BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

EASTERN ZONE BENCH, KOLKATA

ORIGINAL APPLICATION NO -……. OF 2024/EZ

IN THE MATTER OF:

GOPINATH MAJHI APPLICANT

VERSUS

STATE OF ODISHA &ORS … RESPONDENTS

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DATE: 06/04/2024

SANKAR PRASAD PANI

ASHUTOSH PADHY

ADVOCATE,

Plot No 2132/4814,NageswarTangi, Bubaneswar 751002, sankarprasadpani@gmail.com Cell-9437279278

SYNOPSIS

The Odisha Power Generation Corporation Ltd. Thermal power plant having capacity of 1720 MW operating in Banaharpali of Jharsuguda District is continuously causing the environmental hazzard because of improper fly ash management leading to Breach of Dyke of the Ashpond at Kantatikira and Saradhapali on 9th December 2023 affecting 429 Acres of Agricultural land and contaminating the Village pond as well as Hirakud Reservoir, a wetland site designated of international importance especially as Waterfowl Habitat under the Ramsar Convention. Needless to state that the two sites of Ashpond meant for disposal of flyash are situated in close proximity to Hirakud Reservoir, which is not permitted as per EC condition. On top of that the Unit has now got Terms of reference for additional capacity expansion of 1320 Megawatt which is going to cause havoc in the locality. As such the unit has not cleared the ash spread over the agricultural and government land after the dyke breach and in summer the same is creating fugitive pollution and with onset of monsoon all those will be washed into Hirakud Reservoir. The applicant prays for immediate clearing of the flyash before the onset of monsoon and stop any construction of new ash ponds with in 500metres of Hirakud Reservoir. As such the dumping of ash in the reclaimed Ashpond- A by raising its height is also not permissible considering its proximity to the Hirakud and in view of the breach and its impact. Further considering the principle of absolute liability and Polluters pay

principle the applicant seek direction in respect of environment compensation for the damage cause to property and environment and fix the criminal liability of the officer responsible for the operation of the industry. Further the responsibility of the concerned officer of State Pollution Control Board for latches in monitoring may be fixed and appropriate action be taken .

LIST OF DATES

27/09/1984	Environment Clearance No. 14/13/83-EM-2, granted for unit 1 and 2
07/02/1985	Forest clearance granted for 258.30 Ha of Forest land
04/02/2010	Environment clearance was granted for additional capacity expansion of 1320
22/01/2014	Environmental Clearance granted for Expansion of existing Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 3 & 4) at Village Banaharpalli, in Jharsuguda Distt., in Orissa by M/s Odisha Power Generation Corporation Ltd.
16/01/2015	MOEFCC grants extension of validity of Environment Clearance without assessing the ground reality
02/11/2023	Terms of reference for addition of capacity expansion of the Unit
08/12/2023	Land acquisition notice issued by department of Revenue and Dissaster management, Govt. of Odisha

09/12/2023	**Breach in the Dyke of Ashpond C of OPGC**
10/12/2023	News published on a English news paper called Indian Express regarding the breach of Ash Pond
11/12/2023	Show cause notice issued to M/s. Odisha Power Generation Corporation Limited, Ib Thermal Power Station, At-Banharpali, Dist – Jharsuguda
26/12/2023	Compliance report filed by M/s. Odisha Power Generation Corporation Limited, Ib Thermal Power Station, At-Banharpali, Dist – Jharsuguda to the Member Secretary SPCB
1/04/2024	**CTO renewed by the State Pollution Control Board**

BEFORE THE NATIONAL GREEN TRIBUNAL

EASTERN ZONE BENCH, KOLAKATA

(Under Section 18(1) read with Section 14(1), 15, 20 of the National Green Tribunal Act 2010)

Application No _____ /2024

IN THE MATTER OF:

1. **Gopinath Majhi,** S/o Late Bimbadhar Majhi, aged about 67 years, At-Jaibudia(Bartap), Po- Banjari, Via- Belpahad Dist- Jharsuguda 768217, Odisha … **APPLICANT**

VERSUS

1. **State of Odisha**

   Through Additional Chief Secretary, Forest and Environment, Climate Change Department, Government of Odisha, KharbelaBhawan, Bhubaneswar, 751001, Dist-Khurdha, fesec.or@nic.in , forestenv2016@gmail.com

2. **District Collector and District Magistrate, Jharsuguda,** At-/Po Dist-Jharsugua, 752056, Odisha, dm-jharsuguda@nic.in

3. Member Secretary, Odisha State Pollution Control Board, Paribesh Bhawan, A/118, Nilakantha Nagar,Unit – VIII, Bhubaneswar –

751012, Odisha **Email:**paribesh1@ospcboard.org

4. **UNION OF INDIA** through the Secretary,

   Ministry of Environment and Forests and Climate Change, Indira Paryavaran Bhawan, Jorbagh, New Delhi – 110003, secy-moef@nic.in

5. Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional Office, A/3, Chandersekharpur, Bhubaneswar – 751023, Email: roez.bsr-mef@nic.in

6. **Revenue Divisional Commissioner, Sambalpur**, Odisha 753002 rdcsbp@nic.in

7. Additional Chief Secretary, Revenue and Dissaster Management Department, Government of Odisha, Lokaseva Bhawan, Bhubaneswar, 751002 Email revsec.od@nic.in

8. Divisional Forest Officer, Hirakud Wildlife Division, Sambalpur Near Deer Park Po-Motijharan Dist-Sambalpur 768001

   Email- dfo.hirakudwl@odisha.gov.in

9. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi - 110032 Email: mscb.cpcb@nic.in,

10. The Executive Engineer, Main Dam Division, Burla, Dist-Sambalpur, Odisha, PIN- 768016. (Email ID: ee_mddburla@rediffmail.com

11. Director Environment, Forest Environment Climate Change Department, Government of Odisha, Member Secretary State Wetland Authority cum- Chairperson Grievance Committee under Wetland Rules 2017, Kharbela Bhawan, Bhubaneswar, Odisha, 751001direnvodisha@gmail.com

12. Chairman, Odisha Biodiversity Board, Regional Plant Resource Centre, Ekamrakanan, Nayapalli, Bhubaneswar, 751015 , msobb@rediffmail.com

13. Chairperson, National Wetland Committee, Government of India, Ministry of Environment, Forest and Climate Change, Government of India , Indira Paryavaran Bhavan, Jorbagh Road, New Delhi - 110003 secy-moef@nic.in

14. M/s Orissa Power Generation Corporation Ltd. Represented by its Managing Director,

Zone-A, 7th Floor, Fortune Towers

Chandrasekharpur, Bhubaneswar- 751 023.

Email- Not Available

…**RESPONDENTS**

I. The address of the Applicant is given above for the service of notices of this Application.

II. The addresses of the Respondents are given above for the service of notices of this Application.

III. The Present Application Village of Jharsuguda District by Private Respondent OPGC Jharsuguda .

IT IS MOST RESPECTFULLY SHOWETH:

1. The Applicant is a resident Lakhanpur Tahasil in Jharsuguda District. He is also the General Secretary of Hirakud Budi Anchal Sangram Samiti, a forum to protect the interest of displaced persons of Hirakud Dam Project. He is also the Convener of Campaign for Survival Dignity Odisha Chapter, which works on the issue of Landless and Marginal Community. He has visited the site on 12/12/2023 and met with affected villagers Further on 21/12/2023 again visited the site and discussed with the Regional Office of SPCB Jharsuguda demanding stern action against the defaulting industry. The applicant is concerned with the degradation of environment and action of Opposite party in causing damage to the Hirakud Reservoir and depletion of fish population because of the impact of pollution due to adjoining INDUSTRIES AND COAL MINES including OPGC. **IB-valley (CEPI-74.00) and Jharsuguda (CEPI-**

73.34) were identified as critically polluted area in the year 2009.

2. That the Respondent Industry is a Coal Based Power Plant with total capacity 1748 Megawatt for production of Electricity Power in four units such as (Unit-1&2) of quantity **420 MW** (2X210 MW) and **1328 MW** (2X660 MW). That the power plant with capacity of 2*210 MW is operating in IB valley since 1984 and the Unit 3 and 4 were granted Environment Clearance on 4/02/2010. Copy of environment clearance dated 4/02/2010 and 22/01/2014 is annexed here unto as **Annexure-1series.**

3. The while the industry is not able to manage the Flyash in the existing capacity, it has applied for further Expansion of Coal Based Thermal Power Plant by addition of **2x660 MW (Unit 5 & 6)** as Stage-III at Banaharpalli village, Jharsuguda for which Terms of Reference is granted by MoEFCC on 2/11/2023. Copy of Terms of Reference dated 2/11/2023 is annexed here with as **ANNEXURE-2**

ASH POND IN VIOLATION OF SITING CRITERIA AND ENVIRONMENT CLEARANCE CONDITIONS

4. That the Environment Clearance Letter dated dated 4/02/2010 clearly stipulates that the **Additional land is however proposed to be acquired for new ash pond keeping the required distance criteria of 500 m from High Flood Level (HFL) of Hirakud Reservoir. However both**

the ashponds at Kantatikira(Unit 1 and 2) and Tilia(Unit 3 and 4) have been constructed adjoining the Hirakud Reservoir..

5. That the Office Memorandum issued by MoEFCC dated 28/08/2019 clearly prohibits construction of any ash pond with in 500 meters of the River and Water bodies. Copy of OM dated 28/08/2019 is annexed here unto as **ANNEXURE-3**

6. Proper protection measures like HDPE lining, appropriate height of bund and **adequate distance between proposed Ash pond and water body (minimum 60 meter) etc**. s**hall be planned so as to reduce the possibility of mixing of leachate with any fresh water body for under construction ash pond.** High Density Slurry disposal plan shall be prepared.

7. **Chapter3.5 of the Guideline jointly prepared by CPCB and CEA has prescribed the siting Criteria and existing ashpond as well as proposed ash pond does not qualify the siting criteria. The relevant portion is reproduced as follows:**

"Site Selection: The main aspects to be considered are the distance to the ash dyke, properties of coal, topographical conditions, geological locations, meteorological conditions etc. To protect the environment due to ash disposal various site-specific studies like topographical survey, earlier land use map, drainage pattern, environmental impact assessment, archives,

meteorological data, hydrological studies, geotechnical investigations are carried out at the proposed site.

Recommended siting conditions: i) **Site should be selected to ensure that the base can be located no less than 5 ft above the upper limit of the uppermost aquifer, or it must be demonstrated that there will not be any hydraulic connection between the base and the uppermost aquifer due to normal fluctuations in groundwater elevations. ii) The ash ponds should be located at least 500 m away from the HFL/ FRL of the Rivers/ Reservoirs iii) Site should not be located in wetland. iv) Site should not be located within 60 m of the outermost damage zone of a fault that had displacement in Holocene time, unless it is demonstrated that an alternative setback distance of less than 60 meters (200 feet)** will prevent damage to the structural integrity. v) Site should not be located in seismic impact zones unless it is demonstrated that all structural components including liners, Ash Water collection and removal systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. vi) Site should not be located in an unstable area unless it is demonstrated that good engineering practices have been incorporated into the design to ensure that the integrity of the structural components will not be disrupted.Copy of Relevant portion of GUIDELINES ON DESIGN, CONSTRUCTION, O&M AND ANNUAL

CERTIFICATION OF COAL ASH PONDS jointly issued by Government of India Ministry of Power Central Electricity Authority and Central pollution Control Board in June 2023 is annexed here with as **ANNEXURE-4**

8. That as per the CPCB and CEA report of 2023, Presently in India, **more than 65,000 acres of land is occupied for storage of this huge quantity of ash**. Over a period of time, the fly ash disposal can cause problems like large surface setting lagoons for storage, infiltration of transport of water from deposit to soil, dust carryover in wind from dried lagoons and leads ecological and environmental imbalances if proper safeguards are not taken in their design, construction, operation and maintenance.
9. **Proximity to Hirakud Reservoir**: It is humbly submitted that the applicants claim about the distance from the reservoir is based on the super impose of the ashpond are over the google map which clearly indicates the Ashpond of Unit 1 and 2 *with in the High Flood Line of Hirakud Reservoir and the Tilia ash pond is adjoining the Hirakud Reservoir and same is in violation of the* ***Environment Clearance condition stating that the Ashpond will be 500metre away from the High Flood Level of Hirakud Reservoir.*** *The same is evident from the Google earth Images of the Ashpond and Hirakud reservoir, clearly depicting the Ashpond which was breached is right with in the reservoir*

area of Hirakud reservoir and there is no buffer area between ashpond and Reservoir. Copy of Google Earth Images are annexed here with as ***ANNEXURE-5***

10. That the **Hirakud is a prominent water reservoir spread over an area of 65,400 Hactres and declared as Ramsar site on 12/10/2021**. Hirakud Reservoir, the largest earthen dam in Odisha, constructed across river Mahanadi at Sambalpur, started operating in 1957. The gradient of habitats ranging from riverine to lacustrine, while moving towards the dam, enables the reservoir to support a range of floral and faunal species, including several of high conservation significance. Out of the known 54 species of fish from the reservoir, one has been classed as being endangered, six near threatened and 21 fish species of economic importance. Fisheries presently yield a catch of around 480 MT of fish annualy and is the mainstay of livelihoods of 7,000 fisher households. Similarly, over 130 bird species have been recorded at this site, out of which 20 species are of high conservation significance. Hitakud reservoir has been included in the list of **prioritized inland wetlands of Odisha** (Prasad et al. 2004), and further i**n the list of Important Bird Areas (IBAs) of the state of Odisha.** The reservoir is a source of water for producing around 300 MW of hydropower and irrigating 436,000 ha of cultural command area. The wetland also

provides important hydrological services by moderating floods in the Mahanadi delta, the ecological and socio-economic hub of the east coast of India. Hirakud reservoir supports abundant tourism, and forms an integral part of the high touristic value sites located around Sambalpur with over 30,000 tourists annually visiting the site

FLYASH GENERATION AND UTILISATION NOT IN CONSOANACE WITH EC CONDITIONS AND FLY ASH NIOTIFICATIONS

11. That the EC letter also states that the Coal requirement will be met from two Coal Blocks viz. Manoharpur and Dip-side of Manoharpur in Ib valley area with total reserve of 531 MT. Coal requirement will be **6.73 MTPA at 80% PLF**. **Ash content in coal will be 40% and Sulphur content 0.4 % (maximum)**. **Water requirement 4100 m^3/hr and will be sourced from Hirakud Reservoir,** which has been accorded by the state government. No diversion of forest land will be involved. COC 5.0 will be adopted. **Fly ash will be used for filling Manoharpur mines.** A twin flue stack of 275 m height with flue gas velocity of 22 m/s will be installed. No ground water will be tapped for the project activity. There are no wildlife sanctuaries, national parks, biosphere, tiger, elephant reserves; heritage sites etc within 10 km of the plant. **Cost of the project will be Rs. 6091.0 Crores.**

12. That a thermal power plant with 1000 MW capacity is estimated to produce annually 1.6 to 1.8 million ton (mtpa) of fly ash respectively at 29% and 40% ash content. The present industry is having 1740MW capacity, hence the unit is generating flyash of around **3.1 Million Tons Per Annum**

13. That the Fly Ash Utilisation Notification dated 31/12/2021 mandates for environment compensation for not achieving the targeted utilisation. In the first two years of a three years cycle, if the coal or lignite based thermal power plant (including captive or co-generating stations or both) has not achieved at least 80 per cent ash (fly ash and bottom ash) utilisation, then such non-compliant thermal power plants shall be imposed with an environmental compensation of Rs. 1000 per ton on unutilised ash during the end of financial year based on the annual reports submitted and if it is unable to utilise 100 per cent of ash in the third year of the three years cycle, it shall be liable to pay an environmental compensation of Rs. 1000 per ton on the unutilised quantity on which environmental compensation has not been imposed earlier: Provided that the environmental compensation shall be estimated and imposed at the end of last year of the first compliance cycle as per the various utilisation categories as mentioned in sub-paragraph (4) of Para

A. Copy of Notification dated 31/12/2021 and 30/12/2022 is Annexed here with as **ANNEXURE-6**

14. The EC letter stipulates conditions of 100 percent flyash utilisation, adequate protection measures from ash dyke being breached, and disposal of ash in abandoned mine pits. EC conditions which clearly states about the flyash utilization are as follows,

(i) Utilisation of 100% Fly Ash generated shall be made from 4th year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.

(ii) 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.

(iii) Ash pond shall be lined with HDP/LDP 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.

(iv) For disposal of Bottom Ash in abandoned Manohar mines it shall be ensured that **the bottom and sides of the mined out areas are**

adequately lined with clay before Bottom Ash is filled up. The project proponent shall inform the State Pollution Control Board well in advance before undertaking the activity.

15. **Radiological Impact Study not conducted**: It is humbly submitted the report do not denies the claim of the study not being conducted which is also a condition in the Environment Clearance letter. Further submitted that the ash pond has severe environmental impact and more particularly radiological impact which is required to be studied and in the present case no such study has been conducted. Looking at the proximity of habitations and Hirakud reservoir, the impact is imminent and irreversible. Considering the proximity of the ashpond to habitation and Hirakud reservoir and also make sure that the radiological study has been conducted prior to construction of the ashpond. And to the knowledge of the applicant no such study has been conducted.

16. Impact of Existing Ashpond in the Reservoir: the applicant has also raised the issues of impact the existing ash pond which is almost within the reservoir and as such the ash pond are directly dumped in the reservoir to that effect media reports as well as public grievances are there but no action has been taken and in the report it is silent indicating acceptance to the contention.

17. Study on Impact of leaching on Ground Water because of the Ashpond also need to be carried out by independent authorities or Central Pollution Control

Board. Considering the human settlement and water bodies in close proximity as matter of precaution , the same exercise has not been done,

9th December 2023, the Dyke Breach in OPGC Ashpond, Kantatikira

18. That the breach of Ash Pond-C was occurred on **09.12.2023 at 8.30** AM (Morning) at North side of the ash dyke. About 30ft depth and 40ft width of ash dyke has been collapsed and the ash with water spread to nearby agriculture land of village Saradhapali & Kantatikira. **About 420 Ac. of agriculture land has been affected**. A **village pond located Saradhapali has been affected due to the spread of ash slurry**. The ash slurry mixed with the water of adjoining Hirakud Reservoir. Even till today the dry ash is still left as it is and has not been removed from the land areas and water bodies. Copy of Photographs of affected areas and News papers as **ANNEXURE-7**

19. It is pertinent to mention that the OPGC had not maintained greenbelt around the ash pond's, which creates a huge amount of fugitive pollution during the summer season.

20. That the SPCB in it's report dated 11/12/2023 observed that the ash pond breach occurred due to following reasons;

a) The free-board of 1.5m is not maintained through out the ash dyke.

b) The slope in ash pond is not maintained properly due to

uneven disposal of ash water and **water is not collected in primary settling tank and the slope is towards the breach site**.

c) **The bottom ash from Unit-3 & 4 in slurry form is also disposed to this Ash pond-C due to blockage of slurry pipeline instead of disposed to Tilia ash pond, without obtaining any prior permission from the Board. Copy of inspection Report and Show Cause Notice dated 11/12/2023 is annexed here with as ANNEXURE-8**

20. That the breach of Ashpond is intentional and deliberate as the industry authority was aware that the capacity of the Ashpond is already exhausted and still they were pumping more ash slurry into the ash pond. Apart from that they were also pumping the Bottom ash of Unit 3 and 4 which were meant to be put into Ash pond at Tilia but opened to be filled in this Ashpond. Further the authority were also looking for a site for construction of new ashpond considering the capacity is already exhausted, the breach is deliberate so as to acquire the adjoining land on the ground the same is already filled with ash.

21. That the breach is designed and deliberate for the reason, there is a notification for Social Impact assessment published by Revenue disaster management department dated 8/12/2023 for acquisition of 55.59 Acres of land in Rengali and Kumbharbandh Mouza for the purpose of Ashpond of Unit 1 and 2. This notification is just one

day before the incident of Ashpond Breach. Copy of Notification dated 8/12/2023 is annexed here with as **ANNEXURE-9.**

22. That **From 2010 to 2020 alone, 76 coal ash pond incidents were reported across the country.** It is submitted that there has been many instances Ash Pond Breach in Odisha in bigger projects like Vedanta, NALCO and NTPC. In case of Vedant Ash Pond Breach, Jharsuguda, that collapsed around 9pm on 28 August 2017 with a breach of around 800 metres affecting 100acres of farmland. Similarly the breach has taken in Ashpond of NALCO, Angul in the year 2012 and NTPC Kaniha in the year 2011.

23. That the sitting BJP MP from Bargarh Mr Suresh Pujari had demanded a judicial probe into the ash pond breach incident at Ib Thermal power station that inundated farmlands and caused extensive damage to standing crops in the area recently. Raising the issue during zero hour on 11th December 2023, Pujari said the ash pond collapsed due to faulty design following which the slurry from the pond flowed into paddy fields spread across 150 acre land in Kantatikira, Sardhapali and nearby villages and into the Mahanadi river system causing concern among the locals. Copy of New Indian Express dated 12/12/2023 is annexed here with as **ANNEXURE-10**

24. That even after optimisation of the Ashpond and reclaimed, Consent to Establish has been granted for combined dyke height raising of Ash

pond A&C by 3 m i.e., from RL 208 m to RL 211 m for disposal of ash slurry of capacity 3200 TPD vide H.O Letter No-13337, dtd.23.08.2023 without considering the potential impact on the Hirakud Reservoir

25. <u>Status of existing ash ponds:</u>

Ash Pond A: Status Reclaimed, Area-150 Ac (607287 sq meter). The total ash holding capacity of ash pond-A is 67,14,500 MT. It has been reclaimed and the stabilized with soil capping and grass turfing. The bottom level of the dyke was constructed at RL. 187.65m; and starter dyke was constructed up to RL. 199m. Raising of dyke height has been done in 3 phases up to top RL of 208m. The report further says that on the day of inspection, **the ash pond was found to be completely filled-up,** reclaimed and dyke height raising work has been Initiated.

<u>Ash Pond B: Status-Reclaimed, Area-242 Ac (979339 sq. meter)</u>

Total ash holding capacity of ash pond is 1,28,20,000 MT which is completely exhausted. The bottom level of the dyke is RL. 189.00m and starter dyke was constructed up to RE 202m; raising of dyke height has been done up to RL 205m and after that ash mounds are constructed up to RL 208m.Entire ash pond and ash mounds are covered with earth capping and has been reclaimed with thick vegetation.

<u>Ash Pond C:- Status Operational, (Area-114.92 Ac)</u>

It lies in between the Ash Pond-A and Ash Pond-B. The Ash Pond-C was found to be operational and active. The bottom level of the dyke is RL

191.5m and starter dyke was constructed up to RL 202.Decanted ash water is being completely recycled through collector well (decantation well), Primary settling tank & secondary settling tank. The operating ash pond has been connected to primary settling tank (PST) by pipeline through well designed collector well (decanting system). The PST is again connected to secondary settling tank (SST) by gravitational pipeline. Ash water from SST is recycled through pumping system in return pipeline to plant site for use of water in ash handling plant

26. That despite of violations of CTO conditions and failure to contain the fly ash menace, the SPCB renewed CTO on 30/03/2024 without any tangible action against the unit for the Ashpond Breach. Copy of CTO dated 30/03/2024 is annexed here with as **ANNEXURE-11**

27. While notifying the Rules 2017 the MoEFCC has acknowledged in it's preamble that the wetlands are vital parts of the hydrological cycle, are highly productive ecosystems which support rich biodiversity and provide a wide range of ecosystem services such as water storage, water purification, flood mitigation, erosion control, aquifer recharge, microclimate regulation, aesthetic enhancement of landscapes while simultaneously supporting many significant recreational, social and cultural activities, being part of our rich cultural heritage;

28. It further acknowledges that many wetlands are threatened by reclamation and degradation through drainage and landfill, pollution

(discharge of domestic and industrial effluents, disposal of solid wastes), hydrological alteration (water withdrawal and changes in inflow and outflow), over-exploitation of their natural resources resulting in loss of biodiversity and disruption in ecosystem services provided by wetlands;

29. That the Environment (Protection) Act, 1986 is a comprehensive legislation to provide protection and improvement of the environment, including inter-alia, wetlands, and for matters connected therewith; And whereas the National Environment Policy, 2006 recognises the ecosystem services provided by wetlands and emphasizes the need to set up a regulatory mechanism for all wetlands so as to maintain their ecological character, and ultimately support their integrated management;

30. That India is a signatory to the Ramsar Convention on Wetlands and is committed to conservation and wise use of all wetlands within its territory; That the Central Government has published the Wetlands (Conservation and Management) Rules, 2010, vide number G.S.R. 951(E), dated the 4th December, 2010;

31. That conservation and wise use of wetlands can provide substantial direct and indirect economic benefits to state and national economy, and thereby the Central Government stands committed to mainstreaming full range of wetland biodiversity and ecosystem services in development planning and decision making for various sectors;

32. That the State Governments and Union Territory Administrations need to take into account wetland ecosystem services and biodiversity values likewise within their developmental programming and economic well-being, also taking into cognizance that land and water, two major ecological constituents of wetland ecosystems, are enlisted as State subjects as per the Constitution;

33. That Rule-4(Restrictions of activities in wetlands).—

(1) The wetlands shall be conserved and managed in accordance with the principle of 'wise use' as determined by the Wetlands Authority.

(2) The following activities shall be prohibited within the wetlands, namely,-

(i) Conversion for non-wetland uses including encroachment of any kind;

(ii) setting up of any industry and expansion of existing industries;

(iii) manufacture or handling or storage or disposal of construction and demolition waste covered under the Construction and Demolition Waste Management Rules, 2016; hazardous substances covered under the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 or the Rules for Manufacture, Use, Import, Export and Storage of Hazardous Micro-organisms Genetically engineered organisms or cells, 1989 or the Hazardous Wastes (Management, Handling and Transboundary

Movement) Rules, 2008; electronic waste covered under the E-Waste (Management) Rules, 2016;

(iv) solid waste dumping;

(v) discharge of untreated wastes and effluents from industries, cities, towns, villages and other human settlements;

(vi) **any construction of a permanent nature except for boat jetties within fifty metres from the mean high flood level observed in the past ten years calculated from the date of commencement of these rules; and,**

(vii) poaching.

34. That Rule 4(2)(vi) **clearly prohibits any construction of a permanent nature within fifty meters from the mean High Flood Level observed in the past ten years,** calculated from the date **of commencement of Rules 2017**, the bench observed and the present construction is in the prohibited zone..

35. The Guidelines of 2020 of MoEF&CC and Administrative order dated 16.03.2022 also lay down similar provisions. The rigour of clear provisions thereof cannot breached by reference to any decision of State or Local Body/authority in as much as EP Act, 1986 is a Central Act and provisions

framed thereunder as also the Rules framed there under shall prevail over any decision of State or local bodies.

36. That Rule 7 provides Delegation of powers and functions to the State Governments and Union Territory Administrations.—

(1) The concerned Department of the State Government or Union Territory Administration shall, within a period of one year from the date of publication of these rules**, prepare a Brief Document for each of the wetland identified for notification, providing:**—

(a) **demarcation of wetland boundary** supported by accurate digital maps with coordinates and validated by ground truthing;

(b) **Demarcation of its zone of influence and land use and land cover** thereof indicated in a digital map; (c) ecological character description;

(d) Account of pre-existing rights and privileges;

(e) List of **site-specific activities to be** permitted within the wetland and its zone of influence;

(f) List of site specific **activities to be regulated** within the wetland and its zone of influence; and

(g) Modalities for enforcement of regulation;

(2) Based on the Brief Document, **the Authority shall make recommendations to the State Government or Union Territory Administration for notifying the wetlands.**

(3) The State Government or Union Territory Administration shall, after considering the objections, if any, from the concerned and affected persons, **notify the wetlands in the Official Gazette, within a period not exceeding 240 days from the date of recommendation by the Authority**.

(5) (a) The Central Government shall create a dedicated web portal for information relating to wetlands. (b) The Central Government, **State Government and Union Territory Administration shall upload all relevant information and documents pertaining to wetlands in their jurisdiction.**

37. That in view of the objectives of the Wetlands (Conservation and Management) Rules, 2017 more particularly need for identification and **demarcation of zone of influence** of wetland and as of now no such effort has been made by the state authorities as well as the district authority. Government of Odisha vide Gazette Notification dated **21st May 2018** has constituted state wetland authority with including 20 members under the Chairmanship of Honble Minister for Forest and Environment. The last and

only meeting of state wetland authority held on **17/08/2019** and minutes of the meeting as follows

"He stressed upon for **submission of Action Plans** to Govt. of India for restoration of degraded wetlands of the State As desired. Director, Env-cum-Special Secretary presented the state Wetlands and salient points of Wetlands (Conservation and Management) Rule 2017.

