
Sample Quantity & Packing	2.0 litre in Pet Bottle for Chemical Testing & 500 ml Sterilized Glass Bottle for microbiological Testing
Sample Received On	20/03/2023
Analysis Duration	20/03/2023 to 27/03/2023

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	7.39	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	542	mg/l	500	2000

Note: 1. The result listed refer only to the tested samples and applicable parameters.

2. Sample will be destroyed one month from the date of issue of test certificate.

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GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents(as MBAS)	APHA-23 rd edit	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	83.36	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	35.81	mg/l	250	1000
9.	Copper (as Cu)	IS : 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	0.73	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.162	mg/l	1	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	31.10	mg/l	30	100
14.	Manganese (as Mn)	IS: 3025 (P-59)	<0.1	mg/l	0.1	0.3
15.	Mineral Oil	IS: 3025 (P-39)	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	4.82	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	25.09	mg/l	200	400
20.	Sulphide(as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	252	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	336	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.192	mg/l	5.0	15

Note: 1. The result listed refer only to the tested samples and applicable parameters.

2. Sample will be destroyed one month from the date of issue of test certificate.

3. Any complaints about this report should be communicated within 7 days of issue of this report.

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Contd From report Code W-200323-03 (Page 3 of 3)

Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Polynuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	0.05
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation


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Contd. To report Code W-200323-04 (Page 1 of 3)

Test Report of	Report Code	Date of Issue
Ground Water	W-200323-04	27/03/2023

ISSUED TO: M/S LALITPUR POWER GENERATION COMPANY LIMITED
VILLAGE-MIRCHWARA-BUROGAON-CHIGLAUWA, BAR-BANPUR ROAD,
BLOCK BAR, LALITPUR- 284123 (U.P) INDIA

SAMPLING & ANALYSIS DATA

Sample Description	Ground Water
Sample Drawn On	18/03/2023
Sample Drawn By	Mr. Vivek Kumar (Asia Enviro Lab)
Sampling Location	Hand Pump water at Seemra Village
Sample Quantity & Packing	2.0 litre in Pet Bottle for Chemical Testing & 500 ml Sterilized Glass Bottle for microbiological Testing
Sample Received On	20/03/2023
Analysis Duration	20/03/2023 to 27/03/2023

MICROBIOLOGICAL REQUIREMENT

RESULTS				
S.No.	Parameter	Test Method	Results	Required as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-1622	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-1622	Absent	Absent/100ml

ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.0	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.0	NTU	1	5
5.	pH value	IS-3025(P-04)	7.19	-	6.5-8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	652	mg/l	500	2000

Note: 1. The result listed refer only to the tested samples and applicable parameters.

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Contd. from report Code W-200323-04(Page 2 of 3)

GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminum (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.1	mg/l	0.5	No Relaxation
3.	Anionic surface Detergents(as MBAS)	APHA-23 rd edit	<0.1	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.1	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.1	mg/l	0.5	1.0
6.	Calcium (as Ca)	IS: 3025 (P- 40)	96.19	mg/l	75	200
7.	Chloramines (as Cl ₂)	IS: 3025 (P- 26)	<1.0	mg/l	4.0	No Relaxation
8.	Chloride (as Cl)	IS: 3025 (P- 32)	71.2	mg/l	250	1000
9.	Copper (as Cu)	IS : 3025 (P-42)	<0.05	mg/l	0.05	1.5
10.	Fluoride (as F)	IS: 3025 (P-60)	0.63	mg/l	1.0	1.5
11.	Free Residual Chlorine	IS: 3025 (P-26)	<0.1	mg/l	0.2	1.0
12.	Iron (as Fe)	IS: 3025(P-53)	0.209	mg/l	1	No Relaxation
13.	Magnesium (as Mg)	IS: 3025 (P-46)	23.33	mg/l	30	100
14.	Manganese (as Mn)	IS: 3025 (P-59)	<0.1	mg/l	0.1	0.3
15.	Mineral Oil	IS: 3025 (P-39)	<0.5	mg/l	0.5	No Relaxation
16.	Nitrate (as NO ₃)	IS: 3025 (P- 34)	5.10	mg/l	45	No Relaxation
17.	Selenium (as Se)	IS: 3025 (P- 56)	<0.01	mg/l	0.01	No Relaxation
18.	Silver (as Ag)	Annex J IS: 13428	<0.05	mg/l	0.1	No Relaxation
19.	Sulphate (as SO ₄)	IS: 3025 (P- 24)	27.18	mg/l	200	400
20.	Sulphide(as H ₂ S)	IS-3025 (P-29)	<0.05	mg/l	0.05	No Relaxation
21.	Alkalinity (as Ca CO ₃)	IS: 3025 (P- 23)	302	mg/l	200	600
22.	Total Hardness (as CaCO ₃)	IS: 3025 (P- 23)	336	mg/l	200	600
23.	Zinc (as Zn)	IS: 3025 (P- 49)	0.282	mg/l	5.0	15

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Contd From report Code W-200323-04 (Page 3 of 3)

Parameters Concerning Toxic Substances:

S.NO.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Polynuclear Aromatic	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	0.05
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation

BDL - Below detection limit.


CHECKED BY


AUTHORIZED SIGNATORY

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TEST REPORT

Page No.: 1 of 2

TEST REPORT No. NCL/EP-036/16/03/24/A		ULR No.: TC126212400000266F	DATE OF REPORT : 28/03/2024
Name and Address of Customer	M/S LALITPUR POWER GENERATION COMPANY LIMITED. Village-Mirchwara and Burogaon, Tehsil-Mahroni, Lalitpur-284123 (U.P) India		

SAMPLING DETAILS

Sample Name	: Ground Water	Analysis End Date	: 21/03/2024
Analysis Start Date	: 16/03/2024	Sample ID No.	: NCL/EP-036/16/03/24
Date of Sampling	: 14/03/2024	Sample Receipt Date	: 16/03/2024
Time of Sampling	: 01:10 PM	Environmental Condition	: 25±2°C
Sampling Done By	: NCL		
Sampling Description	: Ground Water		
Sampling Location	: Hand Pump Water Collected From Near Ash Pond		
Sampling Protocol	: IS:17614 (P-1)	Sample Quantity	: 5+1 Ltr
Packing Condition	: Sealed	Packing	: PVC BOTTLE

TEST RESULT

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
1	Colour	Hazen	IS : 3025 (P-4) Clause-4	BDL(DL-1.0)	5.0	15
2	Odour	-	IS : 3025 (P-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS : 3025 (P-8)	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	IS : 3025 (P-10)	BDL(DL-1.0)	1.0	5
5	pH Value	-	IS : 3025 (P-11)	7.24	6.5-8.5	No Relaxation
6	Total Dissolved Solids	mg/L	IS : 3025 (P-16)	570	500	2000
7	Total Hardness (as CaCO3)	mg/L	IS : 3025 (P-21)	263	200	600
8	Calcium (as Ca)	mg/L	IS : 3025 (P-40)	71.4	75	200
9	Magnesium (as Mg)	mg/L	IS : 3025 (P-46) Clause-6	20.5	30	100
10	Total Alkalinity (as CaCO3)	mg/L	IS : 3025 (P-23)	264	200	600
11	Chloride (as Cl)	mg/L	IS : 3025 (P-32) Clause-2	56	250	1000
12	Nitrate (as NO3)	mg/L	IS : 3025 (P-34) Clause 3.3	BDL(DL-0.2)	45	No Relaxation
13	Nitrite (as NO2)	mg/L	IS : 3025 (P-34) Clause 4	BDL(DL-0.5)	Not Specified	Not Specified
14	Sulphate (as SO4)	mg/L	IS : 3025 (P-24) Sec-1 Clause-5	24	200	400
15	Sulphide (as H2S)	mg/L	IS : 3025 (P-29)	BDL(DL-0.01)	0.05	No Relaxation

EP-036/16/03/24-1



Checked by
Sonu Gupta
Sr. Analyst

Authorized Signatory
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES.

Authorized Signatory
Shashi Solanki
Lab Head



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TEST REPORT No. NCL/EP-036/16/03/24/A ULR No.: TC126212400000266F DATE OF REPORT : 28/03/2024

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
16	Fluoride (as F)	mg/L	APHA 4500-F-D	0.40	1.0	1.5
17	Free Residual Chlorine (as Cl ₂)	mg/L	IS : 3025 (P-26) Clause-7	BDL(DL-0.1)	0.2	1.0
18	Chloramines (as Cl ₂)	mg/L	IS : 3025 (P-26) Clause-7	BDL(DL-0.1)	4.0	No Relaxation
19	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS : 3025 (P-43) Sec-1 Clause-4	BDL(DL-0.0005)	0.001	0.002
20	Anionic Surfactant (as MBAS)	mg/L	IS : 3025 (P-68)	BDL(DL-0.1)	0.2	1.0
21	Iron (as Fe)	mg/L	IS : 3025 (P-65)	0.13	1.0	No Relaxation
22	Zinc (as Zn)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	5.0	15.0
23	Boron (as B)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.5	1.0
24	Nickel (as Ni)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.02	No Relaxation
25	Manganese (as Mn)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.1	0.3
26	Lead (as Pb)	mg/L	IS : 3025 (P-65)	BDL(DL-0.005)	0.01	No Relaxation
27	Copper (as Cu)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.05	1.5
28	Chromium (as Cr)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.05	No Relaxation
29	Aluminium (as Al)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.03	0.2
30	E. Coli	cfu/100ml	IS : 15185	Absent	Shall not be detectable in any 100 ml	Not Specified
31	Total Coliform	cfu/100ml	IS : 15185	Absent	Shall not be detectable in any 100 ml	Not Specified

End of Report

Remarks : BDL=Below Detection Limit.

EP-036/16/03/24-2



Sonu
Checked by
Sonu Gupta
Sr. Analyst

Bhavna Sharma
Authorized Signatory
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Shashi Solanki
Authorized Signatory
Shashi Solanki
Lab Head

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TEST REPORT

TEST REPORT No. NCL/EP-036/16/03/24/B		DATE OF REPORT : 28/03/2024
Name and Address of Customer	M/S LALITPUR POWER GENERATION COMPANY LIMITED, Village-Mirchwara and Burogaon, Tehsil-Mahroni, Lalitpur-284123 (U.P) India	

SAMPLING DETAILS

Sample Name	: Ground Water	Analysis End Date	: 21/03/2024
Analysis Start Date	: 16/03/2024	Sample ID No.	: NCL/EP-036/16/03/24
Date of Sampling	: 14/03/2024	Sample Receipt Date	: 16/03/2024
Time of Sampling	: 01:10 PM	Environmental Condition	: 25±2°C
Sampling Done By	: NCL		
Sampling Description	: Ground Water		
Sampling Location	: Hand Pump Water Collected From Near Ash Pond		
Sampling Protocol	: IS:17614 (P-1)	Sample Quantity	: 5+1 Ltr
Packing Condition	: Sealed	Packing	: PVC BOTTLE

TEST RESULT

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
1	Cyanide (as CN)	mg/L	IS : 3025 (P-27) Sec-1 Clause-4	BDL(DL-0.02)	0.05	No Relaxation
2	Ammonia (as total Ammonia)	mg/L	IS : 3025 (P-34) Clause 2.4	BDL(DL-0.2)	0.5	No Relaxation
3	Selenium (as Se)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.01	No Relaxation
4	Arsenic (as As)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.01	No Relaxation
5	Cadmium (as Cd)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.003	No Relaxation
6	Molybdenum (as Mo)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.07	No Relaxation
7	Silver (as Ag)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.1	No Relaxation
8	Barium (as Ba)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.7	No Relaxation
9	Mercury (as Hg)	mg/L	IS : 3025 (P-65)	BDL(DL-0.0005)	0.001	No Relaxation
10	Mineral Oil	mg/L	IS : 3025 (P-39) Clause 6	BDL(DL-0.1)	0.5	No Relaxation
11	Poly Chlorinated Biphenyls (PCB)	mg/L	APHA 6431-B	BDL(DL-0.00005)	0.0005	No Relaxation
12	Polynuclear Aromatic Hydrocarbon (PAH)	mg/L	APHA 6440	BDL(DL-0.00005)	0.0001	No Relaxation
13	Bromofom	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.1	No Relaxation

EP-036/16/03/24-1



Sonu
Checked by
Sonu Gupta
Sr. Analyst

Bhavna Sharma
Authorized Signatory
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Shashi Solanki
Authorized Signatory
Shashi Solanki
Lab Head



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Page No.: 2 of 2

TEST REPORT No. NCL/EP-036/16/03/24/B

DATE OF REPORT : 28/03/2024

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
14	Dibromochloromethane	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.1	No Relaxation
15	Bromodichloromethane	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.06	No Relaxation
16	Chloroform	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.2	No Relaxation

End of Report

Remarks : BDL=Below Detection Limit.

EP-036/16/03/24-2



Checked by
Sonu Gupta
Sr. Analyst

Authorized Signatory
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head

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Laboratory : A-1/156, Sector-17, (Swadeshi Compound) Kavi Nagar Industrial Area, GHAZIABAD - 201 002 (U.P.)

Mobile : 9810430345, 9205501788 | Website : www.newconlab.in

E-mail : newconlab@gmail.com, newconlabfinance@gmail.com



TEST REPORT

Page No.: 1 of 2

TEST REPORT No. NCL/EP-037/16/03/24/A		ULR No.: TC1262124000000264F	DATE OF REPORT : 28/03/2024
Name and Address of Customer		M/S LALITPUR POWER GENERATION COMPANY LIMITED, Village-Mirchwara and Burogaon, Tehsil-Mahroni, Lalitpur-284123 (U.P) India	

SAMPLING DETAILS

Sample Name	: Ground Water	Analysis End Date	: 21/03/2024
Analysis Start Date	: 16/03/2024	Sample ID No.	: NCL/EP-037/16/03/24
Date of Sampling	: 14/03/2024	Sample Receipt Date	: 16/03/2024
Time of Sampling	: 01:20 PM	Environmental Condition	: 25±2°C
Sampling Done By	: NCL		
Sampling Description	: Ground Water		
Sampling Location	: Hand Pump Water Collected From Village Mirchwara		
Sampling Protocol	: IS:17614 (P-1)	Sample Quantity	: 5+1 Ltr
Packing Condition	: Sealed	Packing	: PVC BOTTLE

TEST RESULT

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
1	Colour	Hazen	IS : 3025 (P-4) Clause-4	BDL(DL-1.0)	5.0	15
2	Odour	--	IS : 3025 (P-5)	Agreeable	Agreeable	Agreeable
3	Taste	--	IS : 3025 (P-8)	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	IS : 3025 (P-10)	BDL(DL-1.0)	1.0	5
5	pH Value	--	IS : 3025 (P-11)	7.32	6.5-8.5	No Relaxation
6	Total Dissolved Solids	mg/L	IS : 3025 (P-16)	546	500	2000
7	Total Hardness (as CaCO3)	mg/L	IS : 3025 (P-21)	295	200	600
8	Calcium (as Ca)	mg/L	IS : 3025 (P-40)	71.2	75	200
9	Magnesium (as Mg)	mg/L	IS : 3025 (P-46) Clause-6	26.4	30	100
10	Total Alkalinity (as CaCO3)	mg/L	IS : 3025 (P-23)	196	200	600
11	Chloride (as Cl)	mg/L	IS : 3025 (P-32) Clause-2	52	250	1000
12	Nitrate (as NO3)	mg/L	IS : 3025 (P-34) Clause 3.3	BDL(DL-0.2)	45	No Relaxation
13	Nitrite (as NO2)	mg/L	IS : 3025 (P-34) Clause 4	BDL(DL-0.5)	Not Specified	Not Specified
14	Sulphate (as SO4)	mg/L	IS : 3025 (P-24) Sec-1 Clause-5	23	200	400
15	Sulphide (as H2S)	mg/L	IS : 3025 (P-29)	BDL(DL-0.01)	0.05	No Relaxation

EP-037/16/03/24-1



Checked by
Sonu Gupta
Sr. Analyst

Authorized Signatory
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head



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E-mail : newconlab@gmail.com, newconlabfinance@gmail.com



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TEST REPORT No. NCL/EP-037/16/03/24/A

ULR No.: TC1262124000000264F

DATE OF REPORT : 28/03/2024

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
16	Fluoride (as F)	mg/L	APHA 4500-F-D	0.34	1.0	1.5
17	Free Residual Chlorine (as Cl ₂)	mg/L	IS : 3025 (P-26) Clause-7	BDL(DL-0.1)	0.2	1.0
18	Chloramines (as Cl ₂)	mg/L	IS : 3025 (P-26) Clause-7	BDL(DL-0.1)	4.0	No Relaxation
19	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS : 3025 (P-43) Sec-1 Clause-4	BDL(DL-0.0005)	0.001	0.002
20	Anionic Surfactant (as MBAS)	mg/L	IS : 3025 (P-68)	BDL(DL-0.1)	0.2	1.0
21	Iron (as Fe)	mg/L	IS : 3025 (P-65)	0.18	1.0	No Relaxation
22	Zinc (as Zn)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	5.0	15.0
23	Boron (as B)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.5	1.0
24	Nickel (as Ni)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.02	No Relaxation
25	Manganese (as Mn)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.1	0.3
26	Lead (as Pb)	mg/L	IS : 3025 (P-65)	BDL(DL-0.005)	0.01	No Relaxation
27	Copper (as Cu)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.05	1.5
28	Chromium (as Cr)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.05	No Relaxation
29	Aluminium (as Al)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.03	0.2
30	E.Coli	cfu/100ml	IS : 15185	Absent	Shall not be detectable in any 100 ml	Not Specified
31	Total Coliform	cfu/100ml	IS : 15185	Absent	Shall not be detectable in any 100 ml	Not Specified

End-of Report

Remarks : BDL=Below Detection Limit.

EP-037/16/03/24-2



Sonu
 Checked by
 Sonu Gupta
 Sr. Analyst

Bhavna
 Authorized Signatory
 Bhavna Sharma
 HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Shashi
 Authorized Signatory
 Shashi Solanki
 Lab Head

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Laboratory : A-1/156, Sector-17, (Swadeshi Compound) Kavi Nagar Industrial Area, GHAZIABAD - 201 002 (U.P.)

Mobile : 9810430345, 9205501788 | Website : www.newconlab.in

E-mail : newconlab@gmail.com, newconlabfinance@gmail.com



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TEST REPORT

Page No.: 1 of 2

TEST REPORT No. NCL/EP-037/16/03/24/B		DATE OF REPORT : 28/03/2024
Name and Address of Customer	M/S LALITPUR POWER GENERATION COMPANY LIMITED, Village-Mirchwara and Burogaon, Tehsil-Mahroni, Lalitpur-284123 (U.P) India	

SAMPLING DETAILS

Sample Name : Ground Water	Analysis End Date : 21/03/2024
Analysis Start Date : 16/03/2024	Sample ID No. : NCL/EP-037/16/03/24
Date of Sampling : 14/03/2024	Sample Receipt Date : 16/03/2024
Time of Sampling : 01:20 PM	Environmental Condition : 25±2°C
Sampling Done By : NCL	
Sampling Description : Ground Water	
Sampling Location : Hand Pump Water Collected From Village Mirchwara	
Sampling Protocol : IS:17614 (P-1)	Sample Quantity : 5+1 Ltr
Packing Condition : Sealed	Packing : PVC BOTTLE

TEST RESULT

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
1	Cyanide (as CN)	mg/L	IS : 3025 (P-27) Sec-1 Clause-4	BDL(DL-0.02)	0.05	No Relaxation
2	Ammonia (as total Ammonia)	mg/L	IS : 3025 (P-34) Clause 2.4	BDL(DL-0.2)	0.5	No Relaxation
3	Selenium (as Se)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.01	No Relaxation
4	Arsenic (as As)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.01	No Relaxation
5	Cadmium (as Cd)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.003	No Relaxation
6	Molybdenum (as Mo)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.07	No Relaxation
7	Silver (as Ag)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.1	No Relaxation
8	Barium (as Ba)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.7	No Relaxation
9	Mercury (as Hg)	mg/L	IS : 3025 (P-65)	BDL(DL-0.0005)	0.001	No Relaxation
10	Mineral Oil	mg/L	IS : 3025 (P-39) Clause 6	BDL(DL-0.1)	0.5	No Relaxation
11	Poly Chlorinated Biphenyls (PCB)	mg/L	APHA 6431 B	BDL(DL-0.00005)	0.0005	No Relaxation
12	Polynuclear Aromatic Hydrocarbon (PAH)	mg/L	APHA 6440	BDL(DL-0.00005)	0.0001	No Relaxation
13	Bromofom	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.1	No Relaxation

EP-037/16/03/24-1



Checked by
Sonu Gupta
Sr. Analyst

Authorized Signatory
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head



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Mobile : 9810430345, 9205501788 | Website : www.newconlab.in

E-mail : newconlab@gmail.com, newconlabfinance@gmail.com



TEST REPORT No. NCL/EP-037/16/03/24/B

DATE OF REPORT : 28/03/2024

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
14	Dibromochloromethane	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.1	No Relaxation
15	Bromodichloromethane	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.06	No Relaxation
16	Chloroform	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.2	No Relaxation

End of Report

Remarks : BDL=Below Detection Limit.