He also conveyed the order dated 10.05.2019 of Hon'ble NGT in M.A 26/2019 in OA No. 325/2015 in the matter of **Lt. Col. Sarvadaman Singh Oberoi & Ors and the order dated 29.03.2019** in OA. No. 503/2018 of Honble NGT in the matter of **R.K.Gupta Vs Delhi Development Authority & Ors** to the notice of Authority wherein Hon'ble Tribunal **directed that the State Wetlands Authority to identify wetlands and water bodies to be notified in their jurisdiction and review** existing framework of restoration all water bodies by preparing an appropriate action plan

After detail discussion, the following decisions are taken.

1. Regarding, constitution of Technical Committee, it was decided to include representatives of Forest & Environment Department, Water Resources Department, Housing & Urban Development Department, PR& DW Department, Revenue & Disaster Management Department, Fisheries & Animal Resources Department and **ORSAC** for review of

brief documents, management plans and advise on any technical matter referred by the State Wetlands Authority.

2. Further, it was decided to **constitute a Grievance Committee consisting of Principal Secretary Forest & Environment Department,** Chief Executive, CDA/ICZMP: one NGO and Director, Environment to provide a mechanism for hearing and forwarding the grievances raised by public to the Authority

3. **Technical Committee is to identify all wetlands in the State.** They may refer the National Wetland Atlas prepared by ORSAC besides may also consider Hirakud reservoir, Hadagada as well as major, medium and some minor irrigation projects of Water Resource Department. On the basis of importance, Technical Committee will suggest the details of the wetlands in the next meeting of the **Authority so that the Authority can recommend the eligible wetlands to be notified by the State Government**.

4. For sustainable management of wetlands, **Action Plans for each wetland need to be prepared.** The objectives of the Action Plan should include **catchment treatment, silt load reduction, checking of inflow of organic wastes, fertiliser & pesticides residues and open defecation thereby decrease of pollution load in water bodies.** Further, site

specific ecotourism, increase of fisheries and other recreational use may also be promoted”

GRIEVANCE COMMITTEE NON-FUNCTIONAL

38. That on **7/02/2020 the grievance committee was constituted** by state forest and environment department under **Chairmanship of director Environment cum Special Secretary to Forest and Environment department**. However not even a single meeting has been ever held and no response ever received in regard to the complaints made to the committee regarding violation of WetLand Rules suggesting the committee is merely confined to paper and practically non-existent.

39. That in respect of Hirakud Reservoir, which is identified as a Ramsar Site, no steps have been taken to protect and preserve the integrity of the wetland from the threats of industrialisation.

40. The "Polluter Pays" principle as interpreted by Supreme Court, means that the absolute liability for harm to the environment extends not only to compensate the victims of pollution, but also the cost of restoring the environmental of the damaged environment is part of the process of "Sustainable Development" and as such polluter is liable to pay the cost to the individual sufferers as well as the cost of the reversing the damaged ecology. The precautionary principle and the polluter pays principle have been accepted as part of the law of the land. It is thus settled by Supreme

Court that one who pollutes the environmental must pay to reverse the damage caused by his acts. In Vellore Citizens' Welfare Forum v. Union of India and Ors. AIR1996SC2715, the precautionary principles and polluter pays principle were held to be part of the environmental law of the country. It was held that the polluter pays principle means that the absolute liability for harm to the environment extends not only to compensate the victims of pollution but also the cost of restoring the environmental degradation. Remediation of the damaged environment is part of the process of sustainable development. Considering the estimated cost of the project environment compensation may be collected from the private respondent apart from initiating criminal prosecution against the director of company

GROUNDS

That the applicant is raising following among other grounds which he may take at the time of hearing of case:

A. That part of the water body is filled up with the Fly-ash, thereby changing the land use and polluting the water body and same is against the environment norms. Also such an act is a substantial environmental issue that requires interference of the Hon’ble NGT

B. The rule of Absolute Liability states that those enterprises or Industries which are involved in hazardous or inherently dangerous activities for their commercial gain and if that activity is capable of

causing catastrophic damage then the enterprise is liable for the damage to the environment and properties.The enterprise cannot plead any defence, and would be liable even if proper care was taken without giving any exception of "Act of God" or "Act of danger". This has been upheld in Oleum Gas leak Case, Delhi (***M.C. Mehta V. Union of India,*** A.I.R. 1987 S.C. 1086)

C. Because the Hon'ble Supreme Court of India in a catena of cases including Indian Council for Enviro-Legal Action & Others v. Union of India (1996) 3 SCC 212 where it has been held that 'the responsibility for repairing the damage is that of the offending industry' and on that basis the private respondent has a duty to restore the land to it's original status.

D. That clause (g) of article 51A of the Constitution stipulates that it shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures

E. That the continuous raising of height of dyke and new pond with in prohibited distance is against the Precautionary principle

F. That the polluter pays principle cast a responsibility on the respondent industry for paying the environment compensation for the damages caused to environment.

LIMITATION

The photographs dated 21/12/2023 confirms that ash is still to be removed/cleared from the Hirakud Reservoir and adjoining agricultural as well as government land after the breach in Ash Pond took place on 9/12/2023, hence application is filed within limitation period as provided under Section 14 and 15 of National Green Tribunal, Act, 2010 and the application is not barred by the limitation.

PRAYER

In light of the present facts and circumstances it is most respectfully prayed that this Hon'ble Tribunal may be please to:

A. Direct the Respondent INDUSTRY to remove the fly-ash from the adjoining government and private land including the flyash with in Backwater of Hirakud Reservoir and restore the land to its pristine condition before the onset of monsoon

B. Constitute a High-level Multi Disciplinary Committee involving CPCB, MoEFCC and Central Government reputed Institutes to examine if the existing and proposed ash pond is confirming to the siting criteria of 500metres from Hirakud Reservoir and impact of the Ash Pond Breach on the Hirakud Wetland.

C. Call for a report from National Wetland Committee and State

Wetland authority on steps taken to protect and preserve the Hirakud reservoir from the impact of industrialisation

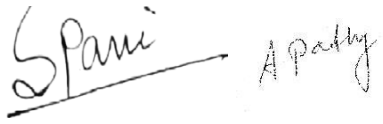
D. Impose Exemplary environment compensation and initiate prosecution against the erring respondents for violation of environment norms and dumping of fly-ash without consent of the SPCB.

E. Fixing of Responsibility and initiation of criminal proceedings against the officers of OPGC and State Pollution Control Board for the failure in discharging the due diligence and direct the state to initiate criminal prosecution against the erring officers.

F. Any order as the Hon'ble Tribunal deem fit in the interest of justice

In the light of the above facts and circumstances stated it is most respectfully prayed that this Hon'ble Tribunal may be pleased to pass orders as per the prayers made in the present Original Application.

06/04/2024 APPLICANT THROUGH



ADVOCATE

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

EASTERN ZONE BENCH, KOLKATA

ORIGINAL APPLICATION NO ....OF 2024

IN THE MATTER OF:

GOPINATH MAJHI **APPLICANT**

VERSUS

STATE OF ODISHA AND ORS **RESPONDENTS**

AFFIDAVIT

0 6 APR 2024

I Gopinath Majhi, s/o Late Bimbadhar Majhi, aged about 67years At-Jaibudia(Bartap), Po- Banjari, Via- Belpahad RS, Jharsuguda 768217, Odisha do hereby solemnly affirm, and declare as under:

1. That I am the Applicant in the above mentioned original application and I am fully conversant with the facts and circumstances of the case and competent to swear this affidavit.
2. That I have read over the contents of the accompanying affidavit and the same is true and correct and is drafted on my instruction.

x Gopinath Majhi

DEPONENT

VERIFICATION

Verified on this the 0 6 APR 2024 day of _________ 2024 at Bhubaneswar that the contents of the above affidavit are true and correct. No part of it is false and nothing material has been concealed there from.

Identified By

Advocate

x Gopinath Majhi

VERIFICANT

NOTARY — JANMEJAYA RAUTRAY — GOVT. OF ODISHA

The above named deponent(s) being duly identified by S.P. Pant ... Bhubaneswar. Appears before me at ... on 0 6 APR 2024 ... on oath ... are true to ... knowledge and belief.

Deponent(s) Notary, Bhubaneswar

JANMEJAYA RAUTRAY
NOTARY, GOVT. OF ODISHA
BHUBANESWAR
REGD. NO.-ON-86/2012
Mob. No. - 9337121273

ANNEXURE-1

O.P.G.C. LTD.
RECEIPT No...427...
DATE.....23-2-10
BHUBANESWAR

BY SPEED POST

सत्यमेव जयते

J-13011/59/2008 -IA.II (T)
Government of India
Ministry of Environment & Forests

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

Dated: 04/02/2010

To

M/s Orissa Power Generation Corportaion Ltd.
Zone-A, 7th Floor, Fortune Towers
Bhubaneswar- 751 023.

Sub: Expansion of existing Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 3 & 4) at village Banaharpalli, in Jharsuguda Distt., in Orissa – reg. Environmental Clearance.

Sir,

The undersigned is directed to refer to letter dated 26.10.2009 on the subject mentioned above. The Ministry of Environment & Forests has examined the application.

2. It is noted that the proposal is for expansion of existing Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 3 & 4) at village Banaharpalli, in Jharsuguda Distt., in Orissa. Unit 1&2 is under operation. No additional land is required for the expansion. Additional land is however proposed to be acquired for new ash pond keeping the required distance criteria of 500 m from HFL of Hirakud Reservoir. Coal requirement will be met from two Coal Blocks viz. Manoharpur and Dip-side of Manoharpur) in Ib valley area with total reserve of 531 MT. Coal requirement will be 6.73 MTPA at 80% PLF. Ash content in coal will be 40% and Sulphur content 0.4 % (maximum). Water requirement 4100 m^3/hr and will be sourced from Hirakud Reservoir, which has been accorded by the state government. No diversion of forest land will be involved. COC 5.0 will be adopted. Fly ash will be used for filling Manoharpur mines. A twin flue stack of 275 m height with flue gas velocity of 22 m/s will be installed. No ground water will be tapped for the project activity. There are no wildlife sanctuaries, national parks, biosphere, tiger, elephant reserves; heritage sites etc within 10 km of the plant. Public hearing was conducted on 24.06.2008. Cost of the project will be Rs. 6091.0 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, 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 conditions:

(i) It shall be ensured that natural drainage in the area is not disturbed due to any activity associated with operation or development of the power plant.

(ii) The height of the existing ash pond shall not be increased to accommodate fresh disposal of ash slurry.

(iii) Wildlife conservation plan prepared in consultation with the office of the concerned Chief Wildlife Warden shall be implemented before any expansion activity is undertaken. The status of implementation shall be submitted to the Regional Office of the Ministry within six months and from time to time.

(iv) Hydro-geological study of the area shall be **reviewed annually** and results submitted to the Ministry and concerned agency in the State Govt. In case adverse impact on ground water quantity and quality is observed, immediate mitigating steps to contain any adverse impact on ground water shall be undertaken.

(v) A twin flue stack of 275 m height shall be provided with continuous online monitoring equipments for SOx, NOx and RSPM ($PM_{2.5}$ & PM_{10}). Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.

(vi) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm^3.

(vii) 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.

(viii) Utilisation of 100% Fly Ash generated shall be made from 4th year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.

(ix) 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.

(x) Ash pond shall be lined with HDP/LDP 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.

(xi) For disposal of Bottom Ash in abandoned Manohar mines it shall be ensured that **the bottom and sides of the mined out areas are adequately lined with clay before Bottom Ash is filled up.** The project proponent shall inform the State Pollution Control Board well in advance before undertaking the activity.

(xii) Closed cycle cooling system with natural draft cooling towers shall be provided. The Effluents shall be treated as per the prescribed norms.

(xiii) COC 5.0 will be adopted.

(xiv) The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon. Arrangements shall be made that effluents and storm water do not do not get mixed.

(xv) A sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt/plantation.

(xvi) Rainwater harvesting should be adopted. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology within **a period of three months** from the date of clearance and details shall be furnished.

(xvii) 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.

(xviii) 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.

(xix) Regular monitoring of ground water (especially around ash pond and plant areas) 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.

(xx) Monitoring surface water quantity and quality 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.

(xxi) 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 70 %.

(xxii) First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.

(xxiii) Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. 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.

(xxiv) Regular monitoring of ground level concentration of SO_2, NOx, RSPM ($PM_{2.5}$ & PM_{10}) 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.

(xxv) A good action plan for R&R (if applicable) with package for the project affected persons be submitted and implemented as per prevalent R&R policy **within three months** form the date of issue of this letter.

(xxvi) An amount of Rs 24.36 Crores shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs 4.87 Crore per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be **submitted within one month** along with road map for implementation.

(xxvii) As part of CSR programme the company shall conduct need based assessment for the nearby villages to study economic measures with action plan which can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people besides 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 ir.come generating programmes. This will be in addition to vocational training for individuals imparted to take up self employment and jobs.

(xxviii) The project proponent shall also adequately contribute in the development of the neighbouring villages. Special package with implementation schedule for providing fluoride free potable drinking water supply in the near by villages and schools shall be undertaken in a time bound manner.

(xxix) Provision shall be made for the housing of construction labour 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.

(xxx) 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.

(xxxi) 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.

(xxxii) A separate Environment Management Cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.

(xxxiii) The proponent shall upload the status of compliance of the stipulated EC 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, RSPM, SO_2, 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.

(xxxiv) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well by e- mail) to the respective Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB.

(xxxv) 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 EC conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.

(xxxvi) **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.**

(xxxvii) 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 NOx (from stack & ambient air) shall be displayed at the main gate of the power plant.**

(xxxviii) 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.

(xxxix) 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.

(xl) 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.

4. 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.

5. The environmental clearance accorded **shall be valid for a period of 5 years** to start operations by the power plant.

6. 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.

7. 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.

8. 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.

9. Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred, within 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.

(**LALIT KAPUR**)
DIRECTOR

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary (Environment), Environment Department, Government of Orissa, Bhubaneshwar.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, Orissa State Pollution Control Board, A-118, Nilkanta Nagar, Unit – VIII, Bhubaneshwar- 751 012.
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 (EZ), Ministry of Environment & Forests, A/3, Chandesekhapur, Bhubaneswar – 751023.
7. The District Collector, Jharsuguda District, Orissa.
8. The Director (EI), MOEF.
9. Guard file.
10. Monitoring file.

(**LALIT KAPUR**)
DIRECTOR

ANNEXURE-1A

BY SPEED POST

J-13011/59/2008 -IA.II (T)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan
CGO Complex, Lodi Road
New Delhi-110 003
Dated: 22.01.2014.

To

M/s Odisha Power Generation Corporation Ltd.
Zone-A, 7th Floor, Fortune Towers,
Bhubaneswar- 751 023,
Odisha.

Ph: 0674-2303765; Fax; 0674-2303755/56

Sub: Expansion of existing Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 3 & 4) at Village Banaharpalli, in Jharsuguda Distt., in Orissa by M/s Odisha Power Generation Corporation Ltd. – reg. Amendment and Extension of validity of Environmental Clearance.

Sir,

This has reference to your letters dated 05.06.2013 and 18.09.2013 requesting for amendment and extension of validity of environmental clearance accorded for the above mentioned project.

2. The matter was placed before the Expert Appraisal Committee (Thermal Power) in its 4th Meeting held during November 18-19, 2013. 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 following amendments are made in two conditions i.e. (xii) & (xviii) specified in the earlier EC accorded to you vide our letter of even no. dated 04.02.2010.

a) The condition no. (xii) of Para No.4 shall be read as *"Closed cycle cooling system with induced draft cooling towers shall be provided. The Effluents shall be treated as per the prescribed norms"* **instead of**

"Closed cycle cooling system with natural draft cooling towers shall be provided. The Effluents shall be treated as per the prescribed norms."

b) The condition no. (xviii) of Para No.4 shall be read as *"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. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil"* **instead of**

"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."

3. Further, under Para no.4 of this Ministry's letter of even no. dated 04.02.2010, after the condition no. (xl), the following conditions shall be inserted:

(xli) 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.

(xlii) Continuous monitoring for heavy metals in and around the existing ash pond area shall be immediately carried out by reputed institutes like IIT Kanpur.

(xliii) 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.

(xliv) Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land.

(xlv) No ground water shall be extracted for use in operation of the power plant even in lean season.

(xlvi) 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.

(xlvii) 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.

(xlviii) 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.

(xlix) Three tier green belt shall be developed all around Ash Pond over and above the Green Belt around the plant boundary.

(l) A common **Green Endowment Fund** shall be created and the interest earned out of it shall be used for the development and management of green cover of the area.

(li) 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.

(lii) An Environmental Cell shall be created at the project site itself and shall be headed by an officer of the company of appropriate seniority and

qualification. It shall be ensured that the head of the Cell shall directly report to the Head of the Organization.

(liii) 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 04.02.2010 shall remain the same.

5. Regarding the extension of validity of environmental clearance, since the validity will only expire in Feb, 2015, you may request this Ministry along with updated Form-I only before 6 months from expiry of the validity of EC, if required.

This issues with the approval of the Competent Authority.

(Dr. Saroj)
Director

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary (Environment), Environment Department, Government of Orissa, Bhubaneshwar.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, Orissa State Pollution Control Board, A-118, Nilkanta Nagar, Unit – VIII, Bhubaneshwar- 751 012.
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 (EZ), Ministry of Environment & Forests, A/3, Chandesekhapur, Bhubaneswar – 751023.
7. The District Collector, Jharsuguda District, Orissa.
8. Guard file.

(Dr. Saroj)
Director

ANNEXURE-2

सत्यमेव जयते

File No: J-13011/59/2008-IA.II (T)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division
****

Dated **02/11/2023**

To,

Shri Prasant Kumar Mohapatra
M/s ODISHA POWER GENERATION CORPORATION LIMITED
Zone-A, 7th Floor, Fortune Towers, Chandrashekharpur, Bhubaneshwar., Bhubaneshwar, KHORDHA, ODISHA, 751023
deepak.tripathy@opgc.co.in

Subject: **Expansion of Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III at Banaharpalli village, Jharsuguda district, Odisha by M/s Odisha Power Generation Corporation Ltd. - Terms of References (TOR) – reg.**

Sir/Madam,

This is in reference to your application for Grant of Terms of Reference under the provision of the EIA Notification 2006-regarding in respect of project Expansion of Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III at Banaharpalli village, Jharsuguda district, Odisha state by M/s. Odisha Power Generation Corporation Ltd. submitted to Ministry vide proposal number IA/OR/THE/440643/2023 dated 13/10/2023.

2. The particulars of the proposal are as below :

(i) TOR Identification No.	TO23A0601OR5891572N
(ii) File No.	J-13011/59/2008-IA.II (T)
(iii) Clearance Type	Fresh ToR
(iv) Category	A
(v) Project/Activity Included Schedule No.	1(d) Thermal Power Plants
(vi) Sector	Thermal Projects
(vii) Name of Project	Expansion of Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III at Banaharpalli village, Jharsuguda district, Odisha state by M/s. Odisha Power Generation Corporation Ltd.
(viii) Name of Company/Organization	M/s ODISHA POWER GENERATION CORPORATION LIMITED
(ix) Location of Project (District, State)	JHARSUGUDA, ODISHA

(x) Issuing Authority	MoEF&CC
(xii) Applicability of General Conditions	no
(xiii) Applicability of Specific Conditions	no

3. In view of the particulars given in the Para 2 above, the project proposal inter-alia including Form-1 (Part A and B) were submitted to the Ministry for an appraisal by the Expert Appraisal Committee (EAC) in the Ministry under the provision of EIA notification 2006, as amended.

4. The above-mentioned proposal has been considered by Expert Appraisal Committee (Thermal Power projects) in its 46th meeting held on 4th September, 2023. The minutes of the meeting and all the documents submitted viz. Form-1 (Part A and Part B) are available on PARIVESH portal which can be accessed by scanning the QR Code above.

5. The brief about configuration of plant/equipment, products and by products and salient features of the project along with environment settings, as submitted by the Project proponent in Form-1(Part A and B) and presented during EAC meeting are annexed as Annexure 3.

6. The EAC in its 46th meeting held on 4th September, 2023, based on information & clarifications provided by the project proponent and after detailed deliberations recommended the proposal for grant of Standard Terms of Reference along with additional Terms of Reference under the provision of EIA Notification, 2006, as amended for conducting EIA study as detailed in Annexure 1.

7. The MoEF&CC has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006, as amended and after accepting the recommendations of the Expert Appraisal Committee hereby decided to grant Terms of Reference for instant proposal of Expansion of Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III at Banaharpalli village, Jharsuguda district, Odisha by M/s Odisha Power Generation Corporation Ltd, under the provisions of EIA Notification, 2006, as amended.

8. The Ministry reserves the right to stipulate additional conditions, if found necessary.

9. The Terms of Reference (ToR) to the aforementioned project is under provisions of EIA Notification, 2006, as amended. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

10. You are requested to kindly submit the final EIA/EMP prepared as per TORs to the Ministry for considering the proposal for environmental clearance within 4 years as per the extent rule of the Ministry notified time to time.

11. Grant of Terms of Reference does not necessarily meant grant to Environmental Clearance.

12. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India/National Accreditation Board of Education and Training (QCI/NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other Organization(s)/Laboratories including their status of approvals etc.

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

Copy To

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi - 110 001.
2. The Chairman, Central Electricity Authority, Sewa Bhawan, R. K. Puram, New Delhi - 110 066.
3. The Deputy Director General of Forests, Ministry of Environment, Forest and Climate Change, Integrated Regional Office, A/3, Chandersekharpur, Bhubaneswar – 751023.
4. The Chief Wildlife Warden, Govt. of Odisha, 5th Floor, BDA Apartments, Prakruti Bhawan, Nilakantha Nagar, Nayapalli, Bhubaneshwar-751012.
5. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi - 110 032.
6. The Member Secretary, Odisha State Pollution Control Board, Parivesh Bhawan, A/118 Nilakantha Nagar, Unit-VIII, Bhubaneshwar-751012.
7. The Secretary, Department of Environment, Government of Odisha, Secretariat, Bhubaneswar.
8. The District Collector, District Jharsuguda, Odisha
9. Guard file/Monitoring file
10. Website of MoEF&CC.

Annexure 1

Specific Terms of Reference for (Thermal Power Plants)

1. Socio-economic Study

S. No	Terms of Reference
1.1	1. Public Health Delivery Plan including the provisions of drinking water supply for local population shall be in the EIA/EMP Report. Status of the existing medical facilities in the project area shall be discussed. Possibilities of strengthening of existing medical facilities, construction of new medical infrastructure etc. will be explored after assessing the need of the labour force and local populace. 2. All the tasks including conducting public hearing shall be done as per the provisions of EIA Notification, 2006 and as amended from time to time. Public hearing issues raised and compliance of the same shall be incorporated in the EIA/ EMP report in the relevant chapter. 3. Statement on the commitments (activity-wise) made during public hearing to facilitate the discussion on the CER in compliance of the Ministry's OM F. No. 22- 65/2017-IA.III dated 30th September, 2020 shall be submitted. Tentative no. of project affected families shall be identified and accordingly appropriate Rehabilitation & Resettlement plan shall be prepared. 4. Details of settlement in 10 km area shall be submitted.

2. Environmental Management and Biodiversity Conservation

S. No	Terms of Reference
2.1	1. Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 15-km radius of the proposed project shall be conducted. 2. PCCF letter shall be obtained stating that no wildlife corridor is passing through the project boundary. 3. Wildlife conservation plan shall be prepared, in consultation with State forest and wildlife department, with adequate fund for wildlife habitat management, preserving wildlife and its corridors and be submitted along with EIA/EMP report. Human-Wildlife Conflict issue shall be studied and such incidences reported in the study area during last 10 years shall be submitted. No provision for purchasing the vehicle shall be made in the wildlife conservation plan. 4. Details of the existing rail, road networks and alignment of transmission lines along with quantity of coal being transported/to be transported for existing units and proposed expansion, its source and transportation mode shall be submitted. 5. Radioactivity studies along with coal analysis to be provided (sulphur, ash percentage and heavy metals including Pb, Cr, As and Hg). Details of auxiliary fuel, if any including its quantity, quality, storage, etc should also be given. 6. A comparative chart shall be prepared with changes observed from previous baseline study and present baseline study. 7. Existing green plantation carried out by the project proponent along with its survival rate shall be submitted and a plan shall be made to maintain survival rate upto 90%. 8. Detailed action plan shall be prepared for maintenance of air pollution control equipment. 9. PP shall prepare action plan to close existing ash dyke area which is under operation and very close to natural water body and same need to be incorporate in EIA/EMP report. 10. Details of Ash management of existing (last 5 years) and proposed project shall be submitted, along with 5-year plan for 100 % ash utilization. 11. Details of Dry Ash handling system along with supplementary coal handling system shall be submitted. 12. Proper protection measures like HDPE lining, appropriate height of bund and adequate distance between proposed Ash pond and water body (minimum 60 meter) etc. shall be planned so as to reduce the possibility of mixing of leachate with any fresh water body for under construction ash pond. High Density Slurry disposal plan shall be prepared. 13. Pond and ground water quality (10 locations within 2 km radius of the plant boundary) shall be studied and report be submitted along with EIA/EMP. Action plan for Ground water monitoring stations on all hotspots like schools/hospitals within 2 km radius of the plant boundary be submitted. 14. Baseline Study for Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/EMP report. 15. Details pertaining to water source, treatment and discharge should be provided. 16. Zero Liquid Discharge plan shall be submitted. 17. Action plan for development of green belt (33% of total project cover area) along the periphery of the project boundary shall be provided with a video clip of existing green belt.

S. No	Terms of Reference
	18. PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations. 19. Project Proponent to conduct Environmental Cost Benefit Analysis for the project in EIA/ EMP Report. 20. An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consultation with reputed government institution. 21. A detailed plan need to be submitted for undertaking extensive green plantation within 10 km radius of the plant focusing on water reservoir, school, hospital and other institutional area and same need to be incorporated in EIA/EMP report. 22. The distance of proposed project location from Jharsuguda identified polluted area shall be indicated and applicable norms/guidelines issued by the Ministry for undertaking the project in identified polluted areas shall be followed during preparation of EIA/EMP.

3. Miscellaneous:

S. No	Terms of Reference
3.1	1. Certified compliance report of previous EC to be submitted certified by Regional office of the MoEF&CC. IRO shall provide specific observations on the status of OCMS and emission control equipment of all units of the plant. 2. PP shall submit details of court cases and its status for the project. 3. The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples. 4. Arial view video of project site shall be recorded through drone and be submitted.

4. Disaster Management

S. No	Terms of Reference
4.1	Disaster Management Plan shall be prepared and incorporated in EIA/EMP report.

Standard Terms of Reference for (Thermal Power Plants)

1 Statutory compliance

S. No	Terms of Reference
1.1	The proposed project shall be given a unique name in consonance with the name submitted to other Government Departments etc. for its better identification and reference.

S. No	Terms of Reference
1.2	Vision document specifying prospective long term plan of the project shall be formulated and submitted.
1.3	Latest compliance report duly certified by the Regional Office of MoEF&CC for the conditions stipulated in the environmental and CRZ clearances of the previous phase(s) for the expansion projects shall be submitted.

2 Details of the Project and Site

S. No	Terms of Reference
2.1	Executive summary of the project indicating relevant details along with recent photographs of the proposed site (s) shall be provided. Response to the issues raised during Public Hearing and the written representations (if any), along with a time bound Action Plan and budgetary allocations to address the same, shall be provided in a tabular form, against each action proposed.
2.2	Harnessing solar power within the premises of the plant particularly at available roof tops and other available areas shall be formulated and for expansion projects, status of implementation shall also be submitted.
2.3	The geographical coordinates (WGS 84) of the proposed site (plant boundary), including location of ash pond along with topo sheet (1:50,000 scale) and IRS satellite map of the area, shall be submitted. Elevation of plant site and ash pond with respect to HFL of water body/nallah/River and high tide level from the sea shall be specified, if the site is located in proximity to them.
2.4	Layout plan indicating break-up of plant area, ash pond, green belt, infrastructure, roads etc. shall be provided.
2.5	Land requirement for the project shall be optimized and in any case not more than what has been specified by CEA from time to time. Item wise break up of land requirement shall be provided.
2.6	Present land use (including land class/kism) as per the revenue records and State Govt. records of the proposed site shall be furnished. Information on land to be acquired including coal transportation system, laying of pipeline, ROW, transmission lines etc. shall be specifically submitted. Status of land acquisition and litigation, if any, should be provided.
2.7	If the project involves forest land, details of application, including date of application, area applied for, and application registration number, for diversion under FCA and its status should be provided along with copies of relevant documents.
2.8	The land acquisition and R&R scheme with a time bound Action Plan should be formulated and addressed in the EIA report.
2.9	Satellite imagery and authenticated topo sheet indicating drainage, cropping pattern, water bodies (wetland, river system, stream, nallahs, ponds etc.), location of nearest habitations (villages), creeks, mangroves, rivers, reservoirs etc. in the study area shall be provided.
2.10	Topography of the study area supported by toposheet on 1:50,000 scale of Survey of India, along with a large scale map preferably of 1:25,000 scale and the specific information whether the site

S. No	Terms of Reference
	requires any filling shall be provided. In that case, details of filling, quantity of required fill material; its source, transportation etc. shall be submitted.