EP-037/16/03/24-2



Sonu
Checked by
Sonu Gupta
Sr. Analyst

Bhavna Sharma
Authorized Signatory
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES
Shashi Solanki
Authorized Signatory
Shashi Solanki
Lab Head

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TEST REPORT

TEST REPORT No. NCL/EP-038/16/03/24/A		ULR No. :TC126212400000265F	DATE OF REPORT :28/03/2024
Name and Address of Customer	M/S LALITPUR POWER GENERATION COMPANY LIMITED. Village-Mirchwara and Burogaon, Tehsil-Mahroni, Lalitpur-284123 (U.P) India		

SAMPLING DETAILS

Sample Name	: Ground Water	Analysis End Date	: 21/03/2024
Analysis Start Date	: 16/03/2024	Sample ID No.	: NCL/EP-038/16/03/24
Date of Sampling	: 14/03/2024	Sample Receipt Date	: 16/03/2024
Time of Sampling	: 01:30 PM	Environmental Condition	: 25±2°C
Sampling Done By	: NCL	Sample Quantity	: 5+1 Ltr
Sampling Description	: Ground Water	Packing	: PVC BOTTLE
Sampling Location	: Hand Pump Water Near Railway Station		
Sampling Protocol	: IS:17614 (P-1)		
Packing Condition	: Sealed		

TEST RESULT

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
1	Colour	Hazen	IS : 3025 (P-4) Clause-4	BDL(DL-1.0)	5.0	15
2	Odour	--	IS : 3025 (P-5)	Agreeable	Agreeable	Agreeable
3	Taste	--	IS : 3025 (P-8)	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	IS : 3025 (P-10)	BDL(DL-1.0)	1.0	5
5	pH Value	--	IS : 3025 (P-11)	7.45	6.5-8.5	No Relaxation
6	Total Dissolved Solids	mg/L	IS : 3025 (P-16)	462	500	2000
7	Total Hardness (as CaCO3)	mg/L	IS : 3025 (P-21)	271	200	600
8	Calcium (as Ca)	mg/L	IS : 3025 (P-40)	73	75	200
9	Magnesium (as Mg)	mg/L	IS : 3025 (P-46) Clause-6	21.5	30	100
10	Total Alkalinity (as CaCO3)	mg/L	IS : 3025 (P-23)	198	200	600
11	Chloride (as Cl)	mg/L	IS : 3025 (P-32) Clause-2	70	250	1000
12	Nitrate (as NO3)	mg/L	IS : 3025 (P-34) Clause 3.3	BDL(DL-0.2)	45	No Relaxation
13	Nitrite (as NO2)	mg/L	IS : 3025 (P-34) Clause 4	BDL(DL-0.5)	Not Specified	Not Specified
14	Sulphate (as SO4)	mg/L	IS : 3025 (P-24) Sec-1 Clause-5	BDL(DL-2.0)	200	400
15	Sulphide (as H2S)	mg/L	IS : 3025 (P-29)	BDL(DL-0.01)	0.05	No Relaxation

EP-038/16/03/24-1



Sonu
Checked by
 Sonu Gupta
 Sr. Analyst

Bhavna Sharma
Authorized Signatory
 Bhavna Sharma
 HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Shashi Solanki
Authorized Signatory
 Shashi Solanki
 Lab Head

NCL/018264/22

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TEST REPORT No. NCL/EP-038/16/03/24/A ULR No.:TC126212400000265F DATE OF REPORT : 28/03/2024

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
16	Fluoride (as F)	mg/L	APHA 4500-F-D	0.47	1.0	1.5
17	Free Residual Chlorine (as Cl ₂)	mg/L	IS : 3025 (P-26) Clause-7	BDL(DL-0.1)	0.2	1.0
18	Chloramines (as Cl ₂)	mg/L	IS : 3025 (P-26) Clause-7	BDL(DL-0.1)	4.0	No Relaxation
19	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS : 3025 (P-43) Sec-1 Clause-4	BDL(DL-0.0005)	0.001	0.002
20	Anionic Surfactant (as MBAS)	mg/L	IS : 3025 (P-68)	BDL(DL-0.1)	0.2	1.0
21	Iron (as Fe)	mg/L	IS : 3025 (P-65)	0.16	1.0	No Relaxation
22	Zinc (as Zn)	mg/L	IS : 3025 (P-65)	0.14	5.0	15.0
23	Boron (as B)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.5	1.0
24	Nickel (as Ni)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.02	No Relaxation
25	Manganese (as Mn)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.1	0.3
26	Lead (as Pb)	mg/L	IS : 3025 (P-65)	BDL(DL-0.005)	0.01	No Relaxation
27	Copper (as Cu)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.05	1.5
28	Chromium (as Cr)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.05	No Relaxation
29	Aluminium (as Al)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.03	0.2
30	E.Coli	cfu/100ml	IS : 15185	Absent	Shall not be detectable in any 100 ml	Not Specified
31	Total Coliform	cfu/100ml	IS : 15185	Absent	Shall not be detectable in any 100 ml	Not Specified

End of Report

Remarks : BDL-Below Detection Limit.

EP-038/16/03/24-2



Checked by
Sonu
Sonu Gupta
Sr. Analyst

Authorized Signatory
Bhavna Sharma
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Shashi Solanki
Lab Head

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TEST REPORT

Page No.: 1 of 2

TEST REPORT No. NCL/EP-038/16/03/24/B		DATE OF REPORT : 28/03/2024
Name and Address of Customer	M/S LALITPUR POWER GENERATION COMPANY LIMITED. Village-Mirchwara and Burogaon, Tehsil-Mahroni, Lalitpur-284123 (U.P) India	

SAMPLING DETAILS

Sample Name	: Ground Water	Analysis End Date	: 21/03/2024
Analysis Start Date	: 16/03/2024	Sample ID No.	: NCL/EP-038/16/03/24
Date of Sampling	: 14/03/2024	Sample Receipt Date	: 16/03/2024
Time of Sampling	: 01:30 PM	Environmental Condition	: 25±2°C
Sampling Done By	: NCL		
Sampling Description	: Ground Water		
Sampling Location	: Hand Pump Water Near Railway Station		
Sampling Protocol	: IS:17614 (P-1)	Sample Quantity	: 5+1 Ltr
Packing Condition	: Sealed	Packing	: PVC BOTTLE

TEST RESULT

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
1	Cyanide (as CN)	mg/L	IS : 3025 (P-27) Sec-1 Clause-4	BDL(DL-0.02)	0.05	No Relaxation
2	Ammonia (as total Ammonia)	mg/L	IS : 3025 (P-34) Clause 2.4	BDL(DL-0.2)	0.5	No Relaxation
3	Selenium (as Se)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.01	No Relaxation
4	Arsenic (as As)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.01	No Relaxation
5	Cadmium (as Cd)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.003	No Relaxation
6	Molybdenum (as Mo)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.07	No Relaxation
7	Silver (as Ag)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.1	No Relaxation
8	Barium (as Ba)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.7	No Relaxation
9	Mercury (as Hg)	mg/L	IS : 3025 (P-65)	BDL(DL-0.0005)	0.001	No Relaxation
10	Mineral Oil	mg/L	IS : 3025 (P-39) Clause 6	BDL(DL-0.1)	0.5	No Relaxation
11	Poly Chlorinated Biphenyls (PCB)	mg/L	APHA 6431 B	BDL(DL-0.00005)	0.0005	No Relaxation
12	Polynuclear Aromatic Hydrocarbon (PAH)	mg/L	APHA 6440	BDL(DL-0.00005)	0.0001	No Relaxation
13	Bromoform	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.1	No Relaxation

EP-038/16/03/24-1



Checked by
Sonu Gupta
Sr. Analyst

Authorized Signatory
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head



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TEST REPORT No. NCL/EP-038/16/03/24/B

DATE OF REPORT : 28/03/2024

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
14	Dibromochloromethane	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.1	No Relaxation
15	Bromodichloromethane	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.06	No Relaxation
16	Chloroform	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.2	No Relaxation

End of Report

Remarks : -BDL=3clow Detection Limit.

EP-038/16/03/24-2



Checked by
Soni Gupta
Sr. Analyst

Authorized Signatory
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head

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TEST REPORT

TEST REPORT No. NCL/EP-039/16/03/24/A		ULR No.: TC1262124000000267F	DATE OF REPORT : 28/03/2024
Name and Address of Customer	M/S LALITPUR POWER GENERATION COMPANY LIMITED. Village-Mirchwara and Burogaon, Tehsil-Mahroni, Lalitpur-284123 (U.P) India		

SAMPLING DETAILS

Sample Name	: Ground Water	Analysis End Date	: 21/03/2024
Analysis Start Date	: 16/03/2024	Sample ID No.	: NCL/EP-039/16/03/24
Date of Sampling	: 14/03/2024	Sample Receipt Date	: 16/03/2024
Time of Sampling	: 01:40 PM	Environmental Condition	: 25±2°C
Sampling Done By	: NCL		
Sampling Description	: Ground Water		
Sampling Location	: Hand Pump Water Collected From Semara Village		
Sampling Protocol	: IS:17614 (P-1)	Sample Quantity	: 5+1 Ltr
Packing Condition	: Sealed	Packing	: PVC BOTTLE

TEST RESULT

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
1.	Colour	Hazen	IS : 3025 (P-4) Clause-4	BDL(DL-1.0)	5.0	15
2.	Odour	--	IS : 3025 (P-5)	Agreeable	Agreeable	Agreeable
3.	Taste	--	IS : 3025 (P-8)	Agreeable	Agreeable	Agreeable
4.	Turbidity	NTU	IS : 3025 (P-10)	BDL(DL-1.0)	1.0	5
5.	pH Value	--	IS : 3025 (P-11)	7.35	6.5-8.5	No Relaxation
6.	Total Dissolved Solids	mg/L	IS : 3025 (P-16)	620	500	2000
7.	Total Hardness (as CaCO3)	mg/L	IS : 3025 (P-21)	331	200	600
8.	Calcium (as Ca)	mg/L	IS : 3025 (P-40)	90.6	75	200
9.	Magnesium (as Mg)	mg/L	IS : 3025 (P-46) Clause-6	25.3	30	100
10.	Total Alkalinity (as CaCO3)	mg/L	IS : 3025 (P-23)	274	200	600
11.	Chloride (as Cl)	mg/L	IS : 3025 (P-32) Clause-2	80	250	1000
12.	Nitrate (as NO3)	mg/L	IS : 3025 (P-34) Clause 3.3	BDL(DL-0.2)	45	No Relaxation
13.	Nitrite (as NO2)	mg/L	IS : 3025 (P-34) Clause 4	BDL(DL-0.5)	Not Specified	Not Specified
14.	Sulphate (as SO4)	mg/L	IS : 3025 (P-24) Sec-1 Clause-5	26	200	400
15.	Sulphide (as H2S)	mg/L	IS : 3025 (P-29)	BDL(DL-0.01)	0.05	No Relaxation

EP-039/16/03/24-1



Checked by
Sonu Gupta
Sonu Gupta
Sr. Analyst

Authorized Signatory
Bhavna Sharma
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Shashi Solanki
Lab Head



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Page No.: 2 of 2

TEST REPORT No. NCL/EP-039/16/03/24/A ULR No.:TC1262124000000267F DATE OF REPORT : 28/03/2024

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
16	Fluoride (as F)	mg/L	APHA 4500-F-D	0.45	1.0	1.5
17	Free Residual Chlorine (as Cl ₂)	mg/L	IS : 3025 (P-26) Clause-7	BDL(DL-0.1)	0.2	1.0
18	Chloramines (as Cl ₂)	mg/L	IS : 3025 (P-26) Clause-7	BDL(DL-0.1)	4.0	No Relaxation
19	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS : 3025 (P-43) Sec-1 Clause-4	BDL(DL-0.0005)	0.001	0.002
20	Anionic Surfactant (as MBAS)	mg/L	IS : 3025 (P-68)	BDL(DL-0.1)	0.2	1.0
21	Iron (as Fe)	mg/L	IS : 3025 (P-65)	0.15	1.0	No Relaxation
22	Zinc (as Zn)	mg/L	IS : 3025 (P-65)	0.12	5.0	15.0
23	Boron (as B)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.5	1.0
24	Nickel (as Ni)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.02	No Relaxation
25	Manganese (as Mn)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.1	0.3
26	Lead (as Pb)	mg/L	IS : 3025 (P-65)	BDL(DL-0.005)	0.01	No Relaxation
27	Copper (as Cu)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.05	1.5
28	Chromium (as Cr)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.05	No Relaxation
29	Aluminium (as Al)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.03	0.2
30	E.Coli	cfu/100ml	IS : 15185	Absent	Shall not be detectable in any 100 ml	Not Specified
31	Total Coliform	cfu/100ml	IS : 15185	Absent	Shall not be detectable in any 100 ml	Not Specified

End of Report

Remarks : BDL=Below Detection Limit.

EP-039/16/03/24-2



Checked by
Sonu Gupta
Sr. Analyst

Authorized Signatory
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head

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TEST REPORT

Page No.: 1 of 2

TEST REPORT No. NCL/EP-039/16/03/24/B		DATE OF REPORT : 28/03/2024
Name and Address of Customer	M/S LALITPUR POWER GENERATION COMPANY LIMITED. Village-Mirchwara and Burogaon, Tehsil-Mahroni, Lalitpur-284123 (U.P) India	

SAMPLING DETAILS

Sample Name	: Ground Water	Analysis End Date	: 21/03/2024
Analysis Start Date	: 16/03/2024	Sample ID No.	: NCL/EP-039/16/03/24
Date of Sampling	: 14/03/2024	Sample Receipt Date	: 16/03/2024
Time of Sampling	: 01:40 PM	Environmental Condition	: 25±2°C
Sampling Done By	: NCL	Sample Quantity	: 5+1 Ltr
Sampling Description	: Ground Water	Packing	: PVC BOTTLE
Sampling Location	: Hand Pump Water Collected From Semara Village		
Sampling Protocol	: IS:17614 (P-1)		
Packing Condition	: Sealed		

TEST RESULT

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
1	Cyanide (as CN)	mg/L	IS : 3025 (P-27) Sec-1 Clause-4	BDL(DL-0.02)	0.05	No Relaxation
2	Ammonia (as total Ammonia)	mg/L	IS : 3025 (P-34) Clause 2.4	BDL(DL-0.2)	0.5	No Relaxation
3	Selenium (as Se)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.01	No Relaxation
4	Arsenic (as As)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.01	No Relaxation
5	Cadmium (as Cd)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.003	No Relaxation
6	Molybdenum (as Mo)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.07	No Relaxation
7	Silver (as Ag)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.1	No Relaxation
8	Barium (as Ba)	mg/L	IS : 3025 (P-65)	BDL(DL-0.001)	0.7	No Relaxation
9	Mercury (as Hg)	mg/L	IS : 3025 (P-65)	BDL(DL-0.0005)	0.001	No Relaxation
10	Mineral Oil	mg/L	IS : 3025 (P-39) Clause 6	BDL(DL-0.1)	0.5	No Relaxation
11	Poly Chlorinated Biphenyls (PCB)	mg/L	APHA 6431 B	BDL(DL-0.0000 5)	0.0005	No Relaxation
12	Polynuclear Aromatic Hydrocarbon (PAH)	mg/L	APHA 6440	BDL(DL-0.0000 5)	0.0001	No Relaxation
13	Bromoform	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.1	No Relaxation

EP-039/16/03/24-1



Checked by
Sonu Gupta
Sr. Analyst

Bhavna Sharma
Authorized Signatory
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Shashi Solanki
Authorized Signatory
Shashi Solanki
Lab Head

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Newcon Consultants & Laboratories

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(GOVERNMENT APPROVED TESTING LABORATORIES)

An ISO 9001 : 2015, ISO 14001 : 2015, ISO 45001 : 2018 Certified Laboratory

Page No.: 2 of 2

TEST REPORT No. NCL/EP-039/16/03/24/B

DATE OF REPORT : 28/03/2024

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
14	Dibromochloromethane	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.1	No Relaxation
15	Bromodichloromethane	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.06	No Relaxation
16	Chloroform	mg/L	NCL/SOP/INST/112	BDL(DL-0.01)	0.2	No Relaxation

End of Report

Remarks : BDL=Below Detection Limit.

EP-039/16/03/24-2



Checked by
Sonu Gupta
Sr. Analyst

Authorized Signatory
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head

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5. The report is not to be produced wholly or in part without prior permission of the Managing Partner. All disputes subject to Ghaziabad Jurisdiction.

Laboratory : A-1/158, Sector-17, (Swadeshi Compound) Kavi Nagar Industrial Area, GHAZIABAD - 201 002 (U.P.)

Mobile : 9810430345, 9205501788 | Website : www.newconlab.in

E-mail : newconlab@gmail.com, newconlabfinance@gmail.com

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ANNEXURE-R-41

कार्यालय – मुख्य चिकित्सा अधिकारी, ललितपुर

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पत्रांक : मु0चि0अ0 / बजाज इनर्जी / 2024-25 / 2535 दिनांक 02.08.24

प्रबंधक / निदेशक

ललितपुर पॉवर जनरेशन कम्पनी लि0,
(बजाज इनर्जी) ललितपुर उ0प्र0

विषय : ललितपुर पॉवर जनरेशन कम्पनी लि0, बार ललितपुर के संचालन द्वारा व्यवसायिक बीमारी की सूचना के सम्बंध में।


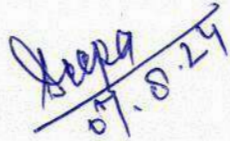
उपरोक्त विषयक आपके पत्र दिनांक 16.07.2024 के क्रम में चिकित्सा अधीक्षक सामु0स्वा0 केन्द्र बार ललितपुर की आख्या दिनांक 31.07.2024 के द्वारा अवगत कराया गया है कि उक्त कम्पनी के संचालन से विगत 06 माह में किसी प्रकार की कोई व्यवसायिक बीमारी की सूचना प्राप्त नहीं हुई है, और न ही इस प्रकार का कोई मरीज संज्ञान में आया है।


मुख्य चिकित्सा अधिकारी
ललितपुर

पत्रांक : मु0चि0अ0 / बजाज इनर्जी / 2024-25 /

तददिनांक

प्रतिलिपि : जिलाधिकारी महोदय, ललितपुर को सादर अवलोकनार्थ प्रेषित।


मुख्य चिकित्सा अधिकारी
ललितपुर
07.08.24

ANNEXURE-R-42

प्रेषक,

चिकित्सा अधीक्षक
सामुदायिक स्वास्थ्य केन्द्र, बार
जनपद ललितपुर।

सेवा में,

मुख्य चिकित्सा अधिकारी
जनपद ललितपुर।

पत्रांक: चि0अधी0 / संकामण / रोग / सूचना / 2024-25 /

दिनांक: 31-07-2024

विषय: ललितपुर पावर जनरेशन कम्पनी लिमिटेड द्वारा संकामक रोग न होने के सम्बन्ध में।

महोदय,

आपको अवगत कराना है कि आपके द्वारा चाही गयी सूचना जो कि सामुदायिक स्वास्थ्य केन्द्र, बार के बाह्यरोग विभाग या इमरजेन्सी पिछली 6 माह में कोई भी ललितपुर पावर जनरेशन कम्पनी लिमिटेड द्वारा उत्सर्जित प्रदूषण सम्बंधित बीमारी (Pneumococcal Disease Health Hazard) नहीं आयी है।

इससे यह प्रतीत होता है कि कम्पनी द्वारा क्षेत्र में (Pneumococcal Disease Health Hazard) नहीं फैली है।

भवदीय

NK
चिकित्सा अधीक्षक
सामुदायिक स्वास्थ्य केन्द्र, बार
जनपद ललितपुर

2024
31/07/24

Deep

कार्यालय- जिला कृषि अधिकारी, ललितपुर
पत्रांक 161 /बी-1/कृषि/सामान्य/2024-25/ दिनांक- 22 जुलाई 2024

ललितपुर पावर जनरेशन,
कम्पनी लिमिटेड ललितपुर।(बजाज इनर्जी)

कृपया आपके पत्र सं०-LPGCL/Dist./Agri/ 24 दिनांक-16.07.2024 के क्रम में अवगत कराना है कि विगत तीन-चार वर्षों से ग्राम- बुरोगाँव विकास खण्ड बार में स्थित ललितपुर पावर जनरेशन कम्पनी लिमिटेड ललितपुर (बजाज इनर्जी) से फसलों के नुकसान/कुप्रभाव पड़ने की कोई शिकायत प्राप्त नहीं हुई है।