3 Ecology biodiversity and Environment

S. No	Terms of Reference
3.1	A detailed study on land use pattern in the study area shall be carried out including identification of common property resources (such as grazing and community land, water resources etc.) available and Action Plan for its protection and management shall be formulated. If acquisition of grazing land is involved, it shall be ensured that an equal area of grazing land be acquired and developed and detailed plan submitted.
3.2	Location of any National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes / wildlife corridor, if any, within 10 km of the project site shall be specified and marked on the map duly authenticated by the Chief Wildlife Warden of the State or an officer authorized by him.
3.3	A mineralogical map of the proposed site (including soil type) and information (if available) that the site is not located on potentially mineable mineral deposit shall be submitted.
3.4	The water requirement shall be optimized (by adopting measures such as dry fly ash and dry bottom ash disposal system, air cooled condenser, concept of zero discharge) and in any case not more than that stipulated by CEA from time to time, to be submitted along with details of source of water and water balance diagram. Details of water balance calculated shall take into account reuse and re-circulation of effluents.
3.5	Water body/Nallah (if any) passing across the site should not be disturbed as far as possible. In case any Nallah / drain is proposed to be diverted, it shall be ensured that the diversion does not disturb the natural drainage pattern of the area. Details of proposed diversion shall be furnished duly approved by the concerned Department of the State.
3.6	It shall also be ensured that a minimum of 500 m distance of plant boundary is kept from the HFL of river system / streams etc. and the boundary of site should also be located 500 m away from railway track and National Highways.
3.7	Hydro-geological study of the area shall be carried out through an institute/ organization of repute to assess the impact on ground and surface water regimes. Specific mitigation measures shall be spelt out and time bound Action Plan for its implementation shall be submitted
3.8	Detailed Studies on the impacts of the ecology including fisheries of the River/Estuary/Sea due to the proposed withdrawal of water / discharge of treated wastewater into the River/Sea etc shall be carried out and submitted along with the EIA Report. In case of requirement of marine impact assessment study, the location of intake and outfall shall be clearly specified along with depth of water drawl and discharge into open sea.
3.9	Source of water and its sustainability even in lean season shall be provided along with details of ecological impacts arising out of withdrawal of water and taking into account inter-state shares (if any). Information on other competing sources downstream of the proposed project and commitment

S. No	Terms of Reference
	regarding availability of requisite quantity of water from the Competent Authority shall be provided along with letter / document stating firm allocation of water.
3.10	Detailed plan for rainwater harvesting and its proposed utilization in the plant shall be furnished.In addition, wherever ground water is drawn, PP shall submit detailed plan of Water charging activity to be undertaken.
3.11	Feasibility of near zero discharge concept shall be critically examined and its details submitted.
3.12	Optimization of Cycles of Concentration (COC) along with other water conservation measures in the project shall be specified.
3.13	Plan for recirculation of ash pond water and its implementation shall be submitted.
3.14	Detailed plan for conducting monitoring of water quality regularly with proper maintenance of records shall be formulated. Detail of methodology and identification of monitoring points (between the plant and drainage in the direction of flow of surface / ground water) shall be submitted. It shall be ensured that parameter to be monitored also include heavy metals. A provision for long-term monitoring of ground water table using Piezometer shall be incorporated in EIA, particularly from the study area.
3.15	Hazards Characterization: Past incidents of hazard events within 10km radius of project area with detailed analysis of causes and probability of reoccurrence

4 Environmental Baseline study and mitigation measures

S. No	Terms of Reference
4.1	One complete season (critical season) site specific meteorological and AAQ data (except monsoon season) as per latest MoEF&CC Notification shall be collected along with past three year's meteorological data for that particular season for wins speed analysisand the dates of monitoring shall be recorded. The parameters to be covered for AAQ shall include PM10, PM2.5, SO2, NOx, CO and Hg. The location of the monitoring stations should be so decided so as to take into consideration the upwind direction, pre-dominant downwind direction, other dominant directions, habitation and sensitive receptors. There should be at least one monitoring station each in the upwind and in the pre - dominant downwind direction at a location where maximum ground level concentration is likely to occur.
4.2	In case of expansion project, air quality monitoring data of 104 observations a year for relevant parameters at air quality monitoring stations as identified/stipulated shall be submitted to assess for compliance of AAQ Standards (annual average as well as 24 hrs).
4.3	A list of industries existing and proposed in the study area shall be furnished.
4.4	Cumulative impacts of all sources of emissions including handling and transportation of existing and proposed projects on the environment of the area shall be assessed in detail. Details of the Model used and the input data used for modelling shall also be provided. The air quality contours should be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any. The windrose and isopleths should also be shown on the location map. The

S. No	Terms of Reference
	cumulative study should also include impacts on water, soil and socio-economics.
4.5	Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.
4.6	Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.
4.7	Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished. The Ministry's Notification dated 02.01.2014 regarding ash content in coal shall be complied. For the expansion projects, the compliance of the existing units to the said Notification shall also be submitted
4.8	Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.
4.9	For proposals based on imported coal, inland transportation and port handling and rail movement shall be examined and details furnished. The approval of the Port and Rail Authorities shall be submitted.
4.10	Details regarding infrastructure facilities such as sanitation, fuel, restrooms, medical facilities, safety during construction phase etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase should be adequately catered for and details furnished.

5 Environmental Management Plan

S. No	Terms of Reference
5.1	EMP to mitigate the adverse impacts due to the project along with item - wise cost of its implementation in a time bound manner shall be specified.
5.2	A Disaster Management Plan (DMP) along with risk assessment study including fire and explosion issues due to storage and use of fuel should be prepared. It should take into account the maximum inventory of storage at site at any point of time. The risk contours should be plotted on the plant layout map clearly showing which of the proposed activities would be affected in case of an accident taking place. Based on the same, proposed safeguard measures should be provided. Measures to guard against fire hazards should also be invariably provided. Provision for mock drills shall be suitably incorporated to check the efficiency of the plans drawn.
5.3	The DMP so formulated shall include measures against likely Fires/Tsunami/Cyclones/Storm Surges/ Earthquakes etc, as applicable. It shall be ensured that DMP consists of both On-site and Off-site plans, complete with details of containing likely disaster and shall specifically mention personnel identified for the task. Smaller version of the plan for different possible disasters shall be prepared both in English and local languages and circulated widely.
5.4	Details of fly ash utilization plan as per the latest fly ash Utilization Notification of GOI along with

S. No	Terms of Reference
	firm agreements / MoU with contracting parties including other usages etc. shall be submitted. The plan shall also include disposal method / mechanism of bottom ash along with monitoring mechanism.

6 Green belt development

S. No	Terms of Reference
6.1	Detailed scheme for raising green belt of native species of appropriate width (50 to 100 m) and consisting of at least 3 tiers around plant boundary not less than 2000 tree per ha with survival rate of more than 85%shall be submitted. Photographic evidence must be created and submitted periodically including NRSA reports in case of expansion projects. A shrub layer beneath tree layer would serve as an effective sieve for dust and sink for CO2 and other gaseous pollutants and hence a stratified green belt should be developed.
6.2	Over and above the green belt, as carbon sink, plan for additional plantation shall be drawn by identifying blocks of degraded forests, in close consultation with the District Forests Department. In pursuance to this the project proponent shall formulate time bound Action Plans along with financial allocation and shall submit status of implementation to the Ministry every six months

7 Socio-economic activities

S. No	Terms of Reference
7.1	Socio-economic study of the study area comprising of 10 km from the plant site shall be carried out through a reputed institute / agency which shall consist of detail assessment of the impact on livelihood of the local communities.
7.2	Action Plan for identification of local employable youth for training in skills, relevant to the project, for eventual employment in the project itself shall be formulated and numbers specified during construction & operation phases of the Project.
7.3	If the area has tribal population, it shall be ensured that the rights of tribals are well protected. The project proponent shall accordingly identify tribal issues under various provisions of the law of the land.
7.4	A detailed CER plan along with activities wise break up of financial commitment shall be prepared in terms of the provisions OM No. 22-65/2017-IA.III dated 30.09.2020.CER component shall be identified considering need based assessment study and Public Hearing issues. Sustainable income generating measures which can help in upliftment of affected section of society, which is consistent with the traditional skills of the people shall be identified.
7.5	While formulating CER schemes it shall be ensured that an in-built monitoring mechanism for the schemes identified are in place and mechanism for conducting annual social audit from the nearest government institute of repute in the region shall be prepared. The project proponent shall also provide Action Plan for the status of implementation of the scheme from time to time and dovetail the same with any Govt. scheme(s). CERdetails done in the past should be clearly spelt out in case of expansion projects.

S. No	Terms of Reference
7.6	R&R plan, as applicable, shall be formulated wherein mechanism for protecting the rights and livelihood of the people in the region who are likely to be impacted, is taken into consideration. R&R plan shall be formulated after a detailed census of population based on socio economic surveys who were dependant on land falling in the project, as well as, population who were dependant on land not owned by them.
7.7	Assessment of occupational health and endemic diseases of environmental origin in the study area shall be carried out and Action Plan to mitigate the same shall be prepared.
7.8	Occupational health and safety measures for the workers including identification of work related health hazards shall be formulated. The company shall engage full time qualified doctors who are trained in occupational health. Health monitoring of the workers shall be conducted at periodic intervals and health records maintained. Awareness programme for workers due to likely adverse impact on their health due to working in non-conducive environment shall be carried out and precautionary measures like use of personal equipments etc. shall be provided. Review of impact of various health measures undertaken at intervals of two to three years shall be conducted with an excellent follow up plan of action wherever required.

8 Corporate Environment Policy

S. No	Terms of Reference
8.1	Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
8.2	Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
8.3	What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions. Details of this system may be given.
8.4	Does the company has compliance management system in place wherein compliance status along with compliances / violations of environmental norms are reported to the CMD and the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.

9 Miscellaneous

S. No	Terms of Reference
9.1	All the above details should be adequately brought out in the EIA report and in the presentation to the Committee.
9.2	Details of litigation pending or otherwise with respect to project in any Court, Tribunal etc. shall invariably be furnished.
9.3	In case any dismantling of old plants are envisaged, the planned land use & land reclamation of

S. No	Terms of Reference
	dismantled area to be furnished.

10 Additional TOR for Coastal Based Thermal Power Plants Projects (TPPs)

S. No	Terms of Reference
10.1	Low lying areas fulfilling the definition wetland as per Ramsar Convention shall be identified and clearly demarcated w.r.t the proposed site.
10.2	If the site includes or is located close to marshy areas and backwaters, these areas must be excluded from the site and the project boundary should be away from the CRZ line. Authenticated CRZ map from any of the authorized agencies shall be submitted.
10.3	The soil levelling should be minimum with no or minimal disturbance to the natural drainage of the area. If the minor canals (if any) have to be diverted, the design for diversion should be such that the diverted canals not only drains the plant area but also collect the volume of flood water from the surrounding areas and discharge into marshy areas/major canals that enter into creek. Major canals should not be altered but their embankments should be strengthened and desilted.
10.4	Additional soil required for levelling of the sites should as far as possible be generated within the site itself in such a manner that the natural drainage system of the area is protected and improved.
10.5	Marshy areas which hold large quantities of flood water to be identified and shall not be disturbed.
10.6	No waste should be discharged into Creek, Canal systems, Backwaters, Marshy areas and seas without appropriate treatment. Wherever feasible, the outfall should be first treated in a Guard Pond and then only discharged into deep sea (10 to 15 m depth). Similarly, the Intake should be from deep sea to avoid aggregation of fish and in no case shall be from the estuarine zone. The brine that comes out from Desalinization Plants (if any) should not be discharged into sea without adequate dilution.
10.7	Mangrove conservation and regeneration plan shall be formulated and Action Plan with details of time bound implementation shall be specified, if mangroves are present in Study Area.
10.8	A common Green Endowment Fund should be created by the project proponents out of EMP budgets. The interest earned out of it should be used for the development and management of green cover of the area.
10.9	Impact on fisheries at various socio economic level shall be assessed.
10.10	An endowment Fishermen Welfare Fund should be created out of CER grants not only to enhance their quality of life by creation of facilities for Fish Landing Platforms / Fishing Harbour / cold storage, but also to provide relief in case of emergency situations such as missing of fishermen on duty due to rough seas, tropical cyclones and storms etc.
10.11	Tsunami Emergency Management Plan shall be prepared wherever applicable and Plan submitted prior to the commencement of construction work.
10.12	There should not be any contamination of soil, ground and surface waters (canals & village pond)

S. No	Terms of Reference
	with sea water in and around the project sites. In other words necessary preventive measures for spillage from pipelines, such as lining of Guard Pond used for the treatment of outfall before discharging into the sea and surface RCC channels along the pipelines of outfall and intake should be adopted. This is just because the areas around the projects boundaries could be fertile agricultural land used for paddy cultivation.

Additional Terms of Reference

N/A

Annexure 2

Details of Products & By-products

Name of the product /By-product	Product / By-product	Existing	Proposed	Total	Unit	Mode of Transport / Transmission
Electricity generation	Electricity generation	1740	1320	3060	Mega Watt (MW)	Transmission line through Grid

Annexure (3)

The details of the project

The Project Proponent and the accredited Consultant M/s. Vimta Labs Limited made a detailed presentation on the salient features of the project and informed that:

i. M/s Odisha Power Generation Corporation Limited (OPGC) proposes to set up Stage III (2 x 660 MW) Thermal Power Plant adjacent to its existing Stage I (2 x 210 MW) and Stage II (2 x 660 MW) Power Plants at IB Thermal Power Station, Banharpali village, Lakhanpur Taluk, Jharsuguda district in the North-west of Odisha.

ii. The Ministry had issued EC for Stage -I vide letter no. 14/13/83-EM-2, dated 27.09.1984, Stage- II vide letter no. J-13011/59/2008-IA. II (T), dated 04.02.2010 and EC for Township obtained from SEIAA, Odisha vide letter no. 243/SEIAA, dated: 21.01.2014. to the existing project IB Thermal Power station in favour of M/s. Odisha Power Generation Corporation Limited.

iii. Two (2) units of 210 MW capacity each came up in the first phase and commissioned in 1994 & 1996 respectively and in the second phase another two units of 660 MW capacity each were commissioned in 2019.

iv. There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. The Nearest Wildlife sanctuary is Debrigarh WL sanctuary which is located at 18.5 Km south and separated by Hirakud Reservoir water. Hirakud Reservoir is adjacent to the project site and major River IB River which is flowing at a distance of 5.7 Km in SW direction.

v. Total water requirement is 2,16,000 KLD including existing water requirement of 1,24,000 KLD of which fresh water requirement be met from Hirakud Reservoir. Permission obtained from Water Resource Department, Govt, of Odisha for 52.98 cusecs (129619 KLD) for Stage-I & II. Application was filed for 38.84 cusecs (95024 KLD) water allocation.

vi. Effluent of 15650 KLD including existing 9800 KLD quantity will be treated through Effluent Treatment plant of capacity existing 9600 KLD and proposed 9600 KLD. The plant will be based on Zero Liquid discharge system. Sewage water will be treated by using existing STP- 1000 KLD.

vii. Power requirement after expansion will be 185.25 MW including existing 111.05 MW and will be met in house. DG sets of capacity 3x 1750 KVA are proposed as standby during power failure. Stack (height 30 m) will be provided as per CPCB norms to the proposed DG sets.

viii. 2 units of 660 MW Turbine generator sets of coal fired boiler operated with supercritical steam parameters. Electro Static Precipitators with a stack of height of 150 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm^3.

ix. The total solid waste generation of the expansion will be 32,50,000 TPA. Which will be utilized as per the Fly notification Dec, 2021 and amended thereof and disposal of balance un utilized ash in Ash pond.

x. The hazardous waste will be generated from different operation process for expansion is 415 TPA it will be disposed/sent to Common Hazardous Waste Treatment Storage Disposal Facility/Authorized Recyclers.

xi. OPGC IB Thermal Power Plant was inspected on 26.07.2023 by IRO, MoEF&CC, Bhubaneshwar and Certified compliance report issued vide File no: 101-361/23/EPE, dated: 23.08.2023.

xii. The salient features of the project are as under:-

1. **Project Details:**

Name of the Proposal	Expansion of Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III at Banaharpalli village, Jharsuguda district, Odisha state by M/s. Odisha Power Generation Corporation Ltd. (OPGCL)
Proposal No.	IA/OR/THE/440643/2023
Location	Banaharpalli Village, Jharsuguda, Odisha
Company's Name	Odisha Power Generation Corporation Ltd. (OPGCL)
Accredited Consultant and certificate no.	M/s. Vimta Labs Limited, Hyderabad Certificate No. NABET/EIA/2326/RA 0301 Valid upto: May 26, 2026
Inter- state issue involved	Not Applicable
Seismic zone	The project area falls under seismic zone-III as per IS: 1893 (Part-1): 2002.

2. **Category Details**

Category of the project	A
Capacity	1320 MW (2 X 660 MW)
Attracts the General Conditions (Yes/No)	No
Additional information (if any)	Not Applicable

3. **Project Details**

If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	Stage-I (Unit#1 & 2): Environment Clearance No. 14/13/83-EM-2, dated 27.09.1984 Stage-II (Unit#3 & 4): Environment Clearance No. J-13011/59/2008-IA.II(T), dated 04-02-2010

	Amendment and Extension of EC validity No. J-13011/59/2008-IA.II(T), dated 22-01-2014. Extension of EC validity No. J-13011/59/2008-IA.II(T), dated 16-01-2015.
Amendments granted, if Yes details	Yes J-13011/59/2008-IA.II(T); dated: 22-01-2014 a) Condition No. (xii) of Para No.4 shall be read as "Closed cycle cooling system with induced draft cooling towers shall be provided. The Effluents shall be treated as per the prescribed norms" ***instead of*** "Closed cycle cooling system with natural draft cooling towers shall be provided. The Effluents shall be treated as per the prescribed norms." b) Condition no. (xviii) of Para No.4 shall be read as "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. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil" ***instead of*** "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" Further, under Para no.4 of this Ministry's letter of even no. dated 04.02.2010, after the condition no. (xl), the following conditions are added: (xli) 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. (xlii) Continuous monitoring for heavy metals in and around the existing ash pond area shall be immediately carried out by reputed institutes like IIT Kanpur. (xliii) 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. (xliv) Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land. (xlv) No ground water shall be extracted for use in operation of the power plant even in lean season. (xlvi) 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. (xlvii) 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. (xlviii) 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. (xlix) Three tier green belt shall be developed all around Ash Pond over and above the Green Belt around the plant boundary. (l) A common **Green Endowment Fund** shall be created and the interest earned out of it shall be used for the development and management of green cover of the area. (li) 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.

	(Iii) An Environmental Cell shall be created at the project site itself and shall be headed by an officer of the company of appropriate seniority and qualification. It shall be ensured that the head of the cell shall directly report to the Head of the Organization. (Iiii) 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 or even No. dated 04-02-2010 shall remain the same. 5. Regarding the extension of validity of environmental clearance, since the validity will only expire in Feb, 2015, you may request this Ministry along with updated Form- I only before 6 months from expiry of the validity of EC, if required.
Extension of EC validity granted, if Yes details	Yes (J-13011/59/2008-IA.II(T); Dated: 16-01-2015 2. The matter was placed before the EAC (Thermal Power) in its 26th Meeting held during 27th & 28th November, 2014. In acceptance of the recommendations of the EAC and in view of the information/clarification furnished by you with respect to the implementation of the above mentioned power plant, the validity of the EC and its amendment is extended for a period of five years i.e. **till 03.02.2020** to start the production operations by the power plant.
Expansion / Green Field (new): (IPP / Merchant / Captive):	Expansion
If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest	Stage-I (Unit#1 & 2): Submission of Half yearly Environmental Status Report of OPGCL (2X210 MW), for the period October 2022 – March 2023 vide OPGC Letter No. ITPS/2912/WE dated 27-05-2023 submitted to The Eastern Regional Office, MoEF&CC, Bhubaneshwar. Copy enclosed as **Exhibit-A.** Stage-II (Unit#3 & 4): Submission of Half yearly Environmental Status Report of OPGCL (2X210

<table>
<tr><td>R.O. monitoring report shall also be submitted.</td><td>MW), for the period October 2022 – March 2023 vide OPGC Letter No. ITPS/2913/WE dated 27-05-2023 submitted to The Eastern Regional Office, MoEF&CC, Bhubaneshwar. Copy enclosed as Exhibit-B.</td></tr>
<tr><td>Specific webpage address where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are/will be available. Also contact details of PP’s officer responsible for updating this webpage/information.</td><td>Website Address: https://opgc.co.in/</td></tr>
<tr><td>Co-ordinates of all four corners of TPP Site:</td><td>
<table>
<tr><th>Details of unit</th><th>GPS Coordinates</th></tr>
<tr><td>Existing & Proposed Main Plant Area including Township</td><td>A.21°42'01.98"N 83°51'05.97"E
B.21°41'57.29"N 83°51'43.87"E
C.21°41'46.43"N 83°51'43.79"E
D.21°41'43.85"N 83°52'42.93"E
E.21°41'23.84"N 83°52'35.36"E
F.21°40'52.73"N 83°51'54.67"E
G.21°40'50.40"N 83°51'32.63"E</td></tr>
<tr><td>Ash Pond-1</td><td>A. 21°41'22.40"N 83°53'33.95"E
B.21°41’49.18”N 83°53’51.82”E
C. 21°41'01.92"N 83°54'50.06"E
D.21°40’39.69”N 83°54’23.19”E</td></tr>
<tr><td>Ash Pond-2</td><td>A.21°38’33.34”N 83°54’50.37”E
B. 21°39'04.81"N 83°55'08.41"E
C.21°38’48.48”N 83°55’54.87”E
D. 21°38'29.97"N 83°55'06.07"E</td></tr>
</table>
</td></tr>
<tr><td>Average height of:
(a) TPP site

(b) ash pond site etc. above MSL</td><td>a) TPP site: 195 m (MSL) to 200 m (MSL)

b) Ash pond site:187m (MSL) to 208 m (MSL)</td></tr>
<tr><td>Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:</td><td>Not Applicable</td></tr>
<tr><td>CRZ Clearance</td><td>Not Applicable</td></tr>
<tr><td>Cost of the Project (As per EC and revised):</td><td>INR 12717 Crores</td></tr>
</table>

Cost of the proposed activity in the amendment:	
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	Existing employment is 5200 (Permanent employees: 409 and Temporary/Contract employees: 4791). Proposed employment is 3500. (Permanent employees: 150 and Temporary/Contract employees: 3350)
Benefits of the project (specify quantitative information)	National GDP at the all-India level will continue to grow at the average compound annual growth rate (CAGR). Higher Growth rates of electricity consumption. Expansion proposed to meet this major demand. Housing, Education, Market, Healthcare, Road Network, etc., will be developed

4. Electricity generation capacity:

Capacity & Unit Configurations:	Proposed: 2 x 660 MW Post Expansion: 3060 MW (2 X 210 MW + 2 X 660 MW + 2 X 660 MW)
Generation of Electricity Annually	Present – 1740 MW Post Expansion – 3060 MW

5. Details of fuel and Ash disposal

Fuel to be used:	Coal
Quantity of Fuel required per Annum:	Proposed 2 x 660 MW

Particulars	Unit	Quantity of coal
Stage-I (Unit # 1 & 2)	MTPA	2.7
Stage-II (Unit # 3 & 4)	MTPA	7.6
Stage-III (Unit # 5 & 6)	MTPA	7.6

Coal Linkage / Coal Block: **(If Block allotted, status of EC & FC of the Block)**	**Coal Linkage Details:** Availability of long-term linkage from Manoharpur coal mines, MoC, Government of India for Stage-I. Allocated captive coal block of Manoharpur coal mined in the year 2015 for Stage-II & III.
Details of mode of transportation of coal from coal source to the plant premises along with distances	The coal will be transported from the Mines through the dedicated MGR system (length is 48 KM) of OPGC. Coal production from Manoharpur coal mines has already been started and currently, the required quantity of coal for Stage II is being availed

<table>
<tr><td></td><td>from the Manoharpur mine through the dedicated MGR system of OPGC</td></tr>
<tr><td>Fly Ash Disposal System Proposed</td><td>Fly ash from the power plant will be evacuated in dry form and disposed through HCSD system to the Ash Pond of Units 5 & 6 for first five years and later on transported to mine for mixing with OB and backfilling.</td></tr>
<tr><td>Ash Pond/ Dyke

(Area, Location & Co-ordinates)

Average height of area above MSL (m)</td><td>Ash Pond / Dyke –
Area: 131.523 ha

An area of 131.523 Ha for Ash Pond will be acquired which has already identified adjacent to the Plant site boundary.

<table>
<tr><th>Details of unit</th><th>GPS Coordinates</th></tr>
<tr><td>Ash Pond-1</td><td>A. 21°41'22.40"N 83°53'33.95"E
B. 21°41’49.18”N 83°53’51.82”E
C. 21°41'01.92"N 83°54'50.06"E
D. 21°40’39.69”N 83°54’23.19”E</td></tr>
<tr><td>Ash Pond-2</td><td>A. 21°38’33.34”N 83°54’50.37”E
B. 21°39'04.81"N 83°55'08.41"E
C. 21°38’48.48”N 83°55’54.87”E
D. 21°38'29.97"N 83°55'06.07"E</td></tr>
</table>

Ash pond site:187m (MSL) to 208 m (MSL)</td></tr>
<tr><td>Quantity of

a. Fly Ash to be generated
b. Bottom Ash to be generated:</td><td>a.) Max. Fly Ash Generation / unit– 220 Tons/hr
b.) Max. Bottom Ash Generation / unit – 68 Tons/hr</td></tr>
<tr><td>Fly Ash utilization (details)</td><td>a) The dry fly ash from the silos will be used for fly ash brick manufacturing; lightweight aggregates manufacturing, cement admixtures, Quary reclamation, low lying area reclamation etc.
b) b) In the event of disruption in off take of fly ash from the plant, unutilized fly ash will be disposed through High Concentration Slurry Disposal (HCSD) system to the identified plot as suggested in the CREP as an exigency measure. In HCSD system, the fly ash solidifies very quickly at the disposal site and this process offers no air or water pollution during disposal. The decanted water will be recycled back for fresh slurry making. After attaining the maximum height, the mount will be covered with earth toping followed by greenery development.
c) Fly Ash will also be progressively back filled into Manoharpur mines which is the captive mine</td></tr>
</table>

	block of OPGC and any other mines which will be obtained from MCL. In doing this, the MoEFCC's guidelines of mixing fly ash in development of external OB Dump of OPGC's captive mine will be adhered to.
Stack Height (m) & Type of Flue	One (1) twin-flue chimney with common windshield for the two units have been envisaged for the proposed power station. The total height of the chimney has been considered as 150 m. The flues will be of mild steel construction with glass wool insulation. The chimney windshield would be of RCC slip-form construction.

6. Water Requirement:

Source of Water:	Surface water (Hirakud Reservoir)
Quantity of water requirement:	Existing: 5133 m^3/hr (124000 KLD) Proposed: 3800 m^3/hr (92000 KLD) Upon Expansion: 8933 m^3/hr (216000 KLD)
Distance of source of water from Plant:	5.6 km
Whether barrage/ weir/ intake well/ jack well/ others proposed:	From Hirakud Reservoir by existing installed raw water pump house system and through intake channel for drawal of surface water.
Mode of conveyance of water:	Intake channel
Status of water linkage:	Permission obtained from Water Resources Department, Govt. of Odisha for allocation of 52.98 cusecs for Stage-I & II. Existing water will suffice the requirement of construction phase of Stage-III. Application filed with Water Resource Department, Govt. of Odisha for allocation of 38.84 cusecs.
(If source is Sea water) Desalination Plant Capacity	Not Applicable
Mode / Management of Brine:	Not Applicable
Cooling system	Semi-open recirculating condenser cooling system with wet-type induced draft cooling tower.

7. Land Area Breakup:

Land Requirement:	**Land Requirement:** **Existing (Stage-I & II):**
a) TPP Site **b) Ash Pond** **c) Township**	a) TPP site including township: 263.637 Ha b) Vacant or unutilized land: 60.703 Ha c) Ash Pond: 350.17 Ha (Outside Plant)

<table>
<tr>
<td>d) Railway Siding & Others
e) Raw Water Reservoir
f) Green Belt
g) Others

Total (if expansion state additional land requirement)</td>
<td>d) MGR: 294Ha
e) Raw water reservoir: 0 Ha
f) Green Belt: 172.579 Ha
g) Others: 0 Ha

Land Requirement:
Proposed (Stage-III):

a) TPP site including township: 60.703 Ha
b) Vacant or unutilized land: 0 Ha
c) Ash Pond: 131.523 Ha (Outside Plant)
d) MGR: 294 Ha
e) Raw water reservoir: 0 Ha
f) Green Belt: 0 Ha
g) Others: 0 Ha

Note:
• Stage-III installation (main plant & auxiliaries) will be carried out in an area of 60.703 Ha of vacant land available adjacent to existing Stage II (2 x 660 MW) of area 263.637 Ha including township facilities.
• No additional land is proposed to be acquired for the Stage-III project.
• To cater future requirement of ash pond 131.523 ha land will be identified and acquired as per MoEF&CC Guideline i.e. 0.1 ha / MW.</td>
</tr>
<tr>
<td>Status of Land Acquisition</td>
<td>The complete land is in possession of OPGCL and work can be started immediately without any hindrance.</td>
</tr>
<tr>
<td>Status of the Project

If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion.