(राजीव कुमार भारती)
जिला कृषि अधिकारी
ललितपुर।

पत्रांक- /दिनांक उक्त।

प्रतिलिपि:-1- जिलाधिकारी महोदय, ललितपुर की सेवा में सादर अवलोकनार्थ प्रेषित।

जिला कृषि अधिकारी,
ललितपुर।

Deepa
07.8.24

कार्यालय मुख्य पशु चिकित्साधिकारी, ललितपुर।

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पत्रांक 782 वी-5/पशुधन/वर्ष 2024-25

दिनांक 19.07.2024

ललितपुर पावर
जनरेशन कम्पनी लिमिटेड
(बजाज इनर्जी)

आपके पत्र सं० LPGCL/Dist/Vet/24 दिनांक 16.07.2023 के क्रम में अवगत कराना है कि विगत वर्षों में वि०ख० बार में स्थित ललितपुर पावर जनरेशन कम्पनी लिमिटेड (बजाज इनर्जी) से निकली Waste Product Ash आदि से पालतू पशुओं में किसी भी प्रकार की बीमारी या पशुओं के स्वास्थ्य पर किसी भी प्रकार के प्रतिकूल प्रभाव की कोई सूचना प्राप्त नहीं हुई है।

Ally
19-07-24

(डा० देवेन्द्र पाल सिंह)
मुख्य पशु चिकित्साधिकारी
ललितपुर (३०३०)

पत्रांक 782/उक्त दिनांकित

प्रतिलिपि— निम्न लिखित की सेवा में सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

1- जिलाधिकारी महोदय ललितपुर, की सेवा में सादर अवलोकनार्थ।

मुख्य पशु चिकित्साधिकारी,
ललितपुर।

कार्यालय सहायक निदेशक मत्स्य, ललितपुर ।

पत्रांक 144 / विविध पत्रा0 / 2024-25

दिनांक 19 जुलाई, 2024

ललितपुर पावर जनरेशन,
कम्पनी लिमिटेड, ललितपुर
(बजाज इनर्जी)

विषय :- ललितपुर पावर जनरेशन कम्पनी के संचालन से मछलियों के स्वास्थ्य पर कोई
कुप्रभाव न पड़ने के सम्बन्ध में ।

महोदय,

उपरोक्त विषयक आपके पत्र दिनांक 16.07.2024 के कम में अवगत कराना है कि
विगत तीन चार वर्षों से विकास खण्डवार बार में स्थित ललितपुर पावर जनरेशन कम्पनी
लिमिटेड, ललितपुर (बजाज इनर्जी) से पालतू मछलियों में कोई भी व्यवसायिक बीमारी की
सूचना प्राप्त नहीं हुई है ।


सहायक निदेशक मत्स्य,
ललितपुर

पत्रांक / विविध पत्रा0 / 2024-25

दिनांक 19 जुलाई, 2024

1- जिलाधिकारी, ललितपुर महोदय की सेवा में सादर सूचनार्थ प्रेषित ।


Deepa

सहायक निदेशक मत्स्य,
ललितपुर

ANNEXURE-R-46

सेवा में,

श्रीमान् क्षेत्रीय अधिकारी

क्षेत्रीय कार्यालय उ.प्र.

प्रदूषण नियंत्रण बोर्ड

डॉ.सी-284401

विषय:- ललितपुर पाँवर जनरेशन कम्पनी लि. द्वारा जनित ऐश को प्रार्थीगणों की अनसपजाउ अनासपयुक्त एवं गड़ढा युक्त भूमि में डालकर कृषि योग्य भूमि बनाने के संदर्भ में-

महोदय

आपसे सविनय निवेदन है कि हम सभी प्रार्थीगण ग्राम कुन्वारा के निवासी हैं। उक्त ग्राम में अवस्थित भूमि अनसपजाउ अनसपयुक्त एवं गड़ढा युक्त है हम सभी प्रार्थीगण अपनी भूमि को कृषि योग्य बनाना चाहते हैं जिसके लिए ललितपुर पावर जनरेशन कम्पनी लिमिटेड द्वारा जनित राख द्वारा उक्त भूमि में स्थित गड़ढों का भराव कराकर उसके उपरी सतह में मिट्टी डालकर खेती योग्य बनाना चाहते हैं।

अतः आपसे विनम्र अनुरोध है कि कृपया ललितपुर पाँवर जनरेशन कम्पनी आदेशित कर उपरोक्त कार्य उपरोक्त कार्य को करवाने का कष्ट करें।

आपकी महान दया होगी।

प्रार्थीगण

शिवशर्मा

मे ११

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2 ANNEXURE-R-47

INDIA NON JUDICIAL



Government of Uttar Pradesh



IN-UP27143498680442W

298

e-Stamp

ललितपुर

visited by
Sh. Anil Singh
(Small site)



Certificate No.	: IN-UP27143498680442W
Certificate Issued Date	: 18-Apr-2024 04:00 PM
Account Reference	: NEWIMPACC (SV) up14518104/ LALITPUR SADAIN/ UP-LTP
Unique Doc. Reference	: SUBIN-UPUP1451810450463578343509W
Purchased by	: ASHTECH IND PVT PTD LPGCL LALITPUR
Description of Document	: Article 4 Affidavit
Property Description	: Not Applicable
Consideration Price (Rs.)	:
First Party	: ASHTECH IND PVT PTD LPGCL LALITPUR
Second Party	: Not Applicable
Stamp Duty Paid By	: ASHTECH IND PVT PTD LPGCL LALITPUR
Stamp Duty Amount(Rs.)	: 10 (Ten only)



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अनुबन्ध-पत्र

यह कि मैं एसो टेकॉन सिस्टम प्रा. लि. पुत्र श्री ललितपुर अधिकृत प्रतिनिधि ललितपुर पावर जनरेशन कम्पनी लिमिटेड, ग्राम बुरौगाँव गिर्चवारा, जगपद-ललितपुर जो कि हम अनुबन्ध पत्र में प्रथम पक्ष के रूप में तथा श्री शिवपसाव पुत्र श्री देवप्रताप निवारी ग्राम दिलवाड़ा आराजी सो. 02/02/1408 को द्वितीय पक्ष के रूप में दर्शाया गया है दोनों पक्ष के मध्य गाँव सो. 66/0447 (कमरा:.....2 पर)

शिवपसाव

Stamp Duty

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आज दिनोंक 01/05/24 को ललितपुर पावर जनरेशन कम्पनी लिमिटेड ललितपुर से निकालने वाली राख (कोलरेश) के निस्तारण के सम्बन्ध में यह अनुबन्ध पत्र निम्नलिखित शर्तों के आधार पर उभयपक्षों के मध्य लिखा जा रहा है।

1. यह कि प्रथम पक्ष द्वारा जो राख द्वितीय पक्ष की अकृषक भूमि में डाली जायेगी उसके परिवहन का खर्च प्रथम पक्ष द्वारा वहन किया जायेगा।
2. यह कि प्रथम पक्ष द्वारा द्वितीय पक्ष की भूमि पर राख भूमि की सतह के बराबर तक डाली जायेगी।
3. यह कि प्रथम पक्ष द्वारा द्वितीय पक्ष से राख का कोई मूल्य नहीं लिया जायेगा।
4. यह कि प्रथम पक्ष द्वारा द्वितीय पक्ष को दी गयी राख का कोई वाणिज्यिक उपयोग नहीं किया जायेगा तथा राख को केवल भूमि के समतलीकरण के उपयोग में लाया जायेगा।
5. यह कि उभयपक्ष आपसी विवाद की स्थिति में दो माह का नोटिस देकर करार को समाप्त कर सकते हैं।

अतः आज दिनोंक 01/05/24 को दोनों पक्षों के मध्य सोच-समझकर यह अनुबन्ध पत्र निम्नादित किया गया ताकि समझ रहे और वक्त जरूरत पर काम आवे।



प्रथम पक्ष

Ashish Endia (Sd/-)

अधिकृत प्रतिनिधि

कृते, ललितपुर पावर जनरेशन कं. लि.

ललितपुर

ग्राम- बुरीगाँव- मिर्चनारा

गवाह-

1-

2-



द्वितीय पक्ष शिवप्रसाह

नाम- देवप्रसाह

पिता का नाम- देवप्रसाह

पता- मुवा. 4, गवाह

गवाह-

1-

2-

केर गशिह

कुशधालिह

शिवप्रसाह

ANNEXURE-R-48**प्रमाण पत्र**

प्रमाणित किया जाता है। कि श्री विश्वप्रसाद
 पिता/पति श्री देवप्रसाद जाति शाहू
 ग्राम हेलवारा पोस्ट कानपुर जिला कानपुर
 उ.प्र. के मूल निवासी हैं। मैं इन्हें भली-भांति जानता हूँ। इनका खसरा
 नम्बर/खतौनी नम्बर 020/02/14/08 है। जिसके अन्दर ये पॉवर प्लान्ट
 की राख अपने गढदों को भरवाकर के उसके उपर मिट्टी डलवाकर खेती
 योग्य बनवाना चाहते हैं। इसमें ग्राम प्रधान और ग्रामवासियों को किसी भी
 प्रकार की आप्पती नहीं है। ग्रामवासियों के द्वारा कोई भी कार्यवाही की
 जाये तो झूठ मानी जायेगी।

ग्राम प्रधान



उद्धरण खतौनी (अप्रमाणित प्रति)

03/May/2024 12:12:24

ग्राम क्रमांक : 153351 ग्राम का नाम (रजिस्ट्रार) : कैलाशपुर (कानुंग) तहसील : खतौनी जनपद : सातवाड़ा फसली वर्ष : 1428-1431 (01 जुलाई, 2018 से 30 जून, 2024) भाग : 1 (1) खाला संख्या : 00102

						8)	8)
						1/10	0.4478
							4.4770

कुल गटे- एक कुल क्षेत्रफल- चार दशमलव चार सठ सत्रा सत्र (द्विचतुष्टय) कुल मूल्य-सूच्य- सूच्य दशमलव सूच्य सूच्य सूच्य कुल अंश का क्षेत्रफल - चार दशमलव चार सठ सत्रा सत्र (द्विचतुष्टय)

नामांतरण / परिवर्तन का विवरण	धारित किया गया			द्वारा किया गया		
(10) नयाप्राप्त का नाम / सम्पत्तीकृत वाह संख्या अथवा अर्द्धांश संख्या / अर्द्धांश का दिनांक / नामांतरण का अर्द्धांश / डिजिटल हस्ताक्षर नाम (पर नाम) / डिजिटल हस्ताक्षर दिनांक	(11) नामांतरण-पति-संरक्षक-प्रबंधक का नाम / जाति कोड / अध्या- नं० (अंतिम चार अंक) अथवा पैन नं० (6-9 स्थान के अंक) / पता / सम्पत्ति (अवसक हेतु)	(12) गटे का खसरा नम्बर / वृत्तिक कोड	(13) खसरा नम्बर (हेतु)	(14) नामांतरण-पति-संरक्षक-प्रबंधक का नाम / जाति कोड / अध्या नं० (अंतिम चार अंक) अथवा पैन नं० (6-9 स्थान के अंक) / पता / सम्पत्ति (अवसक हेतु)	(15) गटे का खसरा नम्बर / वृत्तिक कोड	(16) खसरा नम्बर (हेतु)

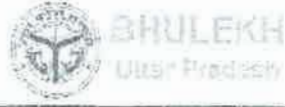
(17) भूमि के सन्दर्भ में विचारणीय गणना का यह की सम्पत्तीकृत संख्या :

(18.1) बंधक/संरक्षक-मुक्त होने की स्थिति (संस्था अथवा बैंक का नाम/कोड/बंधक का दिनांक/धनपत्री/अर्द्धांश संख्या/खसरा/पिता-पति-संरक्षक) :

(18.2) बंधक-मुक्त होने की स्थिति (संस्था अथवा बैंक का नाम/कोड/बंधक-मुक्त का दिनांक/धनपत्री/अर्द्धांश संख्या/खसरा/पिता-पति-संरक्षक) :

- (19) अपवृत्ति :
- 1) 1412 क-अर्द्धांश आदेश - पी एन वी गुजरात ने देखापत तन्ना रंधीर नि० कैलाशपुर की भूमि बंधक की जाती है 01/08/2018 के 10-6-05 (डिजिटल हस्ताक्षर : HARI SHANKAR (REGISTRAR KANUNGO)/30-11-2018)
 - 2) 1424 क- अर्द्धांश आदेश प्र० पी०एन०बी० शाखा बिल्ला में खसरा निरन की भूमि बंधक । ह०अ०के०दि० 27.3.17 (डिजिटल हस्ताक्षर : HARI SHANKAR (REGISTRAR KANUNGO)/30-11-2018)
 - 3) 1424 क- अर्द्धांश आदेश प्र० पी०एन०बी० शाखा बिल्ला में खसरा निरन प्रेमनारायण की भूमि बंधक । ह०अ०के०दि० 27.3.17 (डिजिटल हस्ताक्षर : HARI SHANKAR (REGISTRAR KANUNGO)/30-11-2018)
 - 4) 1424 क- अर्द्धांश आदेश प्र० पी०एन०बी० शाखा बिल्ला में खसरा निरन सिवप्रसाद की भूमि बंधक । ह०अ०के०दि० 27.3.17 (डिजिटल हस्ताक्षर : HARI SHANKAR (REGISTRAR KANUNGO)/30-11-2018)
 - 5) 1426 क- अर्द्धांश आदेश प्र० पी०एन०बी० बैंक शाखा बिल्ला में खसरा निरन अर्द्धांश की भूमि प्र० 56000 रु में बंधक । ह०अ०के०दि० 17.7.18 (डिजिटल हस्ताक्षर : HARI SHANKAR (REGISTRAR KANUNGO)/30-11-2018)
 - 6) 1426 क- अर्द्धांश आदेश प्र० पी०एन०बी० बैंक शाखा बिल्ला में खसरा निरन अर्द्धांश की भूमि प्र० 155000 रु में बंधक । ह०अ०के०दि० 17.7.18 (डिजिटल हस्ताक्षर : HARI SHANKAR (REGISTRAR KANUNGO)/30-11-2018)

पूर्व अर्द्धांश का विवरण
 1) 1428 क-अर्द्धांश आदेश प्र० पी०एन०बी० शाखा बिल्ला में खसरा निरन अर्द्धांश की भूमि प्र० 20206 15700863000081/05.08.2020 के अर्द्धांश आदेश नैका देवचंद्र के खसरा नं०-102 या से मूलक विवाहानी का नाम निरन कर वारिस निरन व शिवप्रसाद व प्रेमनारायण व सिवप्रसाद व निरन अर्द्धांश पत्री भगवानदास सुभेन्द्र व अर्द्धांश प्रमाण भगवानदास सिद्धलाल का नाम निरन अर्द्धांश दर्ज हो। ह०अ०के०दि० 10.08.2020



Hindi

उद्धरण खतौनी (अप्रमाणित प्रति)

03/May/2024 12:12:24

ग्राम क्रमांक : 153351 ग्राम का नाम (अंग्रेजी) : देवनाग (बानसपुर) तहसील : महौली जिल्ला : राधिकापुर पत्तली नं. : 1428-1431 (01 जुलाई, 2018 से 30 जून, 2024) पन्ना : 1 (1) खता संख्या : 00102

श्रेणी : 1-क / भूमि जो संरक्षणीय भूमिगतों के अन्तर्गत में हो:

खतौनी का विवरण		खतौनी प्रारम्भ होने का विवरण		भूमि का विवरण		खतौनी का अर्थ		
खतौनी/गाँव/संख्या	(2) नाम/पिता-पुत्री-संरक्षक-संरक्षक का नाम / खतौनी कोड / संख्या नं० (अन्तिम चार अंक) अथवा पैन नं० (6-8 स्थान के अंक) / पता / जन्मदिनि (अवश्यक है)	(3) न्यायालय का नाम / कानून/कानून वाद संख्या अथवा अपील संख्या / अर्जेंट का दिनांक / नोट का अर्थ	(4) वर्ष	(5) खतौनी (प्लॉट कोड)	(6) गाँव का कुल क्षेत्रफल(हे०)	(7) हिस्से नं०	(8) क्षेत्रफल मे(हे०)	(9) आरक्षण द्वारा देय भू-राजस्व
661	1) अकेला ना0का0उत्तर 12साला/ भगवानदास संर०जयन्ती मॉ/नि. ग्राम 2) निरन्देशपत/नि. ग्राम 3) सुन्दर ना0का0उत्तर 17साला/ भगवानदास संर०जयन्ती मॉ/नि. ग्राम 4) प्रेरणापान/देशपत/नि. ग्राम 5) रामदास/देशपत/नि. ग्राम 6) शिवदास/देशपत/नि. ग्राम 7) श्रीमती जयन्ती/पत्नी भगवानदास/नि. ग्राम 8) श्रीमती सियाराने/पत्नी स्व०देशपत/नि. ग्राम		च1408फ	661(1533510661000012)	4.4770	1) 1/6 2) 1/10 3) 3) 1/6 4) 4) 1/10 5) 5) 1/10 0.4477 6) 6) 1/10 0.4477 7) 7) 1/6 0.7461	1) 0.7461 2) 0.4477 3) 0.7461 4) 0.4477 5) 0.4477 6) 0.4477 7) 0.7461	0.00

9

उद्घरण खतौनी (अप्रमाणित प्रति)

03/May/2024 12:12:24

ग्राम क्रमांक : 153351 ग्राम का नाम (पापक) : वैलनारा (कानपुर) तहसील : भरौनी जिल्ला : लखीपुर फसली वर्ष : 1426-1431 (01 जूलाई, 2018 से 30 जून, 2024) पन्ना : 1 (1) खत संख्या : 00102

उद्घरण खतौनी को प्रमाणित (सत्यापित) करने के लिए कृपया खत संख्या के अनुसार खतों को प्रमाणित करने के लिए प्रेषित करें।
 Disclaimers: यह खतौनी को प्रमाणित करने के लिए प्रेषित किया गया है। इसमें कसबदार है। इस खतौनी को प्रमाणित करने के लिए खत संख्या के अनुसार खतों को प्रेषित करने का अनुरोध है।
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PROCESS OF ASH UTILIZATION IN LAND RECLAMATION

Request from
Landowner to Reclaim
His / Her Land

Survey of requested
Site

Framing of Agreement
with the Landowner

Levelling and Covering of
Ash with Soil and its
Compaction

Disposal of Conditioned
Ash into the Land under
Reclamation

Obtaining Consent
from UPPCB

Land is Ready for it's After use

LAND OWNER REQUEST

Request Letter

Owner Adhaar Card

Gram Pradhan Certificate

जेब में,
 श्रीमान् क्षेत्रीय अधिकारी
 क्षेत्रीय कार्यालय उ.प्र.
 प्रदूषण नियंत्रण बोर्ड
 डीआरसी-284401

विषय: ललितपुर पॉवर जनरेशन कम्पनी लि द्वारा जमिनी क्षेत्र को प्राथमिकता की अनुमति प्राप्त करना एवं गद्दा गुरुत भूमि में कालकर कृषि योग्य भूमि बनाने के संदर्भ में-

गहोदय

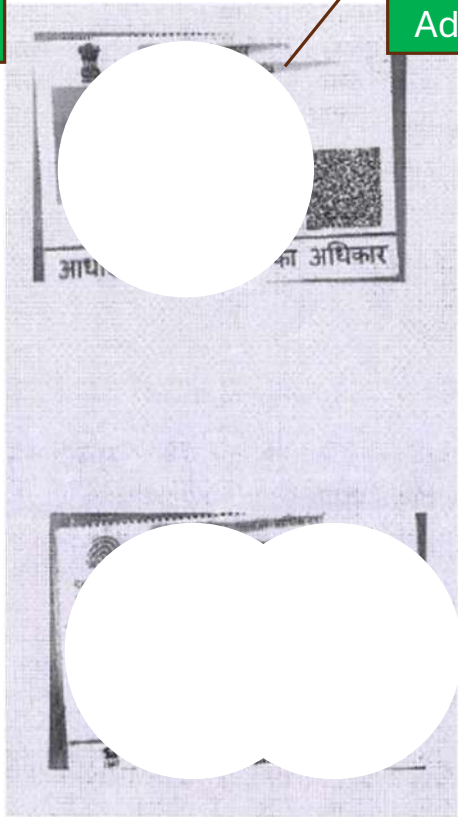
आपसे सविनय निवेदन है कि हम सभी प्राथमिकता ग्राम सिन्धुवारा के निवासी हैं। उक्त ग्राम में अवस्थित भूमि अनुमतिपत्र प्राप्त एवं गद्दा गुरुत है हम सभी प्राथमिकता अपनी भूमि को कृषि योग्य बनाना चाहते हैं जिसके लिए ललितपुर पॉवर जनरेशन कम्पनी लिमिटेड द्वारा जमिनी क्षेत्र द्वारा उक्त भूमि में विद्यमान गद्दों का भरण करवाकर उसके तपती सतह में मिट्टी कालकर खेती योग्य बनाना चाहते हैं।