If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning,</td>
<td>
<table>
<tr><th>S.No.</th><th>Stages</th><th>Units</th><th>Capacity</th><th>Status</th></tr>
<tr><td colspan="5">Existing Stages – I & II</td></tr>
<tr><td rowspan="2">1</td><td rowspan="2">Stage – I</td><td>Unit # 1</td><td>210 MW</td><td>In operation</td></tr>
<tr><td>Unit # 2</td><td>210 MW</td><td>In operation</td></tr>
<tr><td rowspan="2">2</td><td rowspan="2">Stage – II</td><td>Unit # 3</td><td>660 MW</td><td>In operation</td></tr>
<tr><td>Unit # 4</td><td>660 MW</td><td>In operation</td></tr>
<tr><td colspan="5">Proposed Stage – III</td></tr>
<tr><td>3</td><td>Stage – III</td><td>Unit # 5</td><td>660 MW</td><td>Proposed</td></tr>
</table>
</td>
</tr>
</table>

details and reasons.	<table><tr><td></td><td></td><td>Unit # 6</td><td>660 MW</td><td>Proposed</td></tr><tr><td colspan="3">Total</td><td colspan="2">3060 MW</td></tr></table>
Break-Up of land-use of TPP site: a. **Total land required for project components** b. **Private land** c. **Government land** d. **Forest land**	**Break-Up of land-use of TPP site** a. Total land required for project components – 60.703 ha b. Private land – 0 ha c. Land already acquired (existing) – 60.703 ha d. Forest land – 0 ha

8. Presence of Environmentally Sensitive areas in the study area

Forest Land/ Protected Area/ Environmental Sensitivity Zone	**Yes/No**	**Details of Certificate/letter/Remarks**
Reserve Forest/Protected Forest Land	Yes	1. RF Near Bhuta Village (1.5 km, W) 2. Remendra RF (2.7 km, W) 3. Sunari RF (6.9 km, SW) 4. RF Near Telenpali Village (0.7 km, NNE) 5. Desar RF (7.5 km, S) 6. Guja Paharh RF (9.1 km, SSE) 7. Maulabhanja RF (9.6 km, E) 8. Bikramakhol RF (10.2 km, NNW) 9. Patrapali RF (10.6 km, NE) 10. Rampur RF (11.2 km, NE) 11. Padhan Dungri RF (11.8 km, WSW) 12. Malda RF (11.9 km, NE) 13. Saukani Dingri RF (12.5 km, SW) 14. Kaite RF (13.3 km, NE) 15. Bhanwarkhol RF (13.7 km, NW)
National Park	No	Nil within 10 km radius
Wildlife Sanctuary	No	Nil within 10 km radius
Archaeological sites monuments/historical temples etc	No	Nil within 10 km radius
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant	No	Nil within 10 km radius

boundary:		
Additional information (if any)	Yes	**Water bodies:** Hirakud Reservoir Adjacent (SW) IB River (5.7 km, NE) Lilari Nala (7.9 km, NNE) Bhedan River (12.6 km, NE)

Availability of Schedule-I species in study area: No

9. Court case details:

Any litigation/ Court Case pertaining to the project	Yes
Is the proposal under any investigation? If so, details thereof.	Yes
Any violation case pertaining to the project:	No
Additional information (if any)	Not Applicable
Court Name: High Courts **Bench:** Orissa High Court **Case Category:** WP (Civil) **Status:** Pending **Orders Directions:** Related to Contractual issues	

***

ANNEXURE-3

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.

ANNEXURE-4

सत्यमेवजयते

GUIDELINES ON DESIGN, CONSTRUCTION, O&M and ANNUAL CERTIFICATION of COAL ASH PONDS

Central Pollution Control Board

Ministry of Environment, Forest and Climate Change Government of India

Central Electricity Authority

Ministry of Power Government of India

June 2023

Issued by:

Central Pollution Control Board
Ministry of Environment, Forest and Climate Change, Govt. of India
IPC-II Division, Parivesh Bhawan,
East Arjun Nagar, Shahdara, Delhi
Email:power.cpcb@gov.in

Central Electricity Authority
Ministry of Power, Govt. of India
Civil Design Division
Sewa Bhawan, R.K. Puram,
New Delhi
Email:tcdcea@nic.in

Disclaimer

These guidelines have been prepared solely for the benefit of thermal power plants in India. No liability is accepted with respect to its use. This disclaimer shall apply notwithstanding that these guidelines may be used by other persons for any application.

Acknowledgement

CPCB and CEA extends thanks to all the power utilities and the thermal power stations for furnishing the data and information for bringing out these guidelines on ash ponds and their annual certification.

We are grateful to the Chairperson-CEA, Chairperson-CPCB, Member (Hydro)- CEA and Member Secretary-CPCB for the valuable support and guidance in preparation of these guidelines.

Acknowledgements and thanks are extended to the following contributors:

Sh. C.K.L. Das, Chief Engineer-CD Division, CEA

Sh. Gulshan Raj, Chief Engineer-CD Division, CEA (22.9.2022 to 8.5.2023)

Sh. Anil Jain, Chief Engineer-CD Division, CEA (1.7.2022 to 25.9.2022)

for overall direction, content identification.

Sh. Anuj Kanwal, Director, CD Division, CEA (21.3.2022 to 09.11.2022)

for compilation and editing of the Guidelines.

Sh. Nazimuddin, Sc F & Head, IPC-II Division, CPCB

for valuable comments and co-ordination.

Sh. Amit Kumar, Director, CD Division, CEA

Ms. Manisha, Sr. Manager-NTPC posted in CEA

for first hand compilation of the basic material for the Guidelines and overall co-ordination.

घनश्याम प्रसाद
अध्यक्ष तथा पदेन सचिव भारत सरकार
GHANSHYAM PRASAD
Chairperson & Ex-officio Secretary
To the Government Of India

सत्यमेव जयते

केन्द्रीय विद्युत प्राधिकरण
भारत सरकार
विद्युत मंत्रालय
सेवा भवन, आर,के, पुरम
नई दिल्ली–110066
Central Electricity Authority
Ministry of Power
Sewa Bhawan, R. K. Puram
New Delhi-110066

FOREWORD

Indian coal fired thermal plants generates approximately 270.82 million metric tonnes of ash every year on an average from burning of coal. The utilization of ash has increased from about 9.63 % in 1996-97 to a level of 95.95% in 2021-22 on all India basis.

MoEF&CC estimates that ash dumps occupy nearly 40,000 hectares of land. The ash ponds are metres high and are prone to leaking and breaching, posing serious ecological and public security dangers.

The Ministry of Environment & Forests and Climate Change (MoEF&CC) has issued Notifications on ash utilization dated 31st December 2021 and its amendment dated 30th December, 2022 which supersedes all the earlier notifications. The environmental norms aspire to use the ash to 100 percent. Given the gravity of the coal ash crisis in India, regulating ash ponds with standard guidelines was urgently required and the same was also highlighted in the notification.

I wish to express my appreciation to the officers and staff of Civil Design Division, CEA who have taken initiative and have compiled this guidelines taking inputs from the power utilities. I believe that this guideline would be useful for all the stakeholders and shall help in better ash management, design and construction and aid in country's climate goal.

(**Ghanshyam Prasad**)

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dyke construction. In such cases expert advice shall be obtained for taking precautions design. However, below HFL, ash shall not be used as fill. The raising of ash dyke may be done using ash with a minimum 500 mm thick earth cover subject to satisfying the stability criteria as laid down in IS 7894. However, the thickness of earth cover may be increased based on expert advice depending upon site and geology, rainfall etc. Internal drainage shall be as indicated in the construction drawing.

3.5 Site Selection:

The main aspects to be considered are the distance to the ash dyke, properties of coal, topographical conditions, geological locations, meteorological conditions etc. To protect the environment due to ash disposal various site-specific studies like topographical survey, earlier land use map, drainage pattern, environmental impact assessment, archives, meteorological data, hydrological studies, geotechnical investigations are carried out at the proposed site.

Recommended siting conditions:

i) Site should be selected to ensure that the base can be located no less than 5 ft above the upper limit of the uppermost aquifer, or it must be demonstrated that there will not be any hydraulic connection between the base and the uppermost aquifer due to normal fluctuations in groundwater elevations.

ii) The ash ponds should be located at least 500 m away from the HFL/ FRL of the Rivers/ Reservoirs

iii) Site should not be located in wetland.

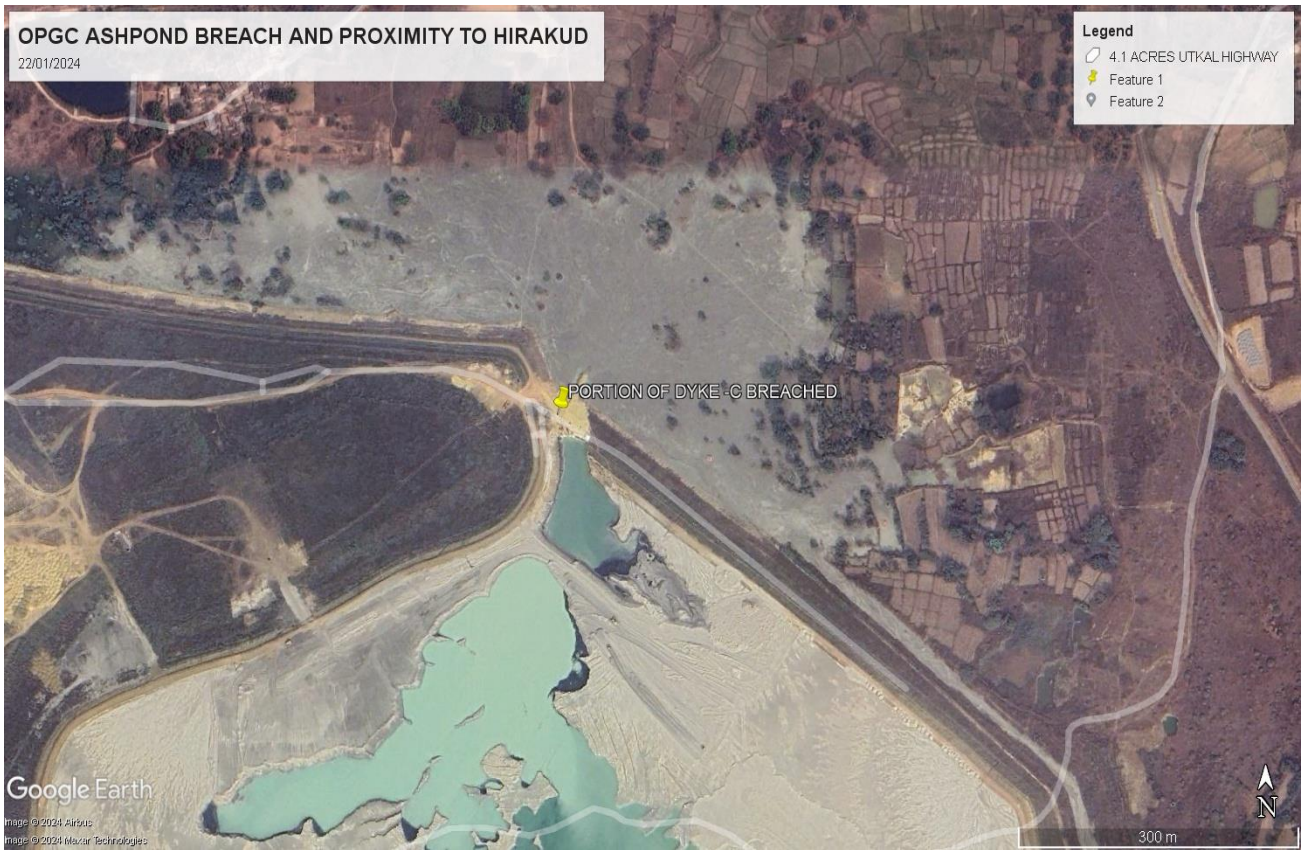
iv) Site should not be located within 60 m of the outermost damage zone of a fault that had displacement in Holocene time, unless it is demonstrated that an alternative setback distance of less than 60 meters (200 feet) will prevent damage to the structural integrity.

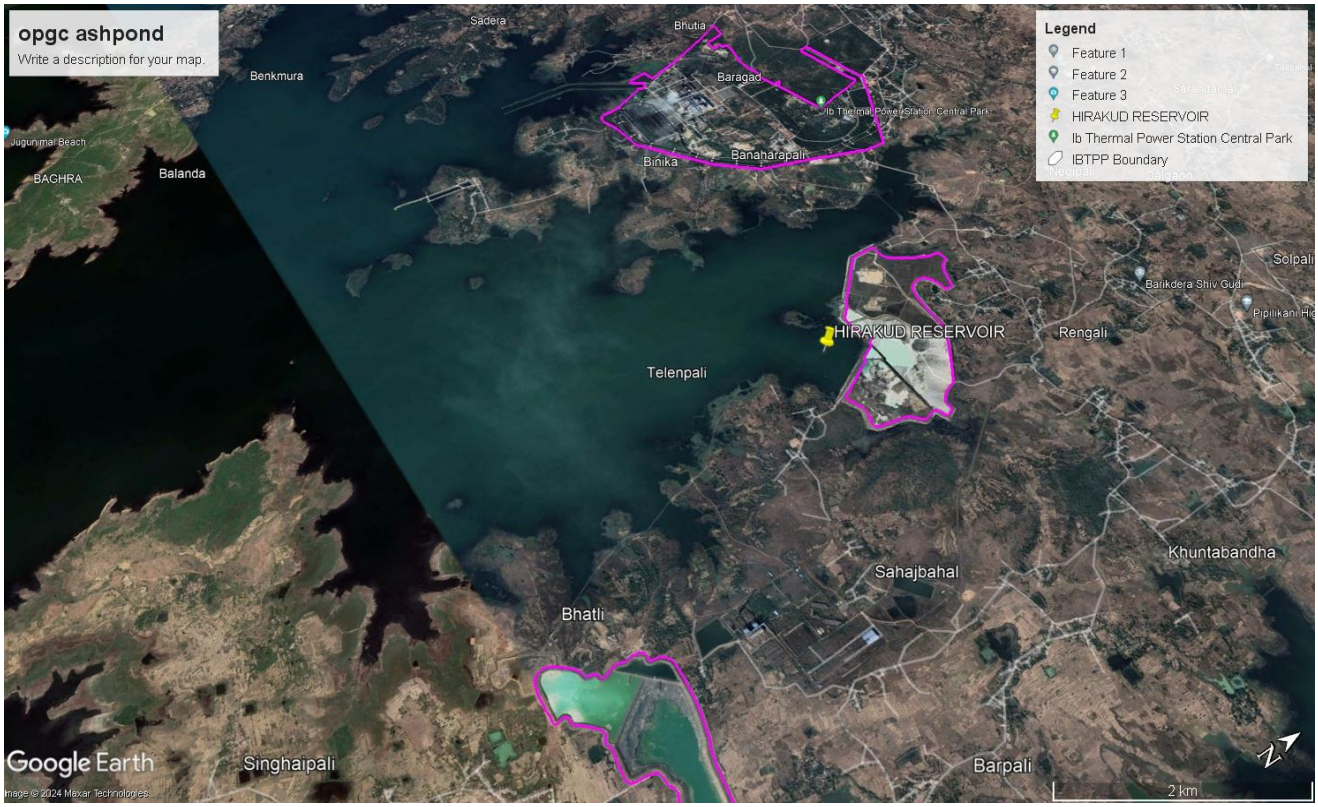
v) Site should not be located in seismic impact zones unless it is demonstrated that all structural components including liners, Ash Water collection and removal systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site.

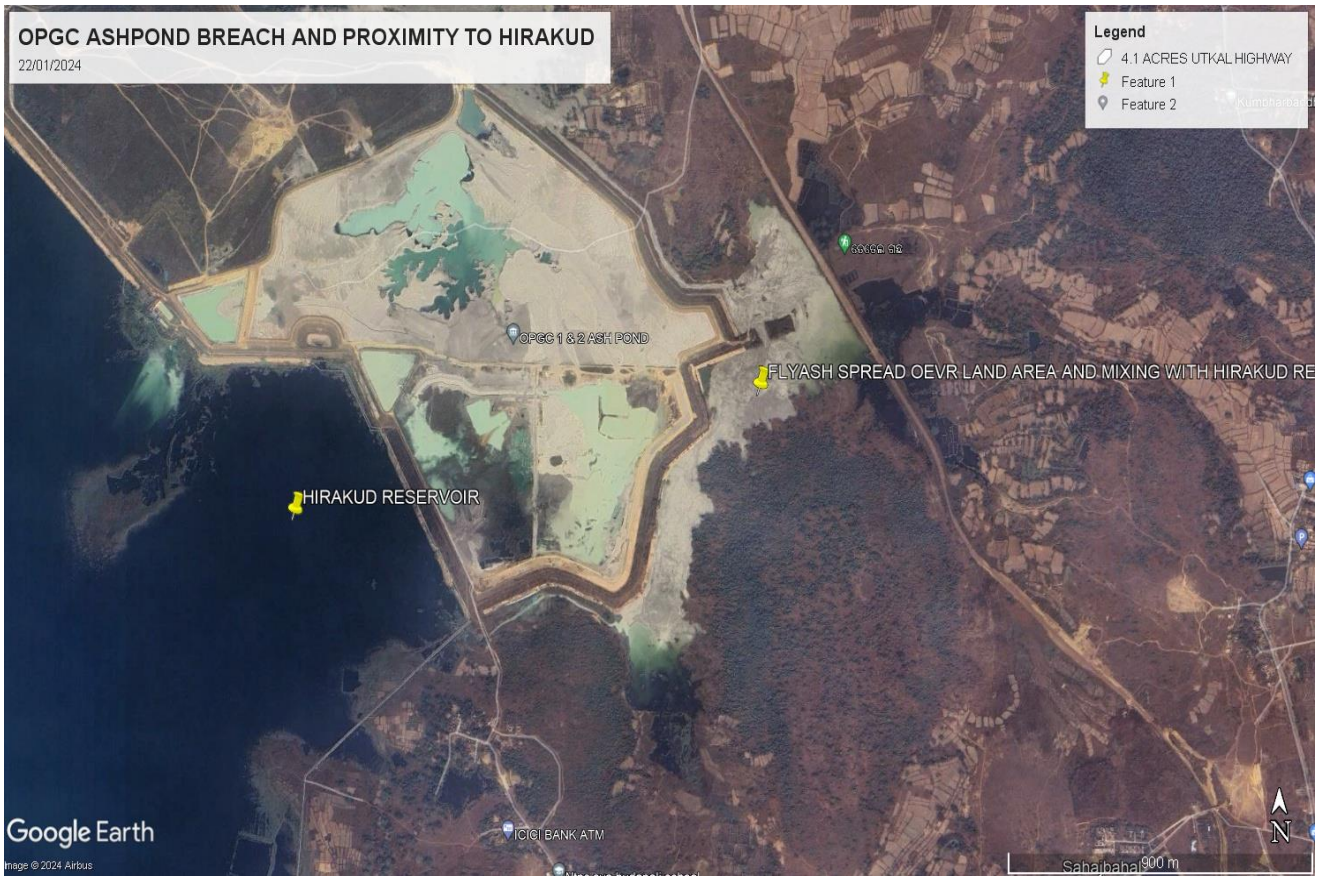
vi) Site should not be located in an unstable area unless it is demonstrated that good engineering practices have been incorporated into the design to ensure that the integrity of the structural components will not be disrupted.

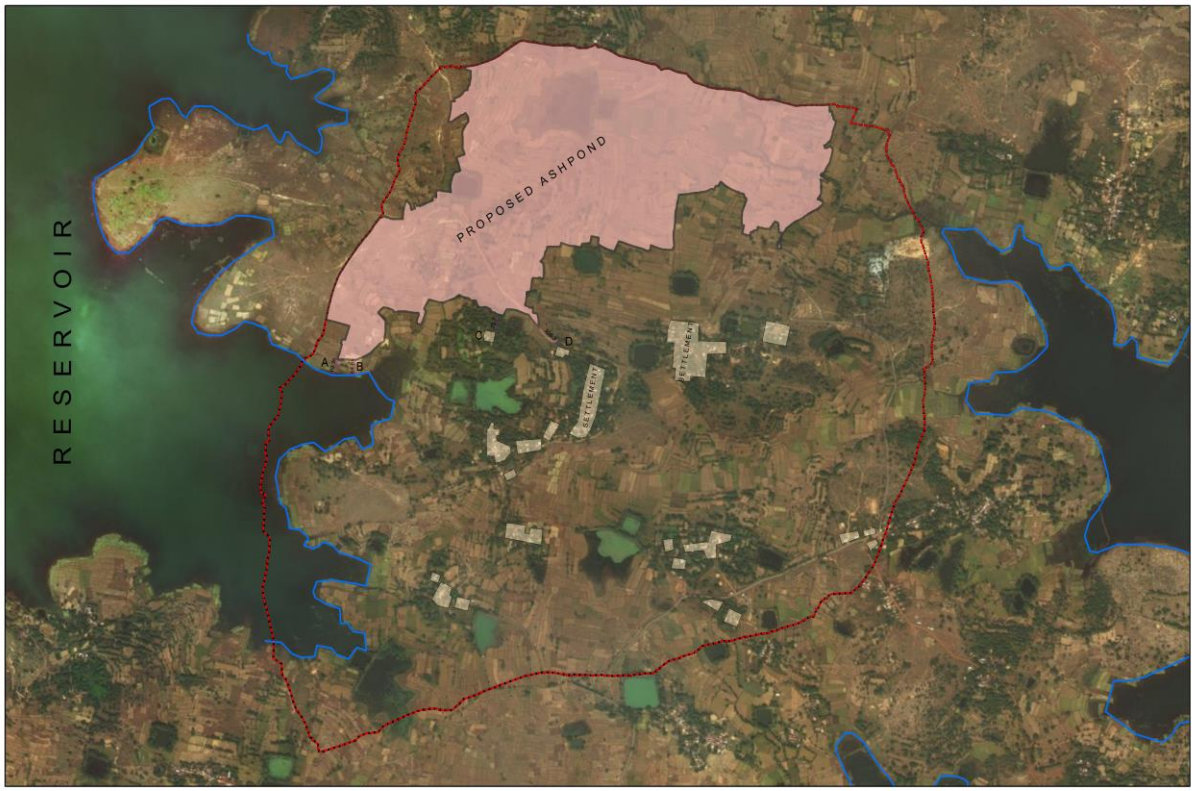
ANNEXURE-5

THAT THE BELOW ATTACHED GOOGLE EARTH IMAGES SHOWS THE DISTANVCE OF THE OPGC ASHPOND AND HIRAKUD RESERVOIR.




opgc ashpond
Write a description for your map.
Legend
Feature 1
Feature 2
Feature 3
HIRAKUD RESERVOIR
Ib Thermal Power Station Central Park
IBTPP Boundary
Sadera
Bhutia
Benkmura
Baragad
Jugunimari Beach
BACHRA
Balanda
Binika
Banaharapali
Solpali
Barikdera Shiv Gudi
HIRAKUD RESERVOIR
Rengali
Telenpali
Khuntabandha
Sahajbahal
Bhatli
Google Earth
Singhaipali
Barpali
2 km


OPGC ASHPOND BREACH AND PROXIMITY TO HIRAKUD
22/01/2024
Legend
4.1 ACRES UTKAL HIGHWAY
Feature 1
Feature 2
OPGC 1 & 2 ASH POND
FLYASH SPREAD OEVR LAND AREA AND MIXING WITH HIRAKUD RE
HIRAKUD RESERVOIR
Google Earth
ICICI BANK ATM
Sahajbahal
900 m



VILLAGE-TILIA

Legend

- Reservoir
- Settlement
- Village Boundary
- Proposed Ashpond

Distance from Ashpond (meter)

A	69.1
B	64.8
C	72.7
D	108.2

	सीमेंट शीट या पाइप या बोर्ड या पैनल): ii. सीमेंट विनिर्माण: iii. रेडी मिक्स कंक्रीट: iv. राख और जीओ-पॉलिमर आधारित निर्माण सामग्री: v. सिंटर्ड या कोल्ड बॉन्डेड राख एग्रीगेट का निर्माण: vi. सड़कों, सड़क और फ्लाई ओवर के पुश्तों का निर्माण: vii. बांधों का निर्माण: viii. निम्न भू-क्षेत्र का भराव: ix. खनिज क्षेत्रों का भराव: x. अधिभार वाले डम्पों में उपयोग: xi. कृषि: xii. तटीय जिलों में तटरेखा सुरक्षा संरचनाओं का निर्माण: xiii. अन्य देशों को राख का निर्यात xiv. अन्य (कृपया विनिर्दिष्ट करें):	

20. **सार :**

ब्यौरा	सृजित मात्रा (एमटीपी)	उपयोग की गई मात्रा (एमटीपी) और (%)	शेष मात्रा (एमटीपी)
रिपोर्टिंग की अवधि के दौरान राख			
पुरानी राख			
कुल			

21.	कोई अन्य सूचना : वार्षिक अनुपालन रिपोर्ट, और विद्युत संयंत्रों और राख कुण्डों की शेष फाइलों की सॉफ्ट कॉपी ई-मेल:- moefcc-coalash@gov.in पर भेजी जाए।	
22.	प्राधिकृत हस्ताक्षरकर्ता के हस्ताक्षर	

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 31st December, 2021

S.O. 5481(E).—Whereas by notification of the Government of India in the erstwhile Ministry of Environment and Forests *vide* S.O.763 (E), dated the 14th September, 1999, as amended from time to time, the Central Government, issued directions for restricting the excavation of top soil for manufacturing of bricks and promoting the utilisation of fly ash in the manufacturing of building materials and in construction activity within a specified radius of three hundred kilometres from the coal or lignite based thermal power plants;

And whereas, to implement the aforesaid notification more effectively based on the polluter pays principle (PPP) thereby ensuring 100 per cent utilisation of fly ash by the coal or lignite based thermal power plants and for the sustainability of the fly ash management system, the Central Government reviewed the existing notification; and whereas environmental compensation needs to be introduced based on the polluter pays principle;

And whereas, there is a need to conserve top soil by promoting manufacture and mandating use of ash based products and building materials in the construction sector;

And whereas, there is a need to conserve top soil and natural resources by promoting utilisation of ash in road laying, road and flyover embankments, shoreline protection measures, low lying areas of approved projects, backfilling of mines, as an alternative for filling of earthen materials;

And whereas, it is necessary to protect the environment and prevent the dumping and disposal of fly ash discharged from coal or lignite based thermal power plants on land;

And whereas, in the said notification the phrase 'ash', has been used which includes both fly ash as well as bottom ash generated from the Coal or Lignite based thermal power plants;

And whereas, the Central Government intends to bring out a comprehensive framework for ash utilisation including system of environmental compensation based on polluter pays principle;

And whereas, a draft notification on ash utilisation by coal or lignite thermal power plants in supersession of the notification of the Government of India, Ministry of Environment and Forests published in the Gazette of India, Extra Ordinary part II, section 3, sub-section (i) *vide* S.O.763 (E), dated the 14th September, 1999, by notification in exercise of the powers conferred 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, was published in the Gazette of India, Extraordinary, Part II, section 3, sub-section (i), *vide* G.S.R. 285(E), dated the 22nd April, 2021 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 provisions were made available to the public;

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, and in supersession of the Notification S.O.763 (E), dated the 14th September, 1999 except as respect things done or omitted to be done before such supersession, the Central Government hereby issues the following notification on ash utilisation from coal or lignite thermal power plants which shall come into force on the date of the publication of this notification, namely:-

A. Responsibilities of thermal power plants to dispose fly ash and bottom ash.—

(1) Every coal or lignite based thermal power plant (including captive or co-generating stations or both) shall be primarily responsible to ensure 100 per cent utilisation of ash (fly ash, and bottom ash) generated by it in an eco-friendly manner as given in sub-paragraph (2);

(2) The ash generated from coal or lignite based thermal power plants shall be utilised only for the following eco-friendly purposes, namely:-

(i) Fly ash based products viz. bricks, blocks, tiles, fibre cement sheets, pipes, boards, panels;

(ii) Cement manufacturing, ready mix concrete;

(iii) Construction of road and fly over embankment, Ash and Geo-polymer based construction material;

(iv) Construction of dam;

(v) Filling up of low lying area;

(vi) Filling of mine voids;

(vii) Manufacturing of sintered or cold bonded ash aggregate;

(viii) Agriculture in a controlled manner based on soil testing;

(ix) Construction of shoreline protection structures in coastal districts;

(x) Export of ash to other countries;

(xi) Any other eco-friendly purpose as notified from time to time.

(3) A committee shall be constituted under the chairmanship of Chairman, Central Pollution Control Board (CPCB) and having representatives from Ministry of Environment, Forest and Climate Change (MoEFCC), Ministry of Power, Ministry of Mines, Ministry of Coal, Ministry of Road Transport and Highways, Department of Agricultural Research and Education, Institute of Road Congress, National Council for Cement and Building Materials, to examine and review and recommend the eco-friendly ways of utilisation of ash and make inclusion or exclusion or modification in the list of such ways as mentioned in Sub-paragraph (2) based on technological developments and requests received from stakeholders. The committee may invite State Pollution Control Board or Pollution Control Committee, operators of thermal power plants and mines, cement plants and other stakeholders as and when required for this purpose. Based on the recommendations of the Committee, Ministry of Environment, Forest and Climate Change (MoEFCC) may publish such eco-friendly purpose.

(4) Every coal or lignite based thermal power plant shall be responsible to utilise 100 per cent ash (fly ash and bottom ash) generated during that year, however, in no case shall utilisation fall below 80 per cent in any year, and the thermal power plant shall achieve average ash utilisation of 100 per cent in a three years cycle:

Provided that the three years cycle applicable for the first time is extendable by one year for the thermal power plants where ash utilisation is in the range of 60-80 per cent, and two years where ash utilisation is below 60 per cent and for the purpose of calculation of percentage of ash utilisation, the percentage quantity of utilisation in the year 2021- 2022 shall be taken into account as per the table below:

Utilisation percentages of thermal power plants	First compliance Cycle to meet 100 per cent utilisation	Second compliance cycle onwards, to meet 100 per cent utilisation
>80 per cent	3 years	3 years
60-80 per cent	4 years	3 years
<60 per cent	5 years	3 years

Provided further that the minimum utilisation percentage of 80 per cent shall not be applicable to the first year and first two years of the first compliance cycle for the thermal power plants under the utilisation category of 60-80 per cent and <60 per cent, respectively.

Provided also that 20per cent of ash generated in the final year of compliance cycle may be carried forward to the next cycle which shall be utilised in the next three years cycle along with the ash generated during that cycle.

(5) The unutilised accumulated ash i.e. legacy ash, which is stored before the publication of this notification, shall be utilised progressively by the thermal power plants in such a manner that the utilization of legacy ash shall be completed fully within ten years from the date of publication of this notification and this will be over and above the utilisation targets prescribed for ash generation through current operations of that particular year:

Provided that the minimum quantity of legacy ash in percentages as mentioned below shall be utilised during the corresponding year and the minimum quantity of legacy ash is to be calculated based on the annual ash generation as per installed capacity of thermal power plant.

Year from date of publication	1st	2nd	3rd -10th
Utilisation of legacy ash (in percentage of Annual ash)	At least 20 per cent	At least 35 per cent	At least 50 per cent

Provided further that the legacy ash utilisation shall not be required where ash pond or dyke has stabilised and the reclamation has taken place with greenbelt or plantation and the concerned State Pollution Control Board shall certify in this regard. Stabilisation and reclamation of an ash pond or dyke including certification by the Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be carried out within a year from the date of publication of this notification. The ash remaining in all other ash ponds or dykes shall be utilised in progressive manner as per the above mentioned timelines.

Note: The obligations under sub-paragraph (4) and (5) above for achieving the ash utilisation targets shall be applicable from 1st April, 2022.

(6) Any new as well as operational thermal power plant may be permitted an emergency or temporary ash pond with an area of 0.1 hectare per Mega Watt (MW). Technical specifications of ash ponds or dykes shall be as per the guidelines of Central Pollution Control Board (CPCB) made in consultation with Central Electricity Authority (CEA) and these guidelines shall also lay down a procedure for annual certification of the ash pond or dyke on its safety, environmental pollution, available volume, mode of disposal, water consumption or conservation in disposal, ash water recycling and greenbelt, etc., and shall be put in place within three months from the date of publication of this notification.

(7) Every coal or lignite based thermal power plant shall ensure that loading, unloading, transport, storage and disposal of ash is done in an environmentally sound manner and that all precautions to prevent air and water pollution are taken and status in this regard shall be reported to the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) in Annexure attached to this notification.

(8) Every coal or lignite based thermal power plant shall install dedicated silos for storage of dry fly ash silos for at least sixteen hours of ash based on installed capacity and it shall be reported upon to the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) in the Annexure and shall be inspected by Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) from time to time.

(9) Every coal or lignite based thermal power plant (including captive or co-generating stations or both) shall provide real time data on daily basis of availability of ash with Thermal Power Plant (TPP), by providing link to Central Pollution Control Board's web portal or mobile phone App for the benefit of actual user(s).

(10) Statutory obligation of 100 per cent utilisation of ash shall be treated as a change in law, wherever applicable.

B. **For the purpose of utilisation of ash, the subsequent sub-paras shall apply**.—

(1) All agencies (Government, Semi-government and Private) engaged in construction activities such as road laying, road and flyover embankments, shoreline protection structures in coastal districts and dams within 300 kms from the lignite or coal based thermal power plants shall mandatorily utilise ash in these activities:

Provided that it is delivered at the project site free of cost and transportation cost is borne by such coal or lignite based thermal power plants.

Provided further that thermal power plant may charge for ash cost and transportation as per mutually agreed terms, in case thermal power plant is able to dispose the ash through other means and those agencies makes a request for it and the provisions of ash free of cost and free transportation shall be applicable, if thermal power plant serves a notice on the construction agency for the same.

(2) The utilisation of ash in the said activities shall be carried out in accordance with specifications and guidelines laid down by the Bureau of Indian Standards, Indian Road Congress, Central Building Research Institute, Roorkee, Central Road Research Institute, Delhi, Central Public Works Department, State Public Works Departments and other Central and State Government Agencies.

(3) It shall be obligatory on all mines located within 300 kilometres radius of thermal power plant, to undertake backfilling of ash in mine voids or mixing of ash with external Overburden dumps, under Extended Producer Responsibility (EPR). All mine owners or operators (Government, Public and Private Sector) within three hundred kilometres (by road) from coal or lignite based thermal power plants, shall undertake measures to mix at least 25 per cent of ash on weight to weight basis of the materials used for external dump of overburden, backfilling or stowing of mine (running or abandoned as the case may be) as per the guidelines of the Director General of Mines Safety (DGMS):

Provided that such thermal power stations shall facilitate the availability of required quantity of ash by delivering ash free of cost and bearing the cost of transportation or cost or transportation arrangement decided on mutually agreed terms and mixing of ash with overburden in mine voids and dumps shall be applicable for the overburden generated from the date of publication of this notification and the utilisation of ash in the said activities shall be carried out in accordance with guidelines laid down by the Central Pollution Control Board, Director General of Mines Safety and Indian Bureau of Mines.

Explanation.- For the purpose of this sub-paragraph, it is also clarified that the provisions of ash free of cost and free transportation shall be applicable, if thermal power plants serve a notice on the mine owner for the same and the mandate of using 25 per cent of ash for mixing with overburden dump and filling up of mine voids shall not be applicable unless a notice is served on the mine owner by thermal power plant.

(4) (i) All mine owners shall get mine closure plans (progressive and final) to accommodate ash in the mine voids and the concerned authority shall approve mine plans for disposal of ash in mine voids and mixing of ash with overburden dumps. The Ministry of Environment, Forest and Climate Change (MoEFCC) has issued guidelines on 28th August, 2019 regarding exemption of requirement of Environmental Clearance of thermal power plants and coal mines along with the guidelines to be followed for such disposal.

(ii) The Ministry in consultation with Central Pollution Control Board (CPCB), Director General of Mine Safety (DGMS) and Indian Bureau of Mines (IBM) may issue further guidelines time to time to facilitate ash disposal in mine voids and mixing with overburden dumps and it shall be the responsibility of mine owners to get the necessary amendments or modifications in the permissions issued by various regulatory authorities within one year from the date of identification of such mines.

(5) (i) There shall be a committee headed by Chairperson, Central Pollution Control Board (CPCB) with representatives from Ministry of Environment, Forest and Climate Change, Ministry of Power, Ministry of Mines, Ministry of Coal, Director General of Mine Safety and Indian Bureau of Mines for identification of mines for backfilling of mine voids with ash or mixing of ash with overburden dump including examination of safety, feasibility (not economic feasibility) and aspects of environmental contamination and the committee shall get updated quarterly reports prepared regarding identified mines (both underground and opencast) for the stakeholder Ministries or Departments and the committee shall start identifying the suitable mines immediately after the publication of this notification.

(ii) Thermal power plants or mines shall not wait for disposal of ash till the identification is done by the above mentioned committee, to meet the utilisation targets mandated as above.

(6) Filling of low lying areas with ash shall be carried out with prior permission of the State Pollution Control Board or Pollution Control Committee for approved projects, and in accordance with guidelines laid down by Central Pollution Control Board (CPCB) and the State Pollution Control Board or Pollution Control Committee (PCC) shall publish approved sites, location, area and permitted quantity annually on its website.

(7) Central Pollution Control Board after engaging relevant stakeholders, shall put in place the guidelines within one year for all types of activities envisaged under this notification including putting in place time bound online application process for the grant permission by State Pollution Control Boards (SPCBs) or Pollution Control Committees (PCCs).

(8) All building construction projects (Central, State and Local authorities, Govt. undertakings, other Govt. agencies and all private agencies) located within a radius of three hundred kilometres from a coal or lignite based thermal power plant shall use ash bricks, tiles, sintered ash aggregate or other ash based products, provided these are made available at prices not higher than the price of alternative products.

(9) Manufacturing of ash based products and use of ash in such products shall be in accordance with specifications and guidelines laid down by the Bureau of Indian Standards, Indian Road Congress, and Central Pollution Control Board.

C. Environmental compensation for non-compliance.—

(1) In the first two years of a three years cycle, if the coal or lignite based thermal power plant (including captive or co-generating stations or both) has not achieved at least 80 per cent ash (fly ash and bottom ash) utilisation, then such non-compliant thermal power plants shall be imposed with an environmental compensation of Rs. 1000 per ton on unutilised ash during the end of financial year based on the annual reports submitted and if it is unable to utilise 100 per cent of ash in the third year of the three years cycle, it shall be liable to pay an environmental compensation of Rs. 1000 per ton on the unutilised quantity on which environmental compensation has not been imposed earlier:

Provided that the environmental compensation shall be estimated and imposed at the end of last year of the first compliance cycle as per the various utilisation categories as mentioned in sub-paragraph (4) of Para A.

(2) Environmental compensation collected by the authorities shall be deposited in the designated account of Central Pollution Control Board.

(3) In case of legacy ash, if the coal or lignite based thermal power plant (including captive or co-generating stations or both) has not achieved utilisation equivalent to at least 20 per cent (for the first year), 35 per cent (for the second year), 50 per cent (for third to tenth year) of ash generated based on installed capacity, an environmental compensation of Rs. 1000 per ton of unutilised legacy ash during that financial year shall be imposed and if the utilization of legacy ash is not completed at the end of 10 years, an environmental compensation of Rs.1000 per ton shall be imposed on the remaining unutilised quantity which has not been imposed earlier.

(4) It shall be the responsibility of the transporters or vehicle owner to deliver ash to authorised purchaser or user agency and if it is not complied, then an environmental compensation of Rs. 1500 per ton on such quantity as mis-delivered to unauthorised users or non- delivered to authorised users will be imposed besides prosecution of such non-compliant transporters by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC).

(5) It is the responsibility of the purchasers or user agencies to utilise ash in an eco-friendly manner as laid down at para B of this notification and if it is not complied, then an environmental compensation of Rs. 1500 or per ton shall be imposed by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC).

(6) If the user agencies do not utilise ash to the extent obligated under para B or the extent to which they have been intimated through Notice(s) served under sub-paragraph (1) of para D, whichever is lower, they shall be liable to pay Rs. 1500 per ton of ash for the quantity they fall short off:

Provided that the environmental compensation on building constructions shall be levied at Rs.75/- per square feet of built up area of construction.

(7) (i) The environmental compensation collected by Central Pollution Control Board from the thermal power plants and other defaulters shall be used towards the safe disposal of the unutilised ash and the fund may also be utilised for advancing research on use of ash including ash based products.

(ii) The liability of ash utilisation shall be with thermal power plants even after imposition of environmental compensation on unutilised quantities and in case thermal power plant achieves the ash utilisation of any

particular cycle after imposition of environmental compensation in subsequent cycles, the said amount shall be returned to thermal power plant after deducting 10 per cent of the environmental compensation collected on the unutilised quantity during the next cycle and deduction of 20 per cent, 30 per cent, and so on, of the environmental compensation collected is to be made in case of utilisation of ash in subsequent cycles.

D. Procedure for supply of ash or ash based products.—

(1) The owner of thermal power plants or manufacturers of ash bricks or tiles or sintered ash aggregate shall serve written notice to persons or agencies who are liable to utilise ash or ash based products, offering for sale, or transport or both.

(2) Persons or user agencies who have been served notices by owner of thermal power plants or manufacturers of ash bricks or tiles or sintered ash aggregate, if they have already tied up with other agencies for the purpose of utilisation of ash or ash products, shall inform the thermal power plant accordingly, if they cannot use any ash or ash products or use reduced quantity.

E. Enforcement, Monitoring, Audit and Reporting.—

(1) The Central Pollution Control Board (CPCB) and the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be the enforcing and monitoring authority for ensuring compliance of the provisions and shall monitor the utilisation of ash on quarterly basis. Central Pollution Control Board shall develop a portal for the purpose within six months of date of publication of the notification. The concerned District Magistrate shall have concurrent jurisdiction for enforcement and monitoring of the provisions of this notification.

(2) (i) Thermal power plants shall upload monthly information regarding ash generation and utilisation by 5th of the next month on the web portal. 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 Pollution Control Committee (PCC), Central Electricity Authority (CEA), and concerned Integrated Regional Office of Ministry of Environment, Forest and Climate Change by the coal or lignite based thermal power plants. Central Pollution Control Board and Central Electricity Authority shall compile the annual reports submitted by all the thermal power plants and submit to Ministry of Environment, Forest and Climate Change by 31st May.

(ii) All other user agencies shall submit consumption or utilisation or disposal of ash and use of ash based products as mandated in this notification in the compliance report of Environmental Clearance (EC) issued by Ministry of Environment, Forest and Climate Change or State Level Environment Impact Assessment Authority (SEIAA) or Consent to Operate (CTO) issued by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC), whichever is applicable. The Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall publish annual report of ash utilisation of all other agencies except thermal power plants to review the effective implementation of the provisions of the notification.

(3) For the purpose of monitoring the implementation of the provisions of this notification, a committee shall be constituted under the Chairperson, Central Pollution Control Board (CPCB), with members from Ministry of Power, Ministry of Coal, Ministry of Mines, Ministry of Environment, Forest and Climate Change, Ministry Road Transportation and Highways, Department of Heavy Industry as well as any concerned stakeholder(s), to be nominated by the Chairman of the committee. The committee may make recommendations for effective and efficient implementation of the provisions of the notification. The committee shall meet at least once in six months and review annual implementation reports and the committee shall also hold stakeholder consultations for monitoring of ash utilisation as mandated by this notification by inviting relevant stakeholder(s) at least once in six months. The committee shall submit the six monthly report to Ministry of Environment, Forest and Climate Change (MoEFCC).

(4) For the purpose of resolving disputes between thermal power plants and users of ash or manufacturer of ash based products, the State Governments or Union territory administration constitute a Committee within three months from the date of publication of this notification under the Chairman, State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) with representatives from Department of Power, and one representative from the Department which deals with the subject of concerned agency with which dispute is made.

(5) The compliance audit for ash disposal by the thermal power plants and the user agency shall be conducted by auditors, authorised by Central Pollution Control Board (CPCB) and audit report shall be submitted to Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) by 30th November every year. Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall initiate action against non-compliant thermal power plants within fifteen days of receipt of audit report.

[F. No. HSM-9/1/2019-HSM]

NARESH PAL GANGWAR, Jt. Secy.

Annexure

Ash Compliance Report (for the period 1st April-31st March) to be submitted on or before 31st May.

Sl. No.	Details	
1.	Name of Power Plant	
2.	Name of the company	
3.	District	
4.	State	
5.	Postal address for communication:	
6.	E-mail:	
7.	Power Plant installed capacity (MW):	
8.	Plant Load Factor (PLF):	
9.	No. of units generated (MWh):	
10.	Total area under power plant (ha): (including area under ash ponds)	
11.	Quantity of coal consumption during reporting period (Metric Tons per Annum):	
12	Average ash content in percentage (per cent):	
13.	Quantity of current ash generation during reporting period (Metric Tons per Annum): Fly ash (Metric Tons per Annum): Bottom ash (Metric Tons per Annum):	
14.	Capacity of dry fly ash storage silo(s) (Metric Tons) :	
15	Details of utilisation of current ash generated during reporting period (a) Total quantity of current ash utilised (MTPA) during reporting period: (b) Quantity of fly ash utilised (MTPA): (i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels) (ii) Cement manufacturing:	

	(iii) Ready mix concrete: (iv) Ash and Geo-polymer based construction material: (v) Manufacturing of sintered or cold bonded ash aggregate: (vi) Construction of roads, road and fly over embankment: (vii) Construction of dams: (viii) Filling up of low lying area: (ix) Filling of mine voids: (x) Use in overburden dumps: (xi) Agriculture: (xii) Construction of shoreline protection structures in coastal districts; (xiii) Export of ash to other countries: (xiv) Others (please specify): (c) Quantity of bottom ash utilised (MTPA): (i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels): (ii) Cement manufacturing: (iii) Ready mix concrete: (iv) Ash and Geo-polymer based construction material: (v) Manufacturing of sintered or cold bonded ash aggregate: (vi) Construction of roads, road and flyover embankment: (vii) Construction of dams: (viii) Filling up of low lying area: (ix) Filling of mine voids: (x) Use in overburden dumps: (xi) Agriculture: (xii) Construction of shoreline protection structures in coastal districts: (xiii) Export of ash to other countries: (xiv) Others (please specify): Total quantity of current ash unutilised (MTPA) during reporting period:	
16.	Percentage utilisation of current ash generated during reporting period (per cent):	
17.	Details of disposal of ash in ash ponds (a) Total quantity of ash disposed in ash pond(s) (Metric Tons) as on 31st March (excluding reporting period): (b) Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons): (c) Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m^3): (d) Total number of ash ponds: (i) Active: (ii) Exhausted (yet to be reclaimed): (iii) Reclaimed: (e) total area under ash ponds (ha):	
18.	Individual ash pond details *Ash pond-1,2, etc (please provide below mentioned details separately, if number of ash ponds is more than one)* (a) Status: Under construction or Active or Exhausted or	

	Reclaimed (b) Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY): (c) Date of stoppage of ash disposal in ash pond after completing its capacity (DD/MM/YYYY or MM/YYYY): (Not applicable for active ash ponds) (c) area (hectares): (d) dyke height (m): (d) volume (m^3): (e) quantity of ash disposed as on 31st March (Metric Tons): (f) available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons): (g) expected life of ash pond (number of years and months): (e) co-ordinates (Lat and Long): (please specify minimum 4 co-ordinates) (f) type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining g) mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD) (h) Ratio of ash: water in slurry mix (1:___): (i) Ash water recycling system (AWRS) installed and functioning: Yes or No (j) Quantity of wastewater from ash pond discharged into land or water body (m3): (k) Last date when the dyke stability study was conducted and name of the organisation who conducted the study: (l) Last date when the audit was conducted and name of the organisation who conducted the audit:	
19.	Quantity of legacy ash utilised (MTPA): i. Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels): ii. Cement manufacturing: iii. Ready mix concrete: iv. Ash and Geo-polymer based construction material: v. Manufacturing of sintered or cold bonded ash aggregate: vi. Construction of roads, road and flyover embankment: vii. Construction of dams: viii. Filling up of low lying area: ix. Filling of mine voids: x. Use in overburden dumps: xi. Agriculture: xii. Construction of shoreline protection structures in coastal districts; xiii. Export of ash to other countries: xiv. Others (please specify):	
20.	Summary:	

Details	Quantity generated (MTP)	Quantity utilised (MTP) and (per cent)	Balance quantity (MTP)

	Current ash during reporting period			
	Legacy ash			
	Total			
21.	Any other information: Soft copy of the annual compliance report, and shape files of power plant and ash ponds may be e-mailed to:- moefcc-coalash@gov.in			
22.	Signature of Authorised Signatory			

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and Published by the Controller of Publications, Delhi-110054.

परंतु यह और कि कोयला और लिग्नाइट आधारित तापीय विद्युत संयंत्रों को आगे किसी भी नए कार्यशील राख कुंड या डाइक को स्थापित करने या नाम निर्दिष्ट करने की अनुमति नहीं दी जाएगी।

परंतु यह और कि कार्यशील राख कुंड या डाइक की 0.1 हे./मेगावॉट (एमडब्ल्यू) का विनिर्देशन तारीख 3 नवम्बर, 2009 से पूर्व चालू तापीय विद्ययुत संयंत्रों पर लागू नहीं होंगे।"

2. पैरा ख में, -

(i) उप पैरा (1) में, "300 कि.मी. के भीतर" शब्दों कोष्ठकों और आंकड़ों के स्थान पर "300 कि.मी. के रेडियस के भीतर" शब्द कोष्ठक और आंकड़े रखें जाएंगे।

(ii) उप पैरा (8) में, उच्चतर "वैकल्पिक उत्पादों के मूल्य से अधिक" शब्दों के स्थान पर "केन्द्रीय लोक कार्य विभाग (सीपीडब्ल्यूडी) या संबंधित लोक कार्य विभाग (पीडब्ल्यूडी) द्वारा विनिर्दिष्ट दरों की अनुसूची में उल्लिखित मूल्य या दरों की अनुसूची के अधीन निर्धारित न होने परल वैकल्पिक उत्पादों का मूल्य" शब्द रखे जाएंगे।

3. पैरा घ में, -

(i) उप पैरा (2) के स्थान, उप पैरा रखा जाएगा, अर्थात्:

''(2) जिन व्यक्तियों या उपयोगकर्ता या एजेंसियों को थर्मल पावर प्लांट के मालिक द्वारा नोटिस दिया गया है, अगर वे राख के उपयोग के उद्देश्य से पहले से ही अन्य एजेंसियों के साथ करार कर चुके हैं तो थर्मल पावर प्लांट को तदनुसार सूचित करेंगे और यदि वे उपयोग नहीं कर सकते हैं कोई राख या कम मात्रा का उपयोग कर सकता है।''

(ii) उप-पैरा (2) के पश्चात्, निम्नलिखित उप-पैरा अंत:स्थापित किया जाएगा, अर्थात्:

"(3) जिन व्यक्तियों या उपभोकता अभिकरणों को, यदि वे राख आधारित उत्पादों के उपयोग के उद्देश्य से अन्य अभिकरणों के साथ पहले से जुड़े हुए हैं, ऐश ब्रिक्स या टाइल्स या सिंटर्ड ऐश ऐग्रीगेट या अन्य राख आधारित उत्पादों के विनिर्माताओं के द्वारा नोटिस दिया गया है तो उन्हें ऐश ब्रिक्स या आइल्स या सिंटर्ड ऐश ऐग्रीगेट या अन्य राख आधारित उतपादों के विनिर्माताओं को सूचित करना होगा, तद्नुसार, यदि वे राख आधारित उत्पादों का उपयोग नहीं कर सकते या कम प्रमात्रा में उपयोग कर सकते हैं।"

2. यह अधिसूचना राजपत्र में प्रकाशन की तारीख से प्रवृत होगी।

[फा. सं. एचएसएम - 9/1/2019- एचएसएम]

नरेश पाल गंगवार, अपर सचिव

टिप्पण : मूल अधिसूचना भारत के राजपत्र, असाधारण, भाग-II, खंड 3, उप-खंड (ii) सं. एस 5481(अ) तारीख 31 दिसम्बर, 2021 के द्वारा में प्रकाशित की गई।

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 30th December, 2022

S.O. 6169(E).—Whereas, the Government of India, Ministry of Environment, Forest and Climate Change, 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, issued a notification published in the Gazette of India, Extraordinary, Part II, Section 3, sub-section (ii) *vide* S.O.5481(E), dated the 31st December, 2021 (herein after referred to as the ash utilisation notification);

And whereas, requests have been received from Ministry of Power, thermal power plants and various stakeholders regarding implementation of provisions of the ash utilisation notification;

And whereas, it is expedient to make amendments to certain provisions of the said notification to have smooth transitioning in implementation of the ash utilisation notification;

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 of sub-rule (1), (2) and (4) of rule (5) of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following amendments in the ash utilisation notification namely:-

In the ash utilisation notification,-

(1) in paragraph A,-

(i) in sub-paragraph (4), after the third proviso, the following shall be inserted, namely,-

"Provided also that new thermal power plants commissioned on or after the date of publication of this notification shall follow the first compliance cycle similar to the compliance cycle specified for thermal power plants having utilisation per cent. less than 60 per cent. as specified in the table.

Note: The utilisation targets as per the applicable compliance cycle shall commence from 1st April, 2022.".

(ii) in sub- paragraph (5),-

(a) in the opening paragraph, for the words "the date of publication of this notification", the figures, letters and word "1st April, 2022" shall be substituted;

(b) in the second proviso, -

(i) after the words "green belt or plantation", the words, brackets, letters and figure "or solar power plant or wind power plant as per the guidelines issued by the Central Pollution Control Board (CPCB) as specified in sub-para (6)" shall be inserted,

(ii) the words, brackets and letters "Central Pollution Control Board (CPCB) or" shall be deleted,

(iii) for the words "a year", the words "three years" shall be substituted,

(iv) for the words "the date of publication of this notification", the figures, letters and word "1st April, 2022" shall be substituted.

(c) after the second proviso, the following proviso shall be inserted, namely:

"Provided that ash stored in all ash ponds or dykes other than operational ash pond or dyke designated for temporary storage of ash as specified in sub-para (6) shall constitute the legacy ash and either to be reclaimed or stabilised or utilised.".

(iii) for sub- paragraph (6), the following sub-para shall be substituted, namely,-

"(6) Any new as well as operational thermal power plant may be permitted operational ash pond or dyke for temporary storage of ash within an area of 0.1 hectare per Mega Watt (MW). Technical specifications of operational as well as stabilised and reclaimed ash ponds or dykes shall be as per the guidelines of the Central Pollution Control Board (CPCB) made in consultation with the Central Electricity Authority (CEA) and these guidelines shall also lay down a procedure for annual certification of the operational as well as stabilised and reclaimed ash pond or dyke on its safety, environment pollution, available volume, mode of disposal, water consumption or conservation in disposal, ash water recycling and green belt, etc. and shall be put in place within three months from the date of publication of this notification:

Provided that up to two operational ash ponds or dykes for thermal power plants commissioned before 31st December, 2021, having installed capacity less than or equal to 1600 MW, and up to four operational ash ponds or dykes for thermal power plants having installed capacity more than 1600 MW, having multiple lagoons, within the specified area from the existing ash ponds or dykes, may be designated with clear demarcation along with coordinates, and shall inform to Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) by 31st March, 2023:

Provided further that one ash pond or dyke shall be permitted in case of new thermal power plants or expansion of existing thermal power plants commissioned on or after 31st December, 2021, which shall inform the details of demarcation along with coordinates to Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) within 3 months from the date of commissioning of thermal power plant or by 31st March, 2023, whichever is later:

Provided also that coal and lignite based thermal power plants shall not be allowed to further establish or designate any new operational ash pond or dyke:

Provided also that specification of 0.1 hectare per Mega Watt (MW) of an operational ash pond or dyke shall not be applicable for the thermal power plants commissioned before 03rd November, 2009.".

(2) in paragraph B,-

(i) in sub- paragraph (1), for the words, figures and letters "within 300 kms", the words, figures and letters "within a radius of 300 kms" shall be substituted,

(ii) in sub- paragraph (8), for the words "higher than the price of alternative products", the words, brackets and letters "more than the price mentioned in the Schedule of Rates as specified by Central Public Works Department (CPWD) or concerned Public Works Department (PWD) or price of alternative products, if not mentioned in the Schedule of Rates." shall be substituted.

(3) in paragraph -D, -

(i) for sub- paragraph (2), the following sub- paragraph shall be substituted, namely,-

"(2) Persons or user agencies who have been served notice by owner of thermal power plants, if they have already tied up with other agencies for the purpose of utilisation of ash, shall inform the thermal power plant accordingly, and if they cannot use any ash or may use reduced quantity.".

(ii) after sub- paragraph (2), the following sub-para shall be inserted, namely,-

"(3) Persons or user agencies who have been served notice by manufacturers of ash bricks or tiles or sintered ash aggregate or other ash based products, if they have already tied up with other agencies for the purpose of utilisation of ash based products, shall inform the manufacturer of ash bricks or tiles or sintered ash aggregate or other ash based products, accordingly, and if they cannot use ash based products, or may use reduced quantity.".