अतः आपसे विनय अनुरोध है कि कृपया ललितपुर पॉवर जनरेशन कम्पनी आदेशित कर परीक्षण कार्य उपरोक्त कार्य का करवाने का कष्ट करें।

आपकी महान दया होगी।

अनिल सिंह
 ग्राम प्रधान
 सिन्धुवारा

अनिल सिंह
 ग्राम प्रधान
 सिन्धुवारा



प्रमाण पत्र

प्रमाणित किया जाता है कि श्री अनिल सिंह अनिल सिंह सिन्धुवारा सिन्धुवारा
 पिता/प्रति श्री अनिल सिंह जाति सिन्धुवारा
 ग्राम सिन्धुवारा पोस्ट सिन्धुवारा जिला ललितपुर
 उ.प्र. के मूल निवासी हैं। मैं इन्हें भली-भांति जानता हूँ। इनका खसरा नम्बर/खतौनी नम्बर 845/1, 850/3 है। जिसके अन्दर ये पॉवर प्लान्ट की राख अपने गद्दों को भरवाकर के उसके उपर मिट्टी डलवाकर खेती योग्य बनवाना चाहते हैं। इसमें ग्राम प्रधान और ग्रामवासियों को किसी भी प्रकार की आपत्ती नहीं है। ग्रामवासियों के द्वारा कोई भी कार्यवाही की जाये तो झूठ मानी जायेगी।

ग्राम प्रधान
अनिल सिंह
 ग्राम प्रधान
 सिन्धुवारा

CONSENT OBTAINED FROM UPPCB



UTTAR PRADESH POLLUTION CONTROL BOARD
 Building, No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010
 Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com

Validity Period :31/05/2023 To 31/12/2024

Ref.No. - 185253/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2023 Dated:- 17/06/2023

To,

Shri AJAY VIKRAM SINGH
 M/s LALITPUR POWER GENERATION COMPANY LTD
 Village Burogon, Lalitpur (UP),LALITPUR,204123
 LALITPUR

Sub : Consent to Establish for New Unit/Expansion/Diversification under the provisions of Water (Prevention and control of pollution) Act, 1974 as amended and Air (Prevention and control of Pollution) Act, 1981 as amended.

Please refer to your Application Form No.- 21390049 dated - 27/05/2023. After examining the application with respect to pollution angle, Consent to Establish (CTE) is granted subject to the compliance of following conditions :

1. Consent to Establish is being issued for following specific details :

A- Site along with geo-coordinates :

B- Main Raw Material :

Main Raw Material Details		
Name of Raw Material	Raw Material Unit Name	Raw Material Quantity
ASH	Metric Tonnes/Year	693190

C- Product with capacity :

Product Detail	
Name of Product	Product Quantity
Fly ash Transportation (MT/Year)	693190

D- By-Product if any with capacity :

By Product Detail			
Name of By Product	Unit Name	Licence Product Capacity	Install Product Capacity
Nil	Metric Tonnes/Day	0	0

2. Water Requirement (in KLD) and its Source :

Source of Water Details		
Source Type	Name of Source	Quantity (KLD)
Other	Not applicable	0.0

3. Quantity of effluent (in KLD) :

Effluent Details	
Source Consumption	Quantity (KLD)
Others(Dust Suppression)	60.0

4. Fuel used in the equipment/machinery Name and Quantity (per day) :

Fuel Consumption Details		
Fuel	Consumption(tp/d/d)	Use
Others	0	transport

5. For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.

For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.

- You are directed to furnish the progress of Establishment of plant and machinery, green belt, Effluent Treatment Plant and Air pollution control devices, by 10th day of completion of subsequent quarter in the Board.
- Copy of the work order/purchase order, regarding instruction and supply of proposed Effluent Treatment Plant/Sewerage Treatment Plant /Air Pollution control System shall be submitted by the industry till 31/12/2024 to the Board.
- Industry will not start its operation, unless CTO is obtained under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and control of Pollution) Act, 1981 from the Board.
- It is mandatory to submit Air and Water consent Application, complete in all respect, four months before start of operation, to the U.P. Pollution Control Board.
- Legal action under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 may be initiated against the industry With out any prior information, in case of non compliance of above conditions.

Specific Conditions:

- Kindly refer your application for Consent to establish dated 31.05.2023 vide which you have stated that the fly ash of Lalitpur Power Generation Company Ltd. shall transported for land filling under the agreement with Khazra No./Gata No.-108,111,112,113,115,110mi, Kakdari, 840,1303 Murchwara, 2394 Murchwara, 2394, 2397, 2398, 2399 Murchwara, 2395, 2397 Murchwara, 2465, 2466, 2543, 2457, 2458, 2460, 2495, 2499 Murchwara, 41 Bear, 1836 Gadwara, 551, 555 Teela, 2635/1, Rajwara, 1183, 1184 Toria, 1039, 1040 Toria, 1697,1698,1699 Toria, 49/4 Khonkhara, 749 Maramuli, 788 Maramuli, 432 Hampura, District- Lalitpur, to reclaim the agriculture land in this regard a conditional Consent to establish is being issued subjected that the transportation of fly ash shall be covered vehicles to control the ambient air quality as per prescribed norms of fly ash disposal issued by Ministry of Environment and Climate Change, Government of India.
- In any case of public nuisance complaint this conditional Consent to establish shall be treated as canceled so this is your prime duty to observed and maintain the proper cover of Fly ash Flying in near by area.
- This permission have no authorization for the production of Fly ash generation and having effect that the transportation of fly ash from Lalitpur Power Generation Company Ltd, Murchwara, Lalitpur promises to agriculture land of agreements farmer for reclamation of soil only.
- No objection certificate is issued with the condition of disposal of ash in the plot after completely surveying the water logging in the plot of Mr. Yadvendra Singh, Village-Bur, Lalitpur.
- The Industry Submit A bank Guarantee amounting to Rs.1,00,000.00 (One Lakh) within 15 days as an assurance to comply with the code of Practice as well as provisions of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981.
- This conditional permission is being issued in regard of Letter No.-468/18-2/2019 dated 20-09-2020 under the provisions of MSME (Establishment and Operations) Act of 2020.
- The Board reserves the right to revoke this conditional consent to establish which has granted at any time in case that industry is violating any of the provision of the Air (Prevention & Control of Pollution) Act, 1981 and water (Prevention & Control of Pollution) Act, 1974 and as amended time to time.

Please note that consent to Establish will be revoked, in case of, non compliance of any of the above mentioned conditions. Board reserves its right for amendment or cancellation of any of the conditions specified above. Industry is directed to submit its first compliance report regarding above mentioned specific and general conditions till 17/07/2023 in this office. Ensure to submit the regular compliance report otherwise this Consent to Establish will be revoked.

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LIFTING OF ASH FROM DYKE



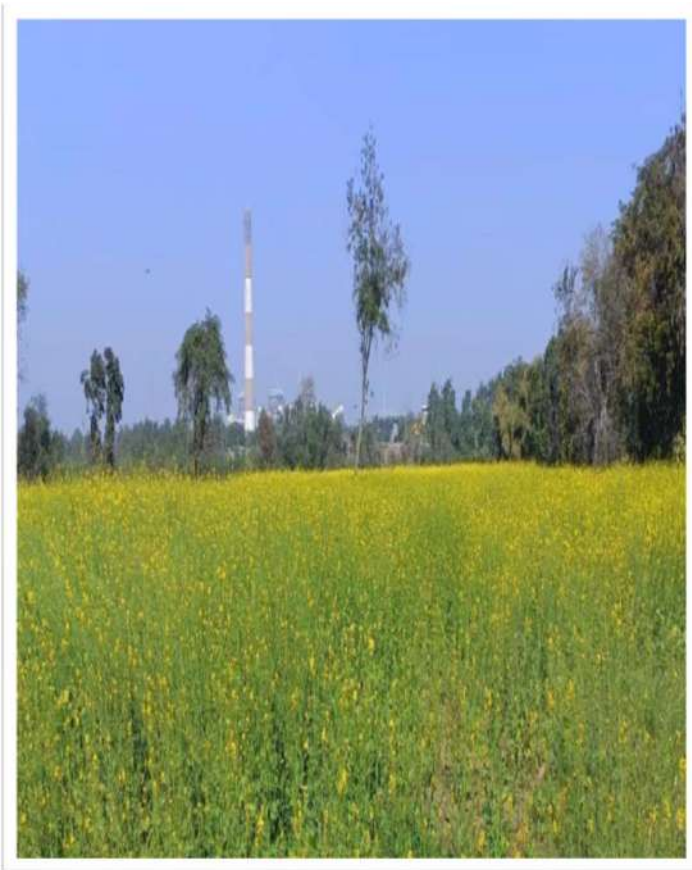
TRANSPORTATION OF ASH IN COVERED VEHICLES

UNLOADING AND LEVELLING OF ASH AT SITE BEING RECLAIMED

ASH COVERING WITH SOIL



GAINFUL USE OF RECLAIMED LAND



Agriculture

GAINFUL USE OF RECLAIMED LAND



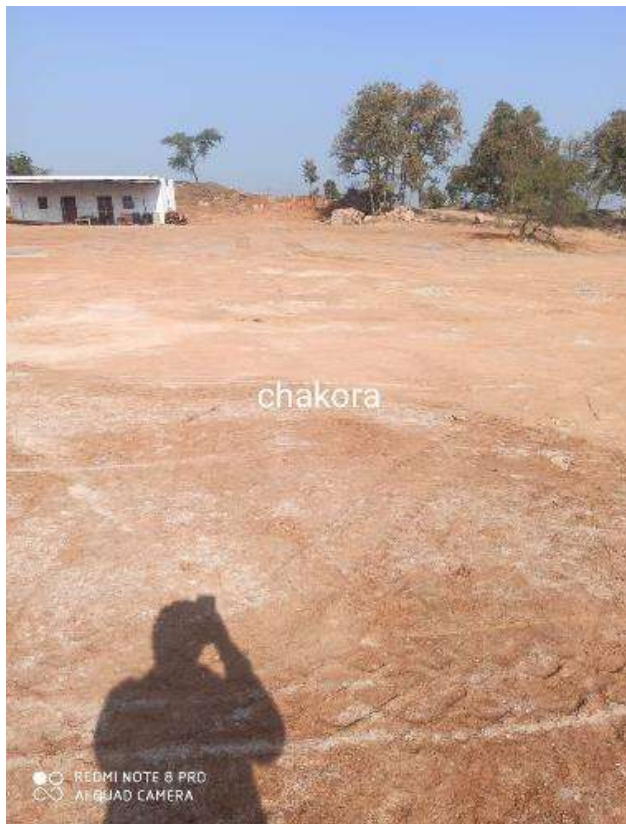
Agriculture

GAINFUL USE OF RECLAIMED LAND**Children Playground**

GAINFUL USE OF RECLAIMED LAND



School Playground

GAINFUL USE OF RECLAIMED LAND**House Construction**

ANURAG SHARMA Vs. STATE OF UP

ANNEXURE-R-51 (Colly)