2. This notification shall come into force on the date of its publication in the Official Gazette.

[F. No. HSM-9/1/2019-HSM]

NARESH PAL GANGWAR, Addl. Secy.

Note : The principal notification was published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii), dated the 31st December, 2021, *vide* number S.O.5481 (E), dated the 31st December, 2021.

Uploaded by Dte. of Printing at Government of India Press, Ring Road, Mayapuri, New Delhi-110064
and Published by the Controller of Publications, Delhi-110054.

ANNEXURE-7

PHOTOGRAPH DATED 09-12-2023 WHICH SHOWS THE ASHPOND MADE BY OPGC IS COLLAPSED , AND THE ASH GOT MIXED WITH THE HIRAKUD RESERVOIR WATER AND ALSO SPREAD TO THE NEARBY AGRICULTURAL LANDS

THE NEW SUNDAY EXPRESS | ODISHA
04 BHUBANESWAR SUNDAY 10.12.2023

Event to promote tax literacy

Rourkela: The Sambalpur Commissio
tax literacy among people recently. U
Kolhe, a taxpayers' hub was set up f
commissioner of IT, Kolkata Dhirend

OPGC ash pond collapses, inundates villages

Villagers apprehensive of damage to crops; fishermen worried over potential threat to Hirakud reservoir

EXPRESS NEWS SERVICE
@ Jharsuguda

IN a troubling incident near Rengali, the Orissa Power Generation Corporation Ltd's (OPGC) ash pond C in Ib Thermal Banharpali collapsed on Saturday morning leading to ash-laden water seeping into nearby Kantatikra and Saradhapalli villages in Kumharbandh Panchayat of Lakhanpur block in the district.

At around 8.15 am, the ash pond, measuring approximately 50 metre in length and 30 to 35 metre in depth, collapsed, sending ash water surging towards Sharadhapali. Without any other option, the villagers evacuated the area, and took refuge atop nearby ash pond A

The release from the ash pond flowing all over the village areas | EXPRESS

while authorities, including the police and district administration, immediately intervened to clear off the area.

Villagers in the affected areas are apprehensive of damage to crops and the fishermen too are left worried due to the potential threat to the Hirakud reservoir that could affect the region's fisheries.

The collapse has affected farmlands, impacting 32 families and 41 farmers. They have demanded compensation and relocation by the OPGC. Be-

> **A swift resolution is the need of the hour and a scrutiny into alleged irregularities in the ash pond tendering process must be taken up**
>
> Suresh Pujari, MP

sides they cited a previous instance of water leak which they alleged was ignored by OPGC. The officials however, denied any such instance.

The affected ash pond (C), spanning 110 to 120 acre, collects ash from units 1, 2, and residual ash from units 3 and 4, reportedly accumulating 4,600 to 7,000 cubic metre daily.

Meanwhile, local administrative authorities are investigating the cause of the embankment's collapse. Tehsildar S Kumhar assured that damage assessment will be done and compensation disbursed accordingly.

During a visit to the site, MP Suresh Pujari expressed grave concerns about the possible consequences for villages and agricultural lands if the ash pond remains unchecked. "A swift resolution is the need of the hour and a scrutiny into alleged irregularities in the ash pond tendering process must be taken up," he asserted .

OPGC's senior manager, HB Behera, confirmed a 20-foot crack in the ash pond, with ongoing repair work expected to take two to three days. The district collector is expected to visit the site on Sunday.

Forest officials contemplate Tribal students trek 20 km to meet

ANNEXURE-8

EPABX : 2561909/2562847
Tel : 2562822/2560955
E-mail: paribesh1@ospcboard.org
Website :www.ospcboard.org

STATE POLLUTION CONTROL BOARD, ODISHA

[DEPARTMENT OF FOREST & ENVIRONMENT, GOVERNMENT OF ODISHA]
ParibeshBhawan, A/118, Nilakantha Nagar, Unit – VIII
Bhubaneswar – 751 012, INDIA

No. 1017 /RTI/Jan/2024 Date 24.01.2024
By Speed Post

From

Sri Sisir Kumar Sahoo
Public Information Officer

To

Sri Ranjit Sutar
S/o-Late Krushna Chandra Sutar
At-L-179, Nandan Vihar,
Nandan Enclave, PO-KIIT Campus,
Patia, Bhubaneswar-751 024

Sub: Information under the RTI Act, 2005.

Ref: Your RTI application dtd.29.12.2023 and received by this office on dt.30.12.2023 under the RTI Act, 2005.

Sir,

Please, find enclosed the copy of the available information/documents (13pgs) under the RTI Act, 2005.

Yours faithfully

Sahoo 24.1.24

Public Information Officer

Encl: As above

202

Inspection Report on Breach of Ash Dyke of Ash Pond-C of M/s. OPGC Ltd., At/PO- Banharpalli, Dist-Jharsuguda

M/s. OPGC Ltd, located at village Banharpalli in the district of Jharsuguda, was inspected on 09.12.2023 & 10.12.2023 by the undersigned to verify the present status of ash pond & cause of the breach and damaged occurred in nearby areas due to breach of Ash Dyke in Ash Pond-C. Sri Manas Rout, Director (Operation), Sri Rahul Ojha, Head Ash Management, Sri Satish Poghri, Dy.Manager, Ash Pond Civil, Smt. Sujata Sahu, Environment Executive and other officials of the industry were accompanied during the day of inquiry.

Background & Consent Status:

- This is a Coal Based Power Plant having consent to operate valid up to 31.03.2024 for production of Electricity Power (Unit-1&2) of quantity 420 MW (2X210 MW) and 1320 MW (2X660 MW).
- Consent to Establish has been granted for combined dyke height raising of Ash pond A&C by 3 m i.e., from RL 208 m to RL 211 m for disposal of ash slurry of capacity 3200 TPD vide H.O Letter No-13337, dtd.23.08.2023.

Brief Description of Ash Handling System and Ash Water Recycling System:

For Unit-1&2 (2x210 MW):

1) The industry has two numbers of Pulverized boiler of capacity 690 TPH each with an electric power generation capacity of 210 MW each.
2) Consumption of coal is about 8000 MT/day for power generation for unit 1 & 2. The total generation of ash is about 202.4 MT/hr out of which 147 MT/hr is Fly ash, 55.4 MT/hr is bottom ash. The fly ash from 1st and 2nd field is conveyed to 3 nos. of silo of capacity 120 MT and 2x250 MT respectively, whereas from rest of the ESP fields the fly ash is discharged to slurry sump through 3 nos. of pumps (2 nos. working and 1 standby) of capacity 600 m^3/hr. From slurry sump the ash slurry is discharged to Ash Pond-C in form of Lean Slurry disposal method having 80% water and 20% ash.
3) The bottom ash which is cleaned in each 8 hours is also is discharged to slurry sump from the 01 no of bottom ash hopper and then to Ash Pond C.
4) The ash pond-C is located at a distance of about 5.4 Km from the plant near village Rengali.

Status of existing ash ponds :

Ash Pond A: - Status- Reclaimed, Area-150 Ac (607287 sq meter)

- The total ash holding capacity of ash pond-A is 67,14,500 MT. It has been reclaimed and stabilized with soil capping and grass turfing. The bottom level of the dyke was

Public Information Officer
OPC Board, BBSR

constructed at RL 187.65m; and starter dyke was constructed up to RL 199m. Raising of dyke height has been done in 3 phases up to top RL of 208m.

- On the day of inspection, the ash pond was found to be completely filled-up, reclaimed and dyke height raising work has been initiated.

Ash Pond B: - Status- Reclaimed, Area- 242 Ac (979339 sq. meter)

- Total ash holding capacity of ash pond is 1,28,20,000 MT which is completely exhausted. The bottom level of the dyke is RL 189.00m and starter dyke was constructed up to RL 202m; raising of dyke height has been done up to RL 205m and after that ash mounds are constructed up to RL 208m.
- Entire ash pond and ash mounds are covered with earth capping and has been reclaimed with thick vegetation.

Ash Pond C: - Status- Operational, (Area-114.92 Ac)

- It lies in between the Ash Pond-A and Ash Pond-B. The Ash Pond-C was found to be operational and active. The bottom level of the dyke is RL 191.5m and starter dyke was constructed up to RL 202m.
- Decanted ash water is being completely recycled through collector well (decantation well), Primary settling tank & secondary settling tank. The operating ash pond has been connected to primary settling tank (PST) by pipeline through well designed collector well (decanting system). The PST is again connected to secondary settling tank (SST) by gravitational pipeline. Ash water from SST is recycled through pumping system in return pipeline to plant site for use of water in ash handling plant

OBSERVATIONS :

1) The breach of Ash Pond-C was occurred on 09.12.2023 at 8.30 AM (Morning) at North side of the ash dyke. About 30ft depth and 40ft width of ash dyke has been collapsed and the ash with water spread to nearby agriculture land of village Saradhapali & Kantatikira. About 420 Ac. of agriculture land has been affected. These villages are located at a higher elevation, so no houses of villagers are affected.
2) A village pond located Saradhapali has been affected due to the spread of ash slurry.
3) It is apprehended that the ash pond breach occurred due to following reasons;
   a) The free-board of 1.5m is not maintained through-out the ash dyke.
   b) The slope in ash pond is not maintained properly due to uneven disposal of ash water and water is not collected in primary settling tank and the slope is towards the breach site.
   c) The bottom ash from Unit-3 & 4 in slurry form is also disposed to this Ash pond-C due to blockage of slurry pipeline instead of disposed to Tilia ash pond, without obtaining any prior permission from the Board.
4) On the day of inspection, the discharge of ash slurry from unit-1 & 2 continued in the ash pond-C and also ash slurry was continued to discharge through breach site to nearby agriculture land.

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STEPS INITIATED BY THE UNIT :

1. The unit has taken shut down of Unit-3 & 4 (2x660 MW) from 09.12.2023 to stop discharge of bottom ash slurry to the ash pond –C, where breach was occurred.
2. They have prepared sand bags to block the discharge of ash slurry to nearby agriculture land.

The photographs shown the breach site and spread out area attached in ***Annexure-1.***

RECOMMENDATIONS:

1. The incident clearly indicates the fault in the industry for improper ash pond management.
2. The unit shall shut down operation of Unit-1 & 2 to stop discharge of ash slurry from these units to Ash Pond-C as well as to prevent further discharge of ash slurry to outside through breach site.
3. The unit shall immediately stop discharge of ash slurry from the breach site to nearby agriculture land by putting sand bags & take immediate action to recovery the spread-out ash from the nearby areas.
4. The unit shall immediately clean the bottom ash pipeline connected to Tilia Ash pond for operation of Unit-3 & 4.
5. As there is no much space available in the ash pond-C and ash pond-A&B are already exhausted, the unit shall find alternative arrangement for disposal of ash from Unit-1 & 2.
6. The unit shall stop the raising of dyke height at Pond-A & C as per CTE order vide letter No. 13337, dtd.23.08.2023.
7. A detail study may be carried out from institute having national repute to identify the cause of breach and to take safety measures to prevent such breach in future.
8. The unit shall take immediate preventing measures if any contamination of ash slurry with back water of Hirakud Reservoir, as the back water of reservoir is located to close to this ash pond site.
9. The unit shall carry out an aerial survey of the affected area to quantify the damages and quantity of ash spread outside.
10. The unit shall provide watch tower with lighting to keep a watch to avoid any man made nuisance.
11. The unit shall install adequate number of surveillance camera all around the ash pond to keep a vigil.

In view of the above facts suitable direction may be issued to the unit in this regard.

11.12.2023

Ms. Anusha Ekka
Deputy Env. Scientist
Regional Office, SPC Board,
Jharsuguda

11.12.23.

Er. R.K. Mohanty,
Deputy Env. Engineer
SPC Board, Bhubaneswar

11.12.2023

Er. S.K. Panda
Sr. Env. Engineer
SPC Board, Bhubaneswar

Public Information Officer
SPC Board, BBSR

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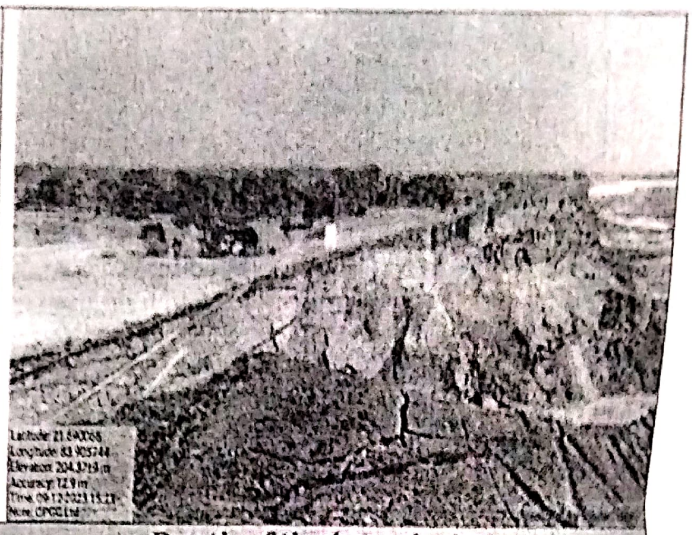
Annexure -1

Breach site of Ash Pond-C



Depth of the breach site

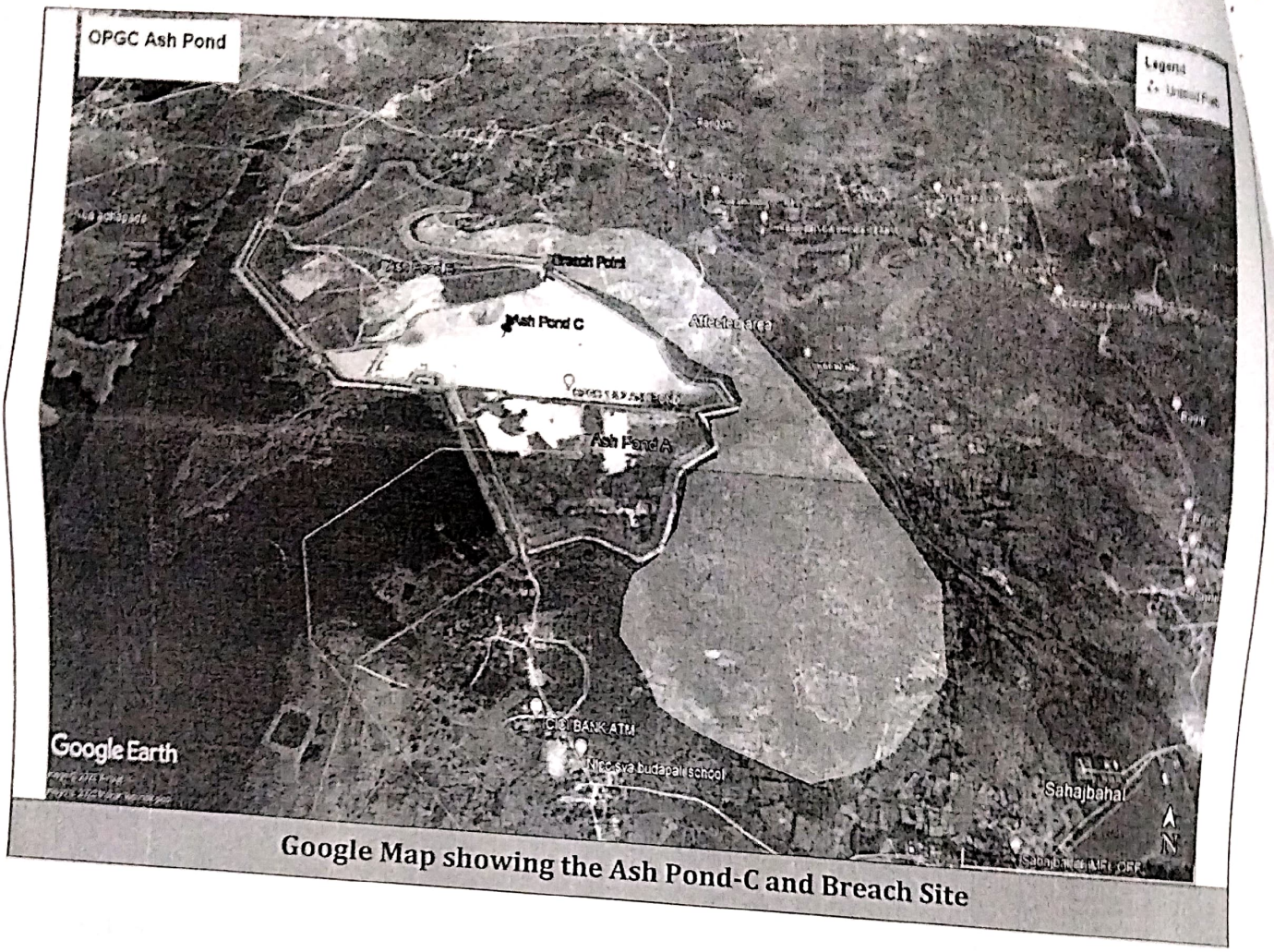
Location of Ash Pond-C

No free board at this location of Ash Pond-C

Slurry spread out in nearby Agriculture Land

The Ash Slurry mixed at the village pond of Saradhapali

Public Information Officer
SPC Board, BBSR



Google Map showing the Ash Pond-C and Breach Site

Public Information Officer
SPC Board, BBSR

EPABX : 2561909/2562847
E-mail: paribesh1@ospcboard.org
Website: www.ospcboard.org

STATE POLLUTION CONTROL BOARD, ODISHA

[DEPT., OF FOREST, ENVIRONMENT & CLIMATE CHANGE, GOVT. OF ODISHA]
Paribesh Bhawan, A/118, Nilakantha Nagar, Unit – VIII
Bhubaneswar – 751 012, INDIA

No 19609 / IND-I-CON- 104 Dt 11.12.2023

By Speed Post / E-Mail

DIRECTION UNDER SECTION 33 (A) OF WATER (PCP) ACT, 1974 AND 31 (A) OF AIR (PCP) ACT, 1981 AND AMENDED THEREAFTER

WHEREAS, you are operating a thermal power plant having production capacity of electricity @ 2 x 210 MW & 2 x 660 MW in the name and style of **M/s. Odisha Power Generation Corporation Limited, Ib Thermal Power Station, At-Banharpali, Dist – Jharsuguda** with valid consent to operate of the Board up to 31.03.2024 subject to strict compliance to consent conditions stipulated in the CTO Order granted vide Board's Letter No. – 3160, dtd. 02.3.2023.

AND WHEREAS, special conditions have been stipulated in the aforesaid CTO Order to utilize ash as per Fly Ash Notification vide December, 2021 and amended thereof. Rest ash from Unit-1 & 2 to be disposed in Ash Pond 'C' through slurry disposal. Fly ash from Unit-3 & 4 to be disposed in Tilia Ash Pond through slurry disposal mode by taking all full-proof preventive and maintenance actions to safeguard the ash pond system against any breach of ash dykes and maintain proper free board in the ash ponds. Steps shall be taken to prevent leakage from the ash slurry pipe line. Further, condition has been stipulated to strengthen the ash pond security system by increasing frequency of watch and improving supervision facility by the use of flash light, binocular and communication facility. Physically checking the ash slurry pipe line and ash pond conditions on daily basis.

AND WHEREAS, Ash Pond 'C' (Northern Dyke) has been breached on dtd. 09.12.2023 at around 8.30 A.M. You have informed such breach of ash pond 'C' to the Board vide letter No. ITPS/6826/WE, dtd. 09.12.2023.

AND WHEREAS, the site was inspected by the Officials from Regional Office, Jharsuguda and Head Office on dtd. 09.12.2023 and 10.12.2023. Copy of the inspection report is enclosed. From the inspection report following observations were made;

1. About 30 ft depth and 40 ft width of ash dyke has been collapsed and the ash with water spread to the nearby agricultural land of village Saradhapali & Kantatikira.
2. About 420 Ac. of agriculture land has been affected.
3. A village pond located Saradhapali has been affected due to the spread of ash slurry.
4. It is apprehended that the ash pond breach occurred due to following reasons;

   a. The free-board of 1.5m is not maintained through-out the ash dyke.

Contd..

Public Information Officer
SPC Board, BBSR

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b. The slope in ash pond is not maintained properly due to uneven disposal of ash water and water is not collected in primary settling tank and the slope is towards the breach site.

c. The bottom ash from Unit-3 & 4 in slurry form is also disposed to this Ash pond-C due to blockage of slurry pipeline instead of disposed to Tilia ash pond, without obtaining any prior permission from the Board.

5. On the day of inspection, the discharge of ash slurry from unit-1 & 2 continued in the ash pond-C and also ash slurry was continued to discharge through breach site to nearby agriculture land.
6. The unit has already taken shut down of Unit-3 & 4 (2 x 660 MW) from 09.12.2023.

AND WHEREAS, from the inspection report, it is revealed that the breach of ash pond establishes the fact that there has been failure in adhering to the technicalities and specifications contained in the drawing and designing in the ash pond system and lapses in supervision during execution of the work.

NOW, THEREFORE, by virtue of the power conferred Under Section 33(A) of Water (PCP) Act, 1974 and Under Section 31(A) of Air (PCP) Act, 1981 as amended thereafter, the competent authority of the State Pollution Control Board, Odisha do hereby direct you to comply the followings;

1. Shut down operation of Unit-1 & 2 to stop discharge of ash slurry from these units to Ash Pond 'C' as well as to prevent further discharge of ash slurry to outside through breach site.
2. Immediately stop discharge of ash slurry from the breach site to nearby agriculture land by putting sand bags & take immediate action to recover the spread-out ash from the nearby areas.
3. Immediately clean the bottom ash pipeline connected to Tilia Ash pond for operation of Unit-3 & 4.
4. As there is no much space available in the ash pond-C and ash pond-A&B are already exhausted, alternative arrangement for disposal of ash from Unit-1 & 2 shall be provided.
5. Stop the raising of ash dyke height at Pond-A & C as per CTE order issued vide letter No. 13337, dtd.23.08.2023 till the situation is controlled.
6. Detail study shall be carried out by National repute Institution to identify the cause of breach and to take safety measures to prevent any such breach in future.
7. Take immediate preventive measures to avoid contamination of ash slurry with back water of Hirakud Reservoir, as the reservoir is located close to this ash pond site.
8. Carry out an aerial survey of the affected area to quantify the damages and quantity of ash spread outside.

Information Officer

Contd..

9. Provide watch tower with lighting to keep a watch to avoid any man made nuisance.
10. Install adequate number of surveillance camera all around the ash pond to keep a vigil.
11. Intimate date of stoppage of operation of Unit 1 & 2 as mentioned above forthwith by E-mail.

Compliance to the above direction shall reach to the Board within 3 days failing to which appropriate action as deemed fit shall be taken against your unit which may include closure direction to stop operation of your Thermal Power Plant.

Encl: As above

11/12/23
Member Secretary

To,

The Director (Operation),
M/s OPGC Limited,
Ib Thermal Power Station, Banharpali,
Dist – Jharsuguda-768234

Memo No. 19610 / Dt. 11-12-2023

Copy forwarded to the OSD to the Chief Secretary to Govt. & Chairman, SPC Board, Odisha for kind information of the Chief Secretary to Govt. & Chairman, SPC Board, Odisha.

11/12/23
Member Secretary

Memo No. 19611 / Dt. 11.12.2023 **By: E-mail**

Copy forwarded to Collector and District Magistrate, Jharsuguda for information and necessary action.

11/12/23
Member Secretary
By: E-mail

Memo No. 19612 / Dt. 11-12-2023

Copy forwarded to Regional Officer, SPC Board, Odisha, Jharsuguda for information. He is requested to keep strict vigil at the ash pond site of the unit.

11/12/23
Member Secretary
By: E-mail

Memo No. 19613 / Dt. 11-12-2023

Copy forwarded to the Senior Law Officer, L-II, SPC Board, Odisha, Bhubaneswar for information.

Public Information Officer
SPC Board, BBSR

11/12/23
Member Secretary

ISHA POWER GENERATION CORPORATION LTD.
(Government Company of the State of Odisha)
CIN: U401040R1984SG001429
Ib Thermal Power Station
Banharpali, Dist.: Jharsuguda, Odisha - 768 234, India
Plant Manager : (+916645) 289266, Fax: (+916645) 222-230
Factory Manager : (+916645) 222224, Fax: (+916645) 222-230

18059 27/12/23

OPGC
Power For Progress

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ITPS/6916/WE
December 16, 2023

The Member Secretary
State Pollution Control Board, Odisha
"Paribesh Bhawan"
A/118, Nilakantha Nagar
Unit-VIII
Bhubaneswar – 751 012

Dear Sir,

Sub.: **Compliance to Direction U/s 33A of Water (PCP) Act,1974 and U/s 31A of Air (PCP) ACT, 1981 and amended thereafter.**

Ref.: OSPCB directive through Letter No- 19609/IND-I-CON-104, dated 11.12.2023

This has reference to the cited subject & Cite reference

Please find enclosed the point wise compliance of the directive issued by your good office in line with the recent Ash Pond-C dyke portion breaching on date 09.12.2023.

Thanking you.

Yours Sincerely,
For OPGC Limited

Manas Ranjan Rout
Director Operations & MD in Charge
Ib Thermal Hospital

Encl.: As above

Sri C. Baske, ASO
26/12/23

Copy to:
The Regional Officer, State Pollution Control Board, Odisha, Jharsuguda

Public Information Officer
SPC Board, BBSR

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OMPLIANCE TO DIRECTION UNDER SECTION 33 (A) OF WATER (PCP) ACT, 1974 AND 31 (A) OF AIR (PCP) ACT, 1981 AND AMENDED THERE AFTER

Vide: OSPCB Letter No- 19609/IND-I-CON-104, dtd: 11-12-2023

.No	Directive	Compliance
1.	Shut down operation of Unit-1 & 2 to stop discharge of ash slurry from these units to Ash Pond 'C' as well as to prevent further discharge of ash slurry to outside through breach site.	At present the ash slurry of Unit#1 & Unit#2 is being discharged to Ash Pond A. Space is also being created by lifting dry ash from Ash Pond-A and disposing it in the craters formed inside Ash Pond-C for stability of Ash Pond-C. **Thus, no slurry as of now is being discharged in Ash Pond-C.** It is pertinent here to mention that Unit#3 & Unit#4 are under shut down. Unit#1 & Unit#2 has been taken under shutdown on 15.12.2023 ***Note: The breach has been arrested by constructing a temporary earthen bund and as of now there is no discharge outside***
2.	Immediately stop discharge of ash slurry from the breach site to nearby agriculture land by putting sand bags & take immediate action to recover the spread-out ash from the nearby areas.	The breach has been arrested by constructing a temporary earthen bund and as of now there is no discharge outside. The construction of the earthen bund has been done as per the advice of Prof. Naidu of IIT Madras who is the designer of Ash Pond-C. After much deliberation, a short term and a long-term plan has been prepared for execution. These plans are enclosed as an **Annexure-1**
3.	Immediately clean the bottom ash pipeline connected to Tilia Ash pond for operation of Unit-3 & 4.	The bottom ash discharge pipelines connected to Tilia ash pond have been made through after clearing the blockage and hydro test has already been done. However, OPGC requests OSPCB to permit intermittent discharge of Bottom ash in Ash Pond-A due to the reasons mentioned below. • There are only two ash disposal lines envisaged in the design and these lines are of 14 Km length each and are laid over the Hirakud reservoir catchment area. Moreover, there is also a concern with regard to accessing the area in quick time for carrying out any repair in the pipelines. • Intermittently, it is observed that the discharge pipelines get pressurized when large size bottom ash particles come in the discharge. In such a scenario, the diversion of the line to nearest ash pond i.e. ash pond A is required for uninterrupted operation of Unit 3&4.

Public Information Office
SPC Board, BBSR

Director (Operation)
OPGC Ltd.
ITPS, Banharpali

OMPLIANCE TO DIRECTION UNDER SECTION 33 (A) OF WATER (PCP) ACT, 1974 AND 31 (A) OF AIR (PCP) ACT, 1981 AND AMENDED THERE AFTER

Vide: OSPCB Letter No- 19609/IND-I-CON-104, dtd: 11-12-2023

4.	As there is no much space available in the ash pond-C and ash pond- A&B are already exhausted, alternative arrangement for disposal of ash from Unit-1 & 2 shall be provided.	The short term & long-term plan for ash management is enclosed as **Annexure1**
5.	Stop the raising of ash dyke height at Pond-A & C as per CTE order issued vide letter No. 13337, dtd.23.08.2023 till the situation is controlled.	We request OSPCB to allow raising of Ash Pond-A by 3 m i.e. from RL 208 m to RL 211 m. Once the damaged bund of Ash Pond-C is repaired and stability of Ash Pond C is recertified, OPGC will go for height raising of Ash Pond-C from RL 208 m to 211 m. **In the given situation, it will not be possible to run the units continuously until space is created through height raising of Ash Pond-A. Thus, it is pertinent to mention here that OPGC will not be able to supply power to the state.**
6.	Details study shall be carried out by National repute Institution to identify the cause of breach and to take safety measures to prevent any such breach in future.	Stability study will be done through IIT Madras. Further, OPGC will conduct a detailed probe by engaging a reputed third-party agency.
7.	Take immediate preventive measures to avoid contamination of ash slurry with back water of Hirakud Reservoir, as the reservoir is located close to this ash pond site.	A temporary bund has been constructed near Bhaludol village side to avoid any mixing of ash water with Hirakud Reservoir. The alum & lime dosing has been carried out at the upstream side of the temporary bund
8.	Carry out an aerial survey of the affected area to quantify the damages and quantity of ash spread outside.	Aerial survey will be done through Drone.
9.	Provide watch tower with lighting to keep a watch to avoid any man made nuisance.	Noted for compliance and this will be the part of long-term plan.
10.	Install adequate number of surveillance camera all around the ash pond to keep a vigil.	Noted for compliance. Solar power with battery backup will be provided for the surveillance cameras.
11.	Intimate date of stoppage of operation of Unit 1 & 2 as mentioned above forthwith by E-mail.	Unit#1 & Unit#2 has been shut down on 15.12.2023.

Manas Ranjan Rout
Director Operations/MD in Charge & Occupier.

Director (Operation)
OPGC Ltd,
ITPS, Banharpali

Public Information Officer
SPC Board, BBSR

ANNEXURE-1

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Short Term Action Plans:

- Immediately after the incident i.e. on 09.12.2023 at 08.30 AM the power generation of Unit#1 & Unit#2 was reduced from 190 MW to 135 MW.
- To reduce the stress on the ash disposal facilities, Unit#3 & Unit#4 were shut down.
- The distressed portion of the ash dyke was attended to stop the flow of ash water from Ash Pond-C. Successfully the discharge was arrested at 1.15 PM of 13.12.2023. For the purpose the following actions were taken
  - An approach embankment cum road of height 10m using only earth was constructed to access the distressed portion of the dyke.
  - The breached portion was closed using an earthen embankment of height of around 6m & width of 15 m. Further the side slopes of the embankment were covered with thick polyethylene sheets and sand bags to prevent the erosion.
  - 2 pumps of capacities 200m3/hr each were installed to evacuate the stagnated water on the upstream side of the earthen bund.
  - Watch & ward including temporary lighting, barricade was deployed around the affected portion of the dyke for the safety of the personnel working in the region.
  - Food & water facilities were provided to the affected hamlets from the day of the incident.
  - The periphery drains of Ash Pond-A connecting the back waters of the reservoir was closed temporarily to prevent the possibility of ash water ingress in to the reservoir.

- The craters formed within the Ash Pond-C are being filled using dry ash to prevent the failure of the ash dyke section due to the imposed sudden draw down conditions. For this purpose, 30 Nos Hyvas, 10 Nos of excavators, 10 Nos of Dozers have been deployed soon after the occurrence of the incident. Further augmentation of the machineries is envisaged and contracts have already been awarded. Ash filling through dry mound disposal will continue in Ash Pond-C till RL-208m to ensure the stability of the dykes.
- To prevent any fugitive emissions from Ash Pond-C, sprinklers have been planned to be deployed.
- The above measuring steps were envisaged to bring the dykes of Ash Pond-C to a stable condition.
- The remedial measures are being apprised to local administration as well as statutory authorities regularly.
- Given the emergency situation imposed by the recent developments, additional measures were taken to ensure the stability of the dykes of Ash Pond-A which includes the following.
  - The deposited dry ash is being evacuated to fill the craters of Ash Pond-C which in turn will create additional space in Ash Pond-A
  - Healthiness of Primary Settling Tank (PST) of Ash Pond-A was ensured.
  - The disposal points were diverted from Ash Pond-C to Ash Pond-A.
  - De weeding within Ash Pond-A is being carried out.
  - The transformation of the Ash Pond-A in to two parts by constructing a dividing bund and additional decanting well.
  - As suggested by the statutory authorities & IIT Madras, installation of additional piezometers is envisaged.
  - Stability analysis will be carried out to establish the safety of the dykes considering the prevailing conditions.

Director (Operation)
OPGC Ltd,
ITPS, Banharpali

Public Information Officer
SPC Board, BBSR

ANNEXURE-1

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- The raising of the dykes of Ash Pond-A (208 m to 211 m) will be carried out upon performing detailed stability analysis by considering a minimum of 5m berm towards reservoir side (Initial design was 3 m) and after amendment of CTE issued vide letter No. 13337, dtd.23.08.2023
- Cleaning of periphery drain of Ash Pond-A & Ash Pond-C is being implemented.

Long Term Action Plans:

➢ Following actions are envisaged for the complete revival of Ash Pond-C

- The distressed portion will be reconstructed using earthen material by considering 1 m thick sand blanket & sand chimney, Rock toe which in turn will be connected to toe drain of the Ash Pond-C at RL of 191.5 m
- For augmenting the stability of the dyke, the slopes of the section are restricted to 1V:3H.
- The height of each raising is limited to 3m with a berm of 3m
- To accommodate the extra width of the bund in this region, the bund will be constructed inward direction which in turn occupies the upstream portion of the ash pond
- To ensure the proper connection between the rehabilitated portion of the dyke and existing dyke section, the concept of benching will be used.
- For long term stability of the entire dyke section the distressed portion will be removed, rebuilt and recompacted.
- The connecting bunds alignments between Pond-A & Pond-C, Pond-C & Pond-B will be smoothened as suggested by the statutory authorities.
- Along with the progress of the rehabilitation of the dyke, a 50 m wide compacted ash will be placed on upstream face of the rehabilitated portion.
- The entire height of the downstream portion of the rehabilitated section will be pitched with stone of thickness of 500 mm.
- An inspection road is envisaged beyond the toe drain of Ash Pond-A (West Bund on reservoir side).
- Solar lights will be provided all along Ash Pond A & Ash Pond C
- Additional Hydrogeology study will be carried out by IIT Madras around Ash Pond A/B/C complex to ascertain the stability of the dykes.

Prepared By:

Parthasarathi Panda
Sr. Manager (Environment)

Approved By:

Manas Ranjan Rout
Director Operations/MD in Charge & Occupier

Director (Operation)
OPGC Ltd,
ITPS, Banharpali

Public Information Officer
OPGC Board, BBSR

ANNEXURE-9

ଓଡିଶା ସରକାର

ରାଜସ୍ୱ ଓ ବିପର୍ଯ୍ୟୟ ପରିଚାଳନା ବିଭାଗ

No. RDM-LAC-JHS-0006-2023-43341 / R&DM dated 08 DEC 2023

ସାମାଜିକ ପ୍ରଭାବ ନିର୍ଦ୍ଧାରଣ ନିମନ୍ତେ ଅଧିସୁଚନା

ରାଜ୍ୟ ସରକାର ପ୍ରଭାବିତ ଗ୍ରାମ / ୱାର୍ଡସ୍ତରରେ ସମ୍ପୃକ୍ତ ଗ୍ରାମ-ପଞ୍ଚାୟତଙ୍କ ପରାମର୍ଶକ୍ରମେ ନିମ୍ନଲିଖିତ ଭୂମି ଅଧିଗ୍ରହଣ କରିବାକୁ ଚାହୁଁଛନ୍ତି ଏବଂ ସେଥି ନିମନ୍ତେ ସର୍ବସାଧାରଣ ଉଦ୍ଦେଶ୍ୟରେ ପ୍ରଭାବିତ ଅଞ୍ଚଳରେ ସାମାଜିକ ପ୍ରଭାବ ନିର୍ଦ୍ଧାରଣ (Social Impact Assessment) ସର୍ବେକ୍ଷଣ କରିବାକୁ ଚାହୁଁଛନ୍ତି। ଭୂମି ଅର୍ଜନ, ପୁନର୍ବାସ ଓ ଥଇଥାନରେ ଉଚିତ ମୂଲ୍ୟ ଏବଂ ସ୍ୱଚ୍ଛତା ଅଧିକାର ଆଇନ – ୨୦୧୩ ର ଧାରା ୪ ଅନୁଯାୟୀ ଉକ୍ତ ସର୍ବେକ୍ଷଣ କରାଯିବ।

୧. ପ୍ରକଳ୍ପ ବିକାଶକାରୀଙ୍କ ନାମ:- ଜମି ଅଧିକାରୀ , ଇଡକୋ(IDCO),ଭୁବନେଶ୍ୱର ।

୨. ପ୍ରସ୍ତାବିତ ଭୂମି ଅଧିଗ୍ରହଣ ର ଉଦ୍ଦେଶ୍ୟ- M/s Odisha Power Generation Corporation Ltd. (OPGC) to expand the ash pond of 2 X 210 MW Thermal Power Plant **of Jharsuguda District (ToR50-00001)** ।

୩. SIA study କରୁଥିବା ଅନୁଷ୍ଠାନର ଯୋଗାଯୋଗ ସୂଚନା :- **M/s. SRUSTI, Khordha** ।
SIA ସର୍ବେକ୍ଷଣ ଅନୁଷ୍ଠାନ: Nabakrushna Choudhury Centre for Development Studies, Bhubaneswar, Phone No. 0674-2300471/ 2301094 ।

୪.ପ୍ରକଳ୍ପ ପାଇଁ ଝାରସୁଗୁଡା ଜିଲ୍ଲାରେ ପ୍ରସ୍ତାବିତ ଭୂମି ଅଧିଗ୍ରହଣର ବିବରଣୀ / ତଫସିଲ :

କ୍ରମିକ ନଂ	ତହସିଲ	ଗ୍ରାମ ପଞ୍ଚାୟତ	ଗ୍ରାମ	ବେସରକାରୀ ଜମି	ମନ୍ତବ୍ୟ
୧	ଲଖନପୁର	କୁମ୍ଭାରବନ୍ଧ	ରେଙ୍ଗାଲି	ଏ. ୪୬. ୩୯୦ ଡି.	
୨	ଲଖନପୁର	କୁମ୍ଭାରବନ୍ଧ	କୁମ୍ଭାରବନ୍ଧ	ଏ. ୯. ୨୦୫ ଡି.	
ମୋଟ				ଏ.୫୫.୫୯୫ ଡି.	

ଭୂମି ଅନୁସୂଚୀ ଏଥି ସହିତ ସଂଲଗ୍ନ କରାଯାଇଛି।

୫. ପ୍ରସ୍ତାବିତ ପ୍ରକଳ୍ପର ସଂକ୍ଷିପ୍ତ ବିବରଣୀ:-ଝାରସୁଗୁଡା ଜିଲ୍ଲାର ଲଖନପୁର ତହସିଲ ର ଉପରୋକ୍ତ ୨ ଗୋଟି ଗ୍ରାମରେ ଇଡ଼କୋ, ଭୁବନେଶ୍ୱର ଦ୍ୱାରା M/s Odisha Power Generation Corporation Ltd. (OPGC) to expand the ash pond of 2*210 MW Thermal Power Plant ଶିଳ୍ପ ପ୍ରତିଷ୍ଠା ନିମନ୍ତେ ଭୂ ଅଧିଗ୍ରହଣ କରାଯିବ।

୬.ସାମାଜିକ ପ୍ରଭାବ ନିର୍ଦ୍ଧାରଣ ସର୍ବେକ୍ଷଣରେ ଅନ୍ତର୍ଭୁକ୍ତ ପ୍ରକଳ୍ପ ଅଞ୍ଚଳ ଏବଂ ପ୍ରକଳ୍ପ ପ୍ରଭାବିତ ଅଞ୍ଚଳ :- ଝାରସୁଗୁଡା ଜିଲ୍ଲାର ଉପରୋକ୍ତ ୨ ଗୋଟି ଗ୍ରାମରେ ରେଙ୍ଗାଲି ଓ କୁମ୍ଭାରବନ୍ଧ **ମୋଟ ଏ.୫୫.୫୯୫ ଡି**. ଘରୋଇ ଜମି ଶିଳ୍ପ ପ୍ରତିଷ୍ଠାନ ପ୍ରକଳ୍ପରେ ଅନ୍ତର୍ଭୁକ୍ତ ପ୍ରକଳ୍ପ ପ୍ରଭାବିତ ଜମିର ବିସ୍ତୃତ ତାଲିକା/ ତଫସିଲ ସାମାଜିକ ପ୍ରଭାବ ନିର୍ଦ୍ଧାରଣ ସର୍ବେକ୍ଷଣ ଅନ୍ତେ ମିଳି ପାରିବ।

୭. SIA ସର୍ବେକ୍ଷଣର ପ୍ରାଥମିକ ଉଦ୍ଦେଶ୍ୟ ଏବଂମୁଖ୍ୟ କାର୍ଯ୍ୟାବଳୀ:- ସର୍ବ ସାଧାରଣ ଉଦ୍ଦେଶ୍ୟ ନିର୍ଦ୍ଧାରଣ ପ୍ରଭାବିତ ଅଞ୍ଚଳରେ ଥିବା ସମସ୍ତ ଗ୍ରାମ ପଞ୍ଚାୟତ/ ଗ୍ରାମ / ୱାର୍ଡ ର ପରାମର୍ଶ କ୍ରମେ **SIA** ସର୍ବେକ୍ଷଣ କରାଯିବ ସାମାଜିକ ପ୍ରଭାବ ନିର୍ଦ୍ଧାରଣ । SIA ସର୍ବେକ୍ଷଣ କ୍ଷେତ୍ର ପରିଦର୍ଶନ, ପ୍ରଭାବିତ ବ୍ୟକ୍ତିଙ୍କ ସାମୁହିକ ଆଲୋଚନା ଏବଂ ପ୍ରଭାବିତ ବ୍ୟକ୍ତିଙ୍କ ମତାମତ ଚୁଡାନ୍ତ ରିପୋର୍ଟରେ ସ୍ଥାନିତ ହେବ।

ଭୂମି ଅଧିଗୃହିତ ପ୍ରତ୍ୟକ୍ଷ ଅଥବା ପରୋକ୍ଷ ଶତକଡା ୨୫ ଭାଗ ପ୍ରଭାବିତ ସମସ୍ତ ଗ୍ରାମସଭା ମାନଙ୍କରେ ଜନଶୁଣାଣି କରାଯିବ।

୮. ଗ୍ରାମ ସଭା / ଭୂମି ମାଲିକଙ୍କ ସହମତି ଆବଶ୍ୟକ କି ?- **ସହମତି ଆବଶ୍ୟକ**

୯. SIA ସର୍ବେକ୍ଷଣ ଆରମ୍ଭ ଏବଂ ସମାପନ ରିପୋର୍ଟ ପ୍ରଦାନ ଏବଂତାହାର ପ୍ରକାଶନ ସରକାରୀ ବିଜ୍ଞପ୍ତି ପ୍ରକାଶିତ ଦିବସ ଠାରୁ ୨(ଦୁଇ) ମାସ ମଧ୍ୟରେ SIA ସର୍ବେକ୍ଷଣ ସମାପନ କରାଯିବ।

SIA ସର୍ବେକ୍ଷଣରେ ରିପୋର୍ଟ ସମ୍ପୃକ୍ତ ପ୍ରଭାବିତ ପଞ୍ଚାୟତ/ ଗ୍ରାମ/ ୱାର୍ଡ ସ୍ତରରେ ସ୍ଥାନୀୟ ଭାଷାରେ ପ୍ରକାଶନ କରାହେବ।ତତସହିତ ଜିଲ୍ଲାପାଳ, ଉପ-ଜିଲ୍ଲାପାଳ ଏବଂ ବ୍ଲକ ମହକୁମାରେ ପ୍ରକାଶନ କରାଯିବ ଏବଂ ସର୍ବସାଧାରଣଙ୍କ ଗୋଚରାର୍ଥେ ସରକାରଙ୍କ ୱେବସାଇଟ ରେ ସୂଚିତ ହେବ।

ରାଜ୍ୟପାଳ ଙ୍କ ଆଦେଶାନୁସାରେ

(ଦିଗନ୍ତ ରାଉତରୟ)
ଅତିରିକ୍ତ ଶାସନ ସଚିବ

Memo No. 43342 **/RDM** **Dated** 08 DEC 2023

Copy along with Land Schedule and C.D forwarded to the Director, Printing Stationary, Odisha, Cuttack for information and necessary. He is requested to publish the Notification in the next issue of the Odisha Gazette as this is a statutory one.

SRO Number may be allotted to this publication.

8/12/23

Under Secretary to Government

Memo No. 43343 **/RDM** **Dated** 08 DEC 2023

Copy forwarded to Chief General Manager (Land), IDCO, tower Bhubaneswar for information and necessary action.

8/12/23

Under Secretary to Government

Memo No. 43344 **/RDM** **Dated** 08 DEC 2023

Copy forwarded to RDC (N.D), Sambalpur/ Collector, Jharsuguda for information and necessary action.

8/12/23

Under Secretary to Government

Memo No. 43345 **/RDM** **Dated** 08 DEC 2023

Copy forwarded to Industries Department for information and necessary action.

8/12/23

Under Secretary to Government

Memo No. 43346 **/RDM** **Dated** 08 DEC 2023

Copy forwarded to Land Acquisition Officer (Gen), Collectorate, Jharsuguda for information and necessary action.

8/12/23

Under Secretary to Government

Memo No. 43347 **/RDM** **Dated** 08 DEC 2023

Copy forwarded to State Coordinator, Nabakrushna Choudhury Centre for Development Studies, Bhubaneswar for information and necessary action with reference to their letter No. **SIA-1644 dated 13.10 .2023.**

8/12/23

Under Secretary to Government

Memo No. 43348 **/RDM** **Dated** 08 DEC 2023

Copy forwarded to the e-Governance Cell, R&DM Department for information and necessary action.

8/12/23

Under Secretary to Government

ENGLISH TRANSLATION OF LAND ACQUISITION NOTICE

Odisha Government

Department of Revenue and Disaster Management

No. RDM-LAC-JHS-0006-2023-43341 / R&DM dated 08 DEC 2023

Information to determine social impact

The State Government intends to acquire the following land in consultation with the concerned Gram-Panchayat at the affected village/ward level and to carry out a Social Impact Assessment survey in the affected area for public purposes for Seth. The said survey will be conducted under section 4 of the Land Acquisition, Rehabilitation and Settlement Fair Price and Right to Sanitation Act - 2013.

1. Name of Project Developer:- Land Officer, IDCO, Bhubaneswar.

2. Purpose of Proposed Land Acquisition- M/s Odisha Power Generation Corporation Ltd. (OPGC) to expand the ash pond of 2 x 210 MW Thermal Power Plant of Jharsuguda District (ToR50-00001).

3. Contact information of SIA study institute :- M/s. SRUSTI, Khordha

SIA Survey Institution: Nabakrushna Choudhury Center for Development Studies, Bhubaneswar, Phone No. 0674-2300471/ 23010941

4. Details/details of proposed land acquisition in Jharsuguda district for the project:

TABLE

SL NO.	TAHASIL	GRAM PANCHAYAT	VILLAGE	PRIVATE LAND	COMMENTS
1	LAKHANAPUR	KUMBHARBANDHA	RENGALI	46.390 ACRES	
2	LAKHANAPUR	KUMBHARBANDHA	KUMBHARBANDHA	9.205ACRES	
TOTAL				55.595 ACRES	

The land schedule is attached herewith.

5. Brief details of the proposed project:- In the above 2 villages of Lakhanpur Tehsil of Jharsuguda District Idco, Bhubaneswar by M/s Odisha Power Generation Corporation Ltd. (OPGC) to expand the ash pond of 2*210 MW Thermal Power Plant.

6. Project area included in social impact assessment survey and project affected area:- In the above 2 villages of Jharsuguda district, Rengali and Kupharbandh total A.55.595 D. A detailed list/detailed social impact assessment survey of project affected land included in the Private Land Industries Institute project can be found.

7. Primary Objectives and Main Actions of SIA Survey:- SIA survey will be conducted in consultation with all Gram Panchayats/Villages/Wards in the affected areas to determine the general objectives and determine the social impact. SIA survey field visits, group discussions of affected persons and feedback of affected persons will be included in the final report.

Census will be conducted in all villages directly or indirectly affected by 25 percent of the land acquired.

8. Consent of village meeting/land owner required?- Consent required.

9. The SIA survey shall be completed within 2 (two) months from the date of issuance of the SIA survey initiation and completion report and publication of the official notification thereof.

The report on the SIA survey will be published in the local language at the concerned Panchayat/Village/Ward level. It will also be published in District Magistrate, Sub-District Magistrate and Block Magistrates and will be made public on the Government website.

By order of the Governor

(Digantha Rautharai)

Additional Administrative Secretary

Bargarh MP demands judicial probe into OPGC ash pond breach in LS

EXPRESS NEWS SERVICE
@ Bhubaneswar

BJP MP from Bargarh Suresh Pujari on Monday demanded a judicial probe into the ash pond breach incident at Ib Thermal power station that inundated farmlands and caused extensive damage to standing crops in the area recently.

Raising the issue during zero hour, Pujari said the ash pond collapsed due to faulty design following which the slurry from the pond flowed into paddy fields spread across 150 acre land in Kantatikira, Sardhapali and nearby villages and into the Mahanadi river system causing concern among the locals.

Pujari said the power plant owned and operated by the Odisha Power Generation Corporation (OPGC) had signed an MoU with IIT, Chennai to provide technical assistance for construction of the ash pond. It has now come to light that OPGC compromised heavily with the MoU during construction of the ash pond, the consequences of which everyone sees now. This needed to be probed.

"I have appealed the Central government through the chairman of the Lok Sabha to direct the state government to conduct a judicial probe into the ash pond collapse and pay due compensation to the farmers towards crop loss and reclamation of the croplands," Pujari said.

He further requested the lower house of the Parliament to constitute a high-level committee comprising senior officers from the Ministry of Power, Ministry of Environment and Ministry of Jal Shakti to visit the spot and assess the extent of damage caused to environment and river water.

Sources in OPGC said steps have been taken for repair of the breach measuring 20-feet-wide and investigation is underway. Steps will be taken as per the investigation report.

I have appealed the Central government through the chairman of the Lok Sabha to direct the state government to conduct a judicial probe into the ash pond collapse — Suresh Pujari, Bargarh MP

ANNEXURE-11

STATE POLLUTION CONTROL BOARD, ODISHA

[Department of Forest, Environment & Climate Change, Govt. of Odisha]
A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012
Phone-2561909, Fax: 2562822, 2560955
E-mail: cto17category@ospcboard.org/ Website: www.ospcboard.org

No. 4590 / IND-I-CON-104 Dt. 30-03-2024

CONSENT ORDER

Sub : **Consent to operate under section 21 of Air (P&CP) Act, 1981, under section 25 of Water (P&CP) Act, 1974.**

Ref : Your online application **ID No. 5293412 dtd. 27.12.2023**

Consent to operate is hereby granted under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1981 and rules framed thereunder to

Name of the Industry **M/s. Odisha Power Generation Corporation Ltd, Ib. Thermal Power Station**

Name of the Occupier & Designation **Mr. Manas Ranjan Rout, Director (Operation)**

Address- **At/Po- Banharpali, Dist- Jharsuguda , Odisha-768 234**

This consent order is valid for the period **from 01.04.2024 to 31.03.2025**

This consent order is valid for the product quantity, specified outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated therein.

A. Details of Products Manufactured

Sl. No.	Product	Quantity
01	Electricity Power (Unit-1 & 2)	(2x210 MW) 420 MW
02	Electricity Power (Unit-3 & 4)	(2x660 MW) 1320 MW

B. Discharge permitted through the following outlet subject to the standard

Outlet No.	Description of outlet	Point of discharge	Quantity of discharge KLD or KL/hr	Prescribed Standard
01.	Ash pond over flow	100% recirculation	--	
02.	Industrial effluent	Settling pond	--	
03	Domestic effluent generated from Plant & Colony	Treated in STP and treated effluent is used for plantation/ gardening	--	pH: 6.5-9.0 BOD: less than 30mg/l TSS: less than 100mg/l Fecal Coliform (FC) (most probable number per 100 millilitre, MPN/100ml): less than 1000

C. Emission permitted through the following stack subject to the prescribed standard

Chimney Stack No.	Description of Stack	Stack height (m)	Quantity of emission (m^3/hr)	Prescribed Standard in mg/Nm3			
				PM	SO_2	NO_x	Hg
1)	Stack attached to ESP of Unit-1	220	12.6×10^5	100	600	600	0.03
2)	Stack attached to ESP of Unit-2	220	12.6×10^5	100	600	600	0.03
3)	Stack attached to ESP of Unit-3	275	35,50,000	50	200	450	0.03
4)	Stack attached to ESP of Unit-4	275	35,50,000	50	200	450	0.03

D. Disposal of solid waste permitted in the following manner

Sl. No.	Type of Solid waste	Quantity Generated	Quantity to be reused on site	Quantity to be reused off site	Quantity disposed off	Description of disposal site.
1.	Fly Ash (Unit-1 & 2)	10.5 lakh MT/year	---	---	10.5 lakh MT/year	Utilization as per fly ash notification, Dec, 2021 and amended thereof. Rest fly ash from Unit-1 & 2 to be disposed in Ash Pond- 'A' through slurry disposal. Fly ash from Unit -3 & 4 to Tilia Ash pond through slurry disposal mode.
2.	Fly Ash (Unit -3 & 4)	33.00 lakh MT/year	---	---	33.00 lakh MT/year	

E. GENERAL CONDITIONS FOR ALL UNITS

1. The consent is given by the Board in consideration of the particulars given in the application. Any change or alternation or deviation made in actual practice from the particulars furnished in the application will also be the ground liable for review/variation/revocation of the consent order under section 27 of the Act of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 and to make such variations as deemed fit for the purpose of the Acts.
2. The industry would immediately submit revised application for consent to operate to this Board in the event of any change in the quantity and quality of raw material / and products / manufacturing process or quantity /quality of the effluent rate of emission / air pollution control equipment / system etc.
3. The applicant shall not change or alter either the quality or quantity or the rate of discharge or temperature or the route of discharge without the previous written permission of the Board.
4. The application shall comply with and carry out the directives/orders issued by the Board in this consent order and at all subsequent times without any negligence on his part. . In case of non-compliance of any order/directives issued at any time and/or violation of the terms and conditions of this consent order, the applicant shall be liable for legal action as per the provisions of the Law/Act.
5. The applicant shall make an application for grant of fresh consent at least 90 days before the date of expiry of this consent order.
6. The issuance of this consent does not convey any property right in either real or personal property or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State laws or regulation.
7. This consent does not authorize or approve the construction of any physical structure or facilities or the undertaking of any work in any natural water course.
8. The applicant shall display this consent granted to him in a prominent place for perusal of the public and inspecting officers of this Board.
9. An inspection book shall be opened and made available to Board's Officers during their visit to the factory.
10. The applicant shall furnish to the visiting officer of the Board any information regarding the construction, installation or operation of the plant or of effluent treatment system / air pollution control system / stack monitoring system any other particulars as may be pertinent to preventing and controlling pollution of Water / Air.
11. Meters must be affixed at the entrance of the water supply connection so that such meters are easily accessible for inspection and maintenance and for other purposes of the Act provided that the place where it is affixed shall in no case be at a point before which water has been taped by the consumer for utilization for any purposes whatsoever.
12. Separate meters with necessary pipe-line for assessing the quantity of water used for each of the purposes mentioned below:
    a) Industrial cooling, spraying in mine pits or boiler feed,
    b) Domestic purpose
    c) Process
13. The applicant shall display suitable caution board at the lace where the effluent is entering into any water-body or any other place to be indicated by the Board, indicating therein that the area into which the effluents are being discharged is not fit for the domestic use/bathing.
14. Storm water shall not be allowed to mix with the trade and/or domestic effluent on the upstream of the terminal manholes where the flow measuring devices will be installed.
15. The applicant shall maintain good house-keeping both within the factory and the premises. All pipes, valves, sewers and drains shall be leak-proof. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas.
16. The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems install or used by him to achieve with the term(s) and conditions of the consent.
17. Care should be taken to keep the anaerobic lagoons, if any, biologically active and not utilized as mere stagnation ponds. The anaerobic lagoons should be fed with the required nutrients for effective digestion. Lagoons should be constructed with sides and bottom made impervious.
18. The utilization of treated effluent on factory's own land, if any, should be completed and there should be no possibility of the effluent gaining access into any drainage channel or other water courses either directly or by overflow.
19. The effluent disposal on land, if any, should be done without creating any nuisance to the surroundings or inundation of the lands at any time.
20. If at any time the disposal of treated effluent on land becomes incomplete or unsatisfactory or create any problem or becomes a matter of dispute, the industry must adopt alternate satisfactory treatment and disposal measures.
21. The sludge generated from treatment units shall be dried in sludge drying beds and the drained liquid shall be taken to equalization tank of treatment plant.