LOW LYING AREA

OUR FIRST REPLY DATED	ORDER DATED	OUR REPLY DATED	ORDER DATED	OUR REPLY DATED	ORDER DATED	OUR REPLY DATED	ORDER DATED	UPPCB REPORT DATED
17.12.2022	20.12.2022	30.01.2023 (Pg 95-177)	09.11.2023	10.02.2024 (Pg 291-392)	15.02.2024	13.05.2024 (Pg 435-520)	16.05.2024	07.08.2024
<p>Pg 72 – Annexure R-7 pertaining to period 01.04.2022 to Sept 2022. It shows that on a total Ash Generation of 15.36 Lakhs MT, 3.12 Lakh MT was used for reclamation of low lying area.</p>	<p>DETAILS OF LOW LYING AREA NOT GIVEN. PLEASE GIVE.</p> <p>PARA 5.. Particulars of Low Lying Area not given where Fly Ash was used for filling.</p>	<p>a. Averment at Pg 99 & 100 (Para 5)</p> <p>b. Annexure A-1 at Pgs (104-117) R/w Annexure A-4 at Pg 126 (This is an Exemplar see Pg 99 bottom & Pg 108-113 & Pg126 All this relates to farmer Inderpal)</p> <p>c. UPPCB Letter dated 23.07.21 @ Pg 117 R/w Disposal Guidelines issued by MOEF.</p> <p>d. Pg 136 Chart showing Ash generation and utilisation in a monthwise manner from April 20 to March 22. Total is 15.38 LMT in low lying area as against Ash Generation of 35.34 LMT.</p>	<p>PARA 6 Proper Details of Low Lying Areas</p>	<p>a. Averment at Pg 297-299</p> <p>b. Annexure A-7 at Pg 342-386</p> <ul style="list-style-type: none"> • Pg 344 Contract • Pg 348 Request Letter to UPPCB • Pg 349 Bhulekh Khata Details • Pg 352 Adhaar Card • Pg 354 Gram Pradhan Certificate • Pg 356 Site Map of exact land • Pg 358, 363, 364, 366, 367. • Pg 369, 372, 376, 378, 381, 384. <p>c. Annexure A-8 at Pg 387 DM PERMISSION given on 03.12.2019. Pertinently, it is stated that upon land filling the said land which was hitherto uncultivable will become useful for cultivation.</p>	<p>PARA 5 – Our Reply dated 10.02.24 was found sufficient and the same is noted therein except Ash Dyke Legacy Ash.</p>	<p>a. Pg 439 (Para 7) R/w Annexure A-1 Pg 442-497</p> <p>b. Relevant Pages are at 465 to 481 – Land Reclamation</p>	<p>Not verified by UPPCB</p>	<p>Verified the data at Pg 526 & 527</p>

LEGACY FLY ASH

OUR FIRST REPLY DATED	ORDER DATED	OUR REPLY DATED	ORDER DATED	OUR REPLY DATED	ORDER DATED	OUR REPLY DATED	ORDER DATED	UPPCB REPORT DATED
17.12.2022	20.12.2022	30.01.2023 (Pg 95-177)	09.11.2023	10.02.2024 (Pg 291-392)	15.02.2024	13.05.2024 (Pg 435-520)	16.05.2024	07.08.2024
	<p>PARA 5... LEGACY FLY ASH UTILISATION AND PARTICULARS NEEDED.</p> <p><i>Note: The same observations are reproduced by the Tribunal in its order dated 16.05.2024 PARA 3 to PARA 5.</i></p>	<p>a. Pg 101 Averment @ Para 9. No Legacy Ash. Whatever generated is continuously used.</p> <p>b. Pg 136 Chart showing Zero Ash in Ash Dyke raising from Apr 20 to March 22.</p>	<p>Para 6 Give detail of quantity of Fly Ash in Dykes?</p>	<p>a. Pg 297 Averment @ Para 7. Quantity is dynamic due to round the clock utilisation and quantity chart is also supplied Bi-Annually to CEA.</p>	<p>PARA 5</p> <p>What is the Status of Fly Ash in Dyke?</p> <p>What is the action plan for proper management and disposal</p>	<p>a. Pg 438 Para 6 Status of Legacy Ash</p> <p>b. Pg 459-460 Chart shows utilisation of Ash from 2015 till 2024 yearwise.</p>	<p>Not verified by UPPCB</p>	<p>Pg 525 Para ii. No Legacy Ash was observed</p> <p>Pg 599-600 Photographs of Ash Dykes</p>

FLY ASH IN CEMENT

OUR FIRST REPLY DATED 17.12.2022	ORDER DATED 20.12.2022	OUR REPLY DATED 30.01.2023 (Pg 95-177)	ORDER DATED 09.11.2023	OUR REPLY DATED 10.02.2024 (Pg 291-392)	ORDER DATED 15.02.2024	OUR REPLY DATED 13.05.2024 (Pg 435-520)	ORDER DATED 16.05.2024	UPPCB REPORT DATED 07.08.2024
		<p>a. ANNEXURE A-6 (Pg 136) Chart (Monthwise Apr 20 to Mar 22)</p> <p>b. Train Transportation details (Pg 137 to Pg 148)</p> <p>c. Bulker Transportation details for 2022-2023 (Pg 149)</p>	<p>PARA 6 <u>Order Query</u> Requisite Particulars of usage of Fly Ash in Cement Industry</p>	<p>a. Pg 299 @ Para 9 Averment containing details of transportation of Ash to Cement Industry.</p> <p>b. ANNEXURE A-9 (Pg 391) Chart (Apr 23 to Sep 23) supplied to CEA</p>	N.A.	<p>Pg 459 & 460 Chart showing usage of Fly Ash in Cement Industry from 2015-16 till 2023-24. This shows that approximately</p> <ul style="list-style-type: none"> • 63% is used in Cement. • 0.5% is used in Bricks. • 0.1% is used in Roads. • 36% is used in land reclamation • 0.14% is used in Agricultural Development 	Not verified by UPPCB	<p>Pg 524-525 Averment</p> <p>ANNEXURE A-1 Pg 529 Chart Apr 23 to Mar 24.</p>

FLY ASH NOT USED IN BRICKS

OUR FIRST REPLY DATED 17.12.2022	ORDER DATED 20.12.2022	OUR REPLY DATED 30.01.2023 (Pg 95-177)	ORDER DATED 09.11.2023	OUR REPLY DATED 10.02.2024 (Pg 291-392)	ORDER DATED 15.02.2024	OUR REPLY DATED 13.05.2024 (Pg 435-520)	ORDER DATED 16.05.2024	UPPCB REPORT DATED 07.08.2024
	WHY FLY ASH IS NOT BEING USED IN BRICKS. PARA 5.. a. 01.04.2019 to 31.03.2020 Fly Ash used in Bricks. b. 01.04.2020 to 31.03.2021 No Fly Ash used in Bricks c. 01.04.2021 to 31.03.2022 No Fly Ash used in Bricks	a. Pg 101 Averment @ Para 8. Not given as no brick klins near Lalitpur and transportation is risky + costly for long distance. b. Pg 136 Chart showing Ash generation and utilisation in a monthwise manner from April 20 to March 22. Total Utilisation in Bricks is ZERO.		N.A.	N.A	N.A.	Not Directed	N.A.

TREE PLANTATION

OUR FIRST REPLY DATED 17.12.2022	ORDER DATED 20.12.2022	OUR REPLY DATED 30.01.2023 (Pg 95- 177)	ORDER DATED 09.11.2023	OUR REPLY DATED 10.02.2024 (Pg 291-392)	ORDER DATED 15.02.2024	OUR REPLY DATED 13.05.2024 (Pg 435-520)	ORDER DATED 16.05.2024	UPPCB REPORT DATED 07.08.2024
N.A.	N.A.	a. Pg 102 Averment states 4.5 lakh trees planted till date. Out of which 1.7 Lakh plants in nearby villages. b. Detailed Chart of areas given at Pg. 161 Annexure 8	PARA 5 No. of Trees Planted given but where? Do they meet EC Condition?	a. Pg 295 Para 5 gives the total Trees and Total Hectre Area and photographs and CD and that we are complying with EC Conditions. b. ANNEXURE A-1 (Pg 301) c. ANNEXURE A-2 (Pg 302) d. ANNEXURE A-3 (Pg 305)	N.A	N.A	N.A.	N.A.

CSR/CER SPENDING

OUR FIRST REPLY DATED 17.12.2022	ORDER DATED 20.12.2022	OUR REPLY DATED 30.01.2023 (Pg 95- 177)	ORDER DATED 09.11.2023	OUR REPLY DATED 10.02.2024 (Pg 291-392)	ORDER DATED 15.02.2024	OUR REPLY DATED 13.05.2024 (Pg 435-520)	ORDER DATED 16.05.2024	UPPCB REPORT DATED 07.08.2024
		<p>a. Pg 102 averment on spending of 49 Cr on CER/CSR activity.</p> <p>b. Annexure A-9 Pg.163 to 176 photographs</p>	<p>Para 5 CSR and CER spending details given till 2017 but not after.</p>	<p>a. Pg 296 Para 6</p> <p>b. ANNEXURE A-4 (Pg 306)</p> <p>c. ANNEXURE A-5 (Pg 307-337)</p>	<p>PARA 6</p> <p>What about activities carried out at which places.</p>	<p>a. Pg 440 @ Para 8</p> <p>b. ANNEXURE A-2 (Pg 498-519)</p>		

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Gmail

Legal Vibes <legalvibes.lawfirm@gmail.com>

O.A. NO. 725 OF 2022 in the case titled Anurag Sharma Vs. State of Uttar Pradesh and Anr. (Additional Affidavit

1 message

Legal Vibes <legalvibes.lawfirm@gmail.com>
To: anuragsansad@gmail.com

Sat, Aug 24, 2024 at 1:20 PM

Sir,

Kindly find attached the copy of Additional Affidavit on behalf of Lalitpur Power Generation Company Limited in compliance of the order dated 12.08.2024 of this Hon'ble Tribunal



Additional Affidavit LPGCL Final 23.08.2024.pdf

Kindly accept the service.

Thanks & Regards,

Legal Vibes Law Firm

G-27, First Floor,

Jangpura Extension

New Delhi-110014

Ph: 011-43580335