22. The effluent treatment units and disposal measures shall become operative at the time of commencement of production.
23. The applicant shall provide port holes for sampling the emissions and access platform for carrying out stack sampling and provide electrical outlet points and other arrangements for chimneys/stacks and other sources of emissions so as to collect samples of emission by the Board or the applicant at any time in accordance with the provision of the Act or Rules made therein.
24. The applicant shall provide all facilities and render required assistance to the Board staff for collection of samples / stack monitoring / inspection.
25. The applicant shall not change or alter either the quality or quantity or rate of emission or install, replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in any change in quality and/or quantity of emissions, without the previous written permission of the Board.
26. No control equipments or chimney shall be altered or replaced or as the case may be erected or re-erected except with the previous approval of the Board.
27. The liquid effluent arising out of the operation of the air pollution control equipment shall be treated in the manner to the meet the prescribed standards by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 (as amended).
28. The stack and ambient monitoring system installed by the applicant shall be opened for inspection to this Board at any time.
29. There shall not be any fugitive or episodal discharge from the premises.
30. In case of such episodal discharge/emissions the industry shall take immediate action to bring down the emission within the limits prescribed by the Board in conditions/stop the operation of the plant. Report of such accidental discharge /emission shall be brought to the notice of the Board within 24 hours of occurrence.
31. The applicant shall keep the premises of the industrial plant and air pollution control equipments clean and make all hoods, pipes, valves, stacks/chimneys leak proof. The air pollution control equipments, location, inspection chambers, sampling port holes shall be made easily accessible at all times.
32. Any upset condition in any of the plant/plants of the factory which is likely to result in increased effluent discharge/emission of air pollutants and / or result in violation of the standards mentioned above shall be reported to the Headquarters and Regional Office of the Board by fax / speed post within 24 hours of its occurence.
33. The industry has to ensure that minimum three varieties of indigenous species of trees are planted at the density of not less than 1000 trees per acre. The trees may be planted along boundaries of the industries or industrial premises. This plantation is stipulated over and above the bulk plantation of trees in that area.
34. The solid waste such as sweeping, wastage packages, empty containers residues, sludge including that from air pollution control equipments collected within the premises of the industrial plants shall be disposed off scientifically to the satisfaction of the Board, so as no to cause fugitive emission, dust problems through leaching etc., of any kind.
35. All solid wastes arising in the premises shall be properly classified and disposed off to the satisfaction of the Board by :
    i) Land fill in case of inert material, care being taken to ensure that the material does not give rise to leachate which may percolate into ground water or carried away with storm run-off.
    ii) Controlled incineration, wherever possible in case of combustible organic material.
    iii) Composting, in case of bio-degradable material.
36. Any toxic material shall be detoxicated if possible, otherwise be sealed in steel drums and buried in protected areas after obtaining approval of this Board in writing. The detoxication or sealing and burying shall be carried out in the presence of Board's authorized persons only. Letter of authorization shall be obtained for handling and disposal of hazardous wastes.
37. If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard, vary all or any of such condition and thereupon the applicant shall be bound to comply with the conditions so varied.
38. The applicant, his/heirs/legal representatives or assignees shall have no claim whatsoever to the condition or renewal of this consent after the expiry period of this consent.
39. The Board reserves the right to review, impose additional conditions or condition, revoke change or alter the terms and conditions of this consent.
40. Notwithstanding anything contained in this conditional letter of consent, the Board hereby reserves to it the right and power under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 to review any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Act by the Board.
41. The conditions imposed as above shall continue to be in force until revoked under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 and section 21 A of Air (Prevention & Control of Pollution) Act, 1981.
42. The industry shall comply to all the conditions stipulated under Charter on Corporate Responsibility for Environmental Protection (CREP) guidelines in a time bound manner as envisaged there in. (if applicable)
43. The industry shall comply to the conditions stipulated in CTE order issued by ODISHA State Pollution Control Board .
44. The industry shall abide by E(P) Act, 1986 and Rules framed there-under

45. In case the consent fee is revised upward during this period, the industry shall pay the differential fees to the Board (for the remaining years) to keep the consent order in force. If they fail to pay the adequate amount within the period stipulated by the Board the consent order will be revoked without prior notice.
46. The Board reserves the right to revoke/refuse consent to operate at any time during period for which consent is granted in case any violation is observed and to modify/ stipulate additional conditions as deemed appropriate

GENERAL CONDITIONS FOR UNITS WITH INVESTMENT OF MORE THAN Rs 50 CRORES, AND 17 CATEGORIES OF HIGHLY POLLUTING INDUSTRIES (RED A).

1. The applicant shall analyse the effluent / emissions and Ambient Air Quality every month through approved laboratory for the parameters indicated in TABLE- 'B', 'C' & Part -'B' as mentioned in this order and shall furnish the report thereof to the Board on monthly basis.
2. The following information shall be forwarded to the Member Secretary on or before 10th of every month.
   a) Performance / progress of the treatment plant.
   b) Monthly statement of daily discharge of domestic and/or trade effluent.
3. Non-compliance with effluent limitations

a) If for any reason the applicant does not comply with or is unable to comply with any effluent limitations specified in this consent, the applicant shall immediately notify the consent issuing authority by telephone and provide the consent issuing authority with the following information in writing within 5 days of such notification.
   i) Causes of non-compliance
   ii) A description of the non-compliance discharge including its impact on the receiving waters.
   iii) Anticipated time of continuance of non-compliance if expected to continue or if such condition has been corrected the duration or period of non-compliance.
   iv) Steps taken by the applicant to reduce and eliminate the non-complying discharge and
   v) Steps to be taken by the applicant too prevent the condition of non-compliance.

b) The applicant shall take all reasonable steps to minimize any adverse impact to natural waters resulting from non-compliance with any effluent limitation specified in this consent including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

c) Nothing in this consent shall be construed to relieve the applicant from civil or criminal penalties for non-compliance whether or not such non-compliance is due to factors beyond his control, such as break-down, electric failure, accident or natural disaster.

4. Proper housekeeping shall be maintained inside the factory premises including process areas by a dedicated team.
5. The industry must constitute a team of responsible and technically qualified personnel who will ensure continuous operation of all pollution control devices round the clock (including night hours) and should be in a position to explain the status of operation of the pollution control measures to the inspecting officers of the Board at any point of time. The name of these persons with their contact telephone numbers shall be intimated to the concerned Regional Officer and Head Office of the Board and in case of any change in the team it shall be intimated to the Board immediately.
6. The industry shall engage dedicated qualified manpower to ensure continuous and effective operation of online stack / Ambient Air Quality / Effluent monitoring stations for maintenance of database, real time data transfer to SPCB server, data analysis and co-ordination with concerned personnel of process units for taking corrective measures in case of non-compliances and to respond to the instructions of SPCB in this matter.
7. All employees of the industry including officers, staff, workers, contract workers involved in operation/maintenance/ supervision of process area, pollution control areas, raw material and waste handling areas shall undergo short term training at least twice in a year in the field of pollution control and environment protection to create awareness and develop green skill. This shall be conducted by 3rd party expert agency and report on the activities along with details and photographs shall be submitted to the Board on annual basis by end of June for previous financial year.
8. ISO auditing reports of the industry in the field of environment shall be submitted to the Board every year on annual basis.
9. The environmental cell shall be established and upgraded effectively to guide, monitor the pollution control and environmental protection activities inside the industries on day to day basis to ensure that the conditions stipulated in the consent to establish/operate order of the SPCB and conditions imposed in EC and provisions of various environmental acts and rules are complied with and the report returns, compliances are

submitted to the Board in due time.

10. Adequate numbers of scientific / technical persons having qualification in environmental engineering/ environmental science from recognized institution/ university must be engaged or appointed along with other interdisciplinary qualified persons to effectively implement and monitor different areas of environment management and regulatory compliances including air pollution control, water pollution control, online monitoring, real time data transmission, management of solid waste, hazardous waste, E-waste, plastic waste etc. The Head of the environmental cell should be a senior level official, who will directly report to the plant head to ensure that environmental management is performed effectively to ensure compliance to the environmental norms on priority basis.
11. Energy consumption data of different pollution control devices like ESP/ Bag filter/ Scrubber/ Cyclone/ Gas cleaning plant/ Fume treatment plant/ ETP/STP/Flow meters (treated effluent recycling) shall be collected online on real time centralized platform/ dashboard with data storage facility and generate tamperproof monthly / periodic reports, which shall be analysed by Energy Auditor, certified by Bureau of Energy Efficiency and accordingly the Energy Management / preventive maintenance of Pollution Control equipment shall be adopted. The energy management of process and pollution control devices shall be practiced to record the progressive achievements to minimize energy consumption in order to reduce greenhouse gas emission
12. The post EIA monitoring schedule should be strictly followed for different parameters around the plant for the units is covered under EIA notification. The industry shall also conduct noise level study in the core zone and buffer zone of the industry and submit 6 monthly report to the Board.

F SPECIAL CONDITIONS

F1 (Air Pollution Control)

1. All steps shall be taken to improve the performance of ESPs such that the particulate matter emission from the stack attached to the ESPs of the boilers shall conform to the prescribed standard of 50mg/Nm^3 and 100mg/Nm^3
2. Interlocking arrangement between ESPs and boilers shall be provided so as to ensure continuous operation of ESP with the process.
3. All the online continuous stack emission monitoring systems (CEMS) for measurement of particulate matter and gaseous pollutants shall be operated effectively and uninterruptedly & real time monitoring data so generated shall be transmitted directly to RT-DAS server of the Board without passing through any local PC or server.
4. The industry shall ensure tampered proof real time transmission of online monitoring data to the server of CPCB and SPCB and maintain the health of the analyzers and data connectivity through valid AMC.
5. As per the Notification of MoEF & CC dtd. 07.12.2015, it is required to comply with the revised emission standard in respect of Particulate Matter (PM), Sulphur Dioxide (SO2), Oxide of Nitrogen (NOx), Mercury (Hg) and water consumption with the adoption of appropriate technology.
6. All the online continuous ambient air quality monitoring stations (CAAQMS) shall be operated effectively and uninterruptedly and the online monitoring data so generated shall be transmitted to SPCB and CPCB server on a continuous basis.
7. Steps shall be taken for regular monitoring of Mercury (Hg) in the stack of boilers and submit data to the Board.
8. The industry shall install Online CEMS for Hg (Mercury) in the boiler stacks.
9. The unit shall provide low NO_x burners to reduce NO_x emission to keep the level within the prescribed standard by MoEF & CC vide Notification dtd. 07.12.2015.

10. Steps shall be taken for installation of Flue Gas Desulpurisation (FGD) system in future if required to keep the SO2 level within 600mg/Nm^3 to confirm the MoEF & CC Notification dtd. 07.12.2015. This shall also include management and disposal of effluent / solid waste to be generated from FGD system.
11. Inventory of at least 30% excess spare parts shall be in the store to meet emergency need of ESPs/bag filters/other air pollution control systems.
12. Fugitive emission from all possible sources like coal handling plant and other transfer points shall be minimized by suitable dust extraction/suppression measures.
13. All the measures including sufficient water sprinkling & developing green belt around the coal handling plants coal stack yard etc. which are potential source of fugitive emission shall be taken to mitigate dust pollution.
14. Roads used for transportation of coal and in the township area shall be blacktopped and cleaned regularly.
15. All raw materials and waste materials shall be transferred through covered vehicles without any spillage on the road; the materials/wastes shall be lifted by the industry and suitably disposed off in designated solid waste dumping area.
16. Dry ash collection and storage facilities shall be operated along with dust suppression/dust extraction system in order to control fugitive dust emission during handling of fly ash.
17. The performance evaluation of ESP, bag filter, air pollution control devices, online CEMS, AAQMS & surveillance cameras shall be conducted by an institution of national repute (like NIT/ IIT) and annual report shall be submitted to the Board by end of June for previous financial year.
18. The digital display board installed at the main gate shall be of minimum size of 6ft x 4ft as stipulated by CPCB with provision of display of real time data online analysers (CEMS, CAAQMS & CEQMS), so that the public can visualize the actual emission and the values of parameters displayed at the gate. Outdoor LED video screens should be preferred for digital display of environmental parameters, CTO and authorization conditions and awareness clippings on environment at the main gate, colony area and process area.
19. Online analysers for measuring flow, temperature and velocity of flue gas shall be installed at the stacks and integrated with online CEMS data.
20. Online CO / Ammonia/ Chlorine and such other gas monitoring system shall be installed in every process area where such toxic gas are expected to be generated and in the plant premises along with alarm system to avoid accidental hazards due to gas leakage.
21. Green belt shall be properly designed and developed with plantation of suitable local species and species prescribed by CPCB.
22. The unit shall strictly adhere to the provisions stipulated in the revised fly ash notification dtd. 31.12.2021 and amended thereof.
23. The unit shall submit fly ash utilization status to the Board annually and shall comply to the provisions of revised Fly Ash Notification No. SO.5481 (E),dt. 31.12.2021 of MoEF, Govt. of India and amended thereof.

24. The industry shall ensure to operate HD IP (Internet Protocol) surveillance camera with connectivity to RT-DAS server of the Board to view stack & fugitive emission.
25. Ambient air quality shall confirm to the National Ambient Air Quality Standard for this purpose, the township as well as the area outside the factory premises shall be treated as residential area and the area outside the factory premises shall be treated as residential area and the area inside factory premises shall be treated as industrial area.
26. Care shall be taken so that the ambient noise level shall conform to the standards prescribed under E(P) Act, 1986. For this purpose the township & the area outside the factory premises shall be treated as residential area & the area inside factory premises shall be treated as industrial area.
27. In case the consent fee is revised upward during this period, the industry shall pay the differential fee/arrears to the Board (for the remaining years) to keep the consent order in force. If they fail to pay the amount within the period stipulated by the Board the consent order will be revoked without prior notice.
28. The Board reserves the right to revoke/refuse consent to operate at any time during period for which consent is granted in case any violation is observed and to modify/stipulated additional conditions as deemed appropriate.
29. The industry shall take appropriate action and utmost care during start up and shut down of boilers so that such abnormality as well as the emission during that period remains at minimum.

F-2 <u>(Water Pollution Control)</u>

1. Specific water consumption shall be limited within 3.5m^3/MW as per MoEF & CC vide Notification dtd. 07.12.2015.
2. Under no circumstances there shall be any discharge of effluent to outside the factory premises.
3. The unit shall take full-proof preventive and maintenance actions to safeguard the ash pond system against any breach of ash dykes and maintain proper free board in the ash ponds. Steps shall be taken to prevent leakage from the ash slurry pipe line.
4. The main as well as peripheral bunds of ash pond shall be continuously monitored for its behavior and any distress conditions noticed like seepage, subsidence slip etc. shall be immediately attend to and the bund section restored immediately under intimation to his office. The toe drains all along the downstream of bunds shall be properly maintained.
5. The unit shall strengthen the ash pond security system by increasing frequency of watch and improving supervision facility by the use of flash light, binocular and communication facility. Physically checking the ash slurry pipe line and ash pond condition on daily basis.
6. Prompt communication facility shall be provided so that message of minor leakage/defect/lapse can be communicated to control room without any delay.
7. The unit shall provide necessary arrangements for recycling of the seepage water of the ash pond.

8. No trees or branches shall be planted on the slop and on the top of the bunds; only grass turfing shall be done.

9. Concrete parapet wall of adequate height should be provided all along the concreted drains on its both the sides with rain cuts at regular intervals to prevent entry of dust/ash from the road and work zone into the drainage system. All the industrial drains shall be cleaned regularly.

10. The domestic effluent generated from the Plant & Colony shall be treated in STP. Treated effluent shall be used for gardening.

11. The blow down of power plant shall meet the following standards before it is discharged to the common monitoring basin and shall be reused for ash handling, dust suppression and green belt.

Boiler blow down

Suspended solids	-	100.0 mg/l(Max)
Oil & Grease	-	20.0 mg/l(Max)
Copper (Total)	-	1.0 mg/l(Max)
Iron (Total)	-	1.0 mg/l(Max)

Cooling Tower Blow down

Free available Chlorine	-	0.5 mg/l(Max)
Zinc	-	1.0 mg/l(Max)
Chromium (Total)	-	2.0 mg/l(Max)
Phosphate	-	5.0 mg/l(Max)

12. The industry shall explore to adopt chemical free automated self -maintained electrolysis system for removal of scale, corrosion, bio-film from cooling towers and automated tube cleaning system for heat exchangers and condensers with remote access and alarm system wherever applicable for conservation of water and energy to reduce wastewater generation and increase plant efficiency.

13. Acidic/Alkaline effluent generated from DM water plant shall be properly neutralized and taken to common basin.

14. The industrial drain effluent shall be treated properly and treated effluent shall be reused for industrial uses & in no circumstance effluent shall be discharged to Hirakud Reservoir.

15. The performance evaluation of ETP, STP, online CEQMS & Web cameras, flow meter shall be conducted by an institution of national repute (like NIT/ IIT) and annual report shall be submitted to the Board by end of June for previous financial year.

16. Flow meter and level sensors with telemetry system should be installed in the bore wells as stipulated by Central Ground Water Authority/ Water Resources Department.

17. The industry shall adequately maintain rain water harvesting structures and surface runoff treatment systems inside the plant premises.

18. A green belt of adequate width and density preferably with local species along the periphery of the plant shall be raised so as to provide protection against particulates and noise. It must be ensured that at least 33% of the total land area

shall be under permanent green cover. The proponent shall ensure the maintenance of green belt throughout the year and for all time to come. It is advised that they may engage professionals in this field for creation and maintenance of the green belt. An action plan for this purpose shall be prepared and shall be submitted accordingly.

19. The industry shall abide by E(P) Act, 1986 and Rules framed there-under.
20. The Board reserve the right to revoke/refuse consent to operate at any time during period for which consent is granted in case any violation is observed and to modify/stipulate additional conditions as deemed appropriate.
21. The industry shall take steps for fulfillment of all the stipulations and necessary measures to check pollution.
22. Consent to operate is subject to availability of all other statutory clearances required under relevant Acts/Rules and fulfillment of required procedural formalities.

G) Additional conditions

1) The unit shall strictly adhere to the action plan submitted on dtd. 13.03.2024 in compliance to the recommendations of the joint inspection conducted on dtd. 27.02.2024 by RD-CPCB, Kolkata, SPCB, Odisha and District Administration, Jharsuguda. **A definite timeline to comply to each action point along with work progress on monthly-basis shall be submitted to this office without fail.**
2) The unit shall comply to the direction issued by the Board from time to time in connection with breach of dyke of Ash Pond-C.
3) The unit shall submit the compliance of action taken report w.r.t. long term remedial measures to be adopted for safety and stability of ash ponds for prevention of breach of ash pond in future.
4) The unit shall strictly follow the Standard Operating Practice (SoP) for stability, safety, operation maintenance of all the ash ponds.
5) The industry shall install mechanized wheel washing system along with treatment facility for ash transport vehicles near ash silo **area within 3 months**.
6) The unit shall install FGD system for reduction of SO_2 emission and submit up-to-date work progress to this office.
7) The industry shall make adequate provision for 100% utilization / disposal of fly ash.
8) The unit shall strictly adhere to the design, drawing, stability and safety aspects during construction activities of dykes height raising of the ash ponds. The unit shall intimate to the Board before raising the ash dyke.
9) The industry shall carry out surface run-off study and performance study of APC and WPC measures & submit the report to the Board.
10) The industry shall procure mechanized road sweeping machine for cleaning of the road dust within the plant premises.
11) The industry shall install adequate numbers of digital piezometer with alarm system at all the directions of ash pond for proper monitoring of water level.

12) The unit shall ensure uninterrupted data transmission from CEMS, CAAQMS, CEQMS and uninterrupted video streaming of HD IP camera to the server of the Board. If any technical issues they may contact IT cell immediately to sort out the problems.

13) The unit shall immediately go for temporary shutdown of power plant in case ash ponds and ash silos are completely full with ash and ash evacuation could not be possible. This temporary shutdown will be continued till adequate space is available in ash ponds and silos for ash storage.

14) The unit shall abide by the fuel policy of the state.

15) The unit shall submit time bound action plan **within one month** for compliance to the additional conditions stipulated in Sl. No. '8','9','10' & '11'.

The occupier must comply with the conditions stipulated in section A,B,C,D,E F & G to keep this consent order valid.

To

The Director (Operation)
M/s. OPGC Ltd.
Ib Thermal Power Station, Banharpali
Jharsuguda-768 234

MEMBER SECRETARY
STATE POLLUTION CONTROL BOARD, ODISHA

Memo No. 4591 /Dt. 30-03-2024/

Copy forwarded to;

i) Regional Officer, State Pollution Control Board, **Jharsuguda.**
ii) District Collector, **Jharsuguda**
iii) Director, Mines, Odisha
iv) D.F.O, **Sambalpur**
v) Central Laboratory, SPC Board, Bhubaneswar
vi) HWM Cell, SPC Board, Bhubaneswar
vii) Consent Register

30/3/24

CHIEF ENV. ENGINEER
STATE POLLUTION CONTROL BOARD, ODISHA

GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENT POLLUTANTS
PART-A: EFFLUENTS

Sl. No.	Parameters	Standards			
		Inland surface	Public sewers	Land for irrigation	Marine Costal Areas
		(a)	(b)	(c)	(d)
1.	Colour & odour	Colourless/Odourless as far as practible	------	See 6 of Annex-1	See 6 of Annex-1
2.	Suspended Solids (mg/l)	100	600	200	For process wastewater – 100 b. For cooling water effluent 10% above total suspended matter of influent.
3.	Particular size of SS	Shall pass 850	-----	------	
5.	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6.	Temperature	Shall not exceed 5^0C above the receiving water temperature	-------	--------	Shall not exceed 5^0C above the receiving water temperature
7.	Oil & Grease mg/l max.	10	20	10	20
8.	Total residual chlorine	1.0	----	------	1.0
9.	Ammonical nitrogen (as N) mg/l max.	50	50	------	50
10.	Total Kajeldahl nitrogen (as NH_3) mg/1 max.	100	----	------	100
11.	Free ammonia (as NH_3) mg/1 max.	5.0	----	------	5.0
12.	Biochemical Oxygen Demand (5 days at (20^0C) mg/1 max.	30	350	100	100
13.	Chemical Oxygen Demand, mg/1 max.	250	----	------	250
14.	Arsenic (as As) mg/1 max.	0.2	0.2	0.2	0.2
15.	Mercury (as Hg) mg/1 max.	0.01	0.01	------	0.001
16.	Lead (as pb) mg/1 max.	01.	1.0	------	2.0

17.	Cardmium (as Cd) mg/1 max.	2.0	1.0	------	2.0
18.	Hexavalent Chromium (as Cr + 6) mg/l max.	0.1	2.0	--------	1.0
19.	Total Chromium (as Cr) mg/l max.	2.0	2.0	---------	2.0
20.	Copper (as Cu) mg/l max.	3.0	3.0	---------	3.0
21.	Zinc (as Zn) mg/l max.	5.0	15	---------	15
22.	Selenium (as Sc) mg/l max.	0.05	0.05	---------	0.05
23.	Nickel (as Nil) mg/l max.	3.0	3.0	---------	5.0
24.	Cyanide (as CN) mg/l max.	0.2	2.0	0.2	0.02
25.	Fluoride (as F) mg/l max.	2.0	15	---------	15
26.	Dissolved Phosphates (as P) mg/l max.	5.0	-------	---------	--------
27.	Sulphide (as S) mg/l max.	2.0	--------	---------	5.0
28.	Phennolic compounds as (C_6H_5OH) mg/l max.	1.0	5.0	---------	5.0
29.	Radioactive materials a. Alpha emitter micro curle/ml. b. Beta emitter micro curle/ml.	 10^7 10^6	 10^7 10^6	 10^8 10^7	 10^7 10^6
30.	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent
31	Manganese (as Mn)	2 mg/l	2 mg/l	---------	2 mg/l
32.	Iron (Fe)	3 mg/l	3 mg/l	---------	3 mg/l
33.	Vanadium (as V)	0.2 mg/l	0.2 mg/l	---------	0.2 mg/l
34.	Nitrate Nitrogen	10 mg/l	--------	---------	20 mg/l

PART- B: NATIONAL AMBIENT AIR QUALITY STANDARDS

Sl. No.	Pollutants	Time Weighed Average	Concentrate of Ambient Air		
			Industrial Residential, Rural and other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1.	Sulphur Dioxide (SO_2), $\mu g/m^3$	Annual *	50	20	-Improved west and Gaeke
		24 Hours **	80	80	- Ultraviolet fluorescence
2.	Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual *	40	30	- Modified Jacob & Hochheiser (Na-Arsenite)
		24 Hours **	80	80	- Chemiluminescence
3.	Particulate Matter (size less than 10µm) or $PM_{10}\mu g/m^3$	Annual *	60	60	-Gravimetric - TOEM
		24 Hours **	100	100	- Beta Attenuation
4.	Particulate Matter (size less than 2.5µm) or $PM_{2.5}$ $\mu g/m^3$	Annual *	40	40	-Gravimetric - TOEM
		24 Hours **	60	60	- Beta Attenuation
5.	Ozone (O_3) $\mu g/m^3$	8 Hours **	100	100	- UV Photometric - Chemiluminescence
		1 Hours **	180	180	- Chemical Method
6.	Lead (Pb) $\mu g/m^3$	Annual *	0.50	0.50	-AAS/ICP method after sampling on EMP 2000 or equivalent filter paper.
		24 Hours **	1.0	1.0	- ED-XRF using Teflon filter
7.	Carbon Monoxide (CO) mg/m^3	8 Hours **	02	02	- Non Dispersive Infra Red (NDIR)
		1 Hours **	04	04	Spectroscopy
8.	Ammonia (NH_3) $\mu g/m^3$	Annual*	100	100	-Chemiluminescence - Indophenol Blue Method
		24 Hours**	400	400	
9.	Benzene (C_6H_6) $\mu g/m^3$	Annul *	05	05	-Gas Chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis
10.	Benzo (a) Pyrene (BaP)-Particulate phase only, ng/m^3	Annual*	01	01	-Solvent extraction followed by HPLC/GC analysis
11.	Arsenic (As), ng/m^3	Annual*	06	06	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
12.	Nickel (Ni),ng/m^3	Annual*	20	20	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper

** Annual arithmetic mean of minimum I04 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year, 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

BEFORE THE NATIONAL GREEN TRIBUNAL, KOLKATA

Original Application No._____ of 2024

GOPINATH MAJHI ..... Applicant

VERSUS

STATE OF ODISHA &OTHERS..... Respondents

KNOW ALL to whom these present shall come that I Gopinath Majhi, s/o Late Bimbadhar Majhi, age 67 At- Jaibudia(Bartap), Po- Banjari, Via- Belpahad RS, Jharsuguda 768217, The above named APPLICANT do hereby appoint (herein after called the advocate/s) to be my/our Advocate in the above noted case authorized him :-**Sankar Prasad Pani,** Ashutosh Padhy **Advocates, Address-Plot—2132/4814, Nageswartangi, Bhubaneswar, 751002, ENROLMENT NO O-785/2007, Email-sankarprasadpani@gmail.com**

To act, appear and plead in the above-noted case in this Court or in any other Court in which the same may be tried or heard and also in the appellate Court including High Court subject to payment of fees separately for each Court by me/ us. To sign, file verify and present pleadings, appeals cross objections or petitions for execution review, revision, withdrawal, compromise or other petitions or affidavits or other documents as may be deemed necessary or proper for the prosecution of the said case in all its stages.To file and take back documents to admit and/or deny the documents of opposite party.

To withdraw or compromise the said case or submit to arbitration any differences or disputes that may arise touching or in any manner relating to the said case. To take execution proceedings. The deposit, draw and receive money, cheques, cash and grant receipts thereof and to do all other acts and things which may be necessary to be done for the progress and in the course of the prosecution of the said case. To appoint and instruct any other Legal Practioner, authorizing him to exercise the power and authority hereby conferred upon the Advocate whenever he may think it to do so and to sign the Power of Attorney on our behalf.

And I/We the undersigned do hereby agree to ratify and confirm all acts done by the Advocate or his substitute in the matter as my/our own acts, as if done by me/us to all intents and purposes.

And I/We undertake that I / we or my /our duly authorized agent would appear in the Court on all hearings and will inform the Advocates for appearance when the case is called.

And I /we undersigned do hereby agree not to hold the advocate or his substitute responsible for the result of the said case. The adjournment costs whenever ordered by the Court shall be of the Advocate, which he shall receive and retain himself.

And I /we the undersigned do hereby agree that in the event of the whole or part of the fee agreed by me/us to be paid to the Advocate remaining unpaid he shall be entitled to withdraw from the prosecution of the said case until the same is paid up. The fee settled is only for the above case and above Court. I/We hereby agree that once the fee is paid. I /we will not be entitled for the refund of the same in any case whatsoever. If the case lasts for more than three years, the advocate shall be entitled for additional fee equivalent to half of the agreed fee for every addition three years or part thereof.

IN WITNESS WHEREOF I/We do hereunto set my /our hand to these presents the contents of which have been understood by me/us on this 6th day of April 2024

Accepted subject to the terms of fees.

Gopinath Majhi

Advocate Client Client