



एनटीपीसी लिमिटेड
(एनएसएल का उद्यम)
NTPC Limited
(A Govt. of India Enterprise)

तलाईपाली / Talaipalli

Ref: 1071/TLCMP/EMG/2024/1062

Date: 04.05.2024

To,
Regional Officer,
Integrated Regional Office, MoEF&CC,
Aranya Bhawan, North Block, Sector-19,
Naya Raipur, Atal Nagar, Chhattisgarh.
E-mail: iro.raipur-mefcc@gov.in

Sub: Submission of Six-Monthly Compliance Report on the status of compliance of the environmental clearance conditions stipulated in the Environment Clearance granted to Talaipalli Coal Mining Project for the period 1st October 2023 to 31st March 2024.

Ref-1 : EC Ltr No. J-11015/279/2009-IA, II(M) Dated 02.01.2013.

Ref-2 : Revalidation of EC Vide Ltr No J-11015/279/2009-IA-II(M) Dated 28.10.2015

Ref 3 : Amendment in EC Ltr No. J-11015/279/2009-IA, II(M) Dated 06.11.2019.

Dear Sir,

Please find enclosed the Six-Monthly Compliance Report on the status of compliance of the Environmental clearance conditions stipulated in the Environment Clearance granted to Talaipalli Coal Mining Project for the period **1st October 2023 to 31st March 2024** for your kind perusal.

Thanking you Sir,

Yours faithfully

 04/05/24

V K Kanungo
General Manager

श्री. के. वानुनगो / V. K. KANUNGO

परिचालन प्रमुख / Head of Project

एनटीपीसी लिमिटेड / NTPC Limited

Talaipalli Coal Mining Project

(L-Rakara, Ghaghoda, Dist. N.-Chhatisgarh) 496111

Encl.: A/a.

CC:

1. Regional Officer, Chhattisgarh Environment Conservation Board, T.V. Tower Road, Raigarh, Chhattisgarh. PIN 496001

तलाईपाली कोयला खानिया परियोजना (जेडिपी प्रोजेक्ट, सी.ओ. : रायगढ़, डिस्ट. रायगढ़, छ.ग., पिन कोड : 496001, फोन : 07977 - 28555, ईमेल : talaipalli_mefcc@npsc.co.in)
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A Maharatna Company

Half Yearly Environment Clearance Compliance Report

October(2023) to March (2024)

for
Talaipalli Coal Mining Project,
NTPC Limited,
Gharghoda, Raigarh, Chhattisgarh
PIN 496111



EC Letter No: J-11015/279/2009-IA. II (M).

Submission to: Ministry of Environment, Forest &
Climate Change (MoEF & CC)

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INTRODUCTION AND PROJECT DESCRIPTION

➤ NTPC Overview

NTPC is India's largest energy conglomerate with roots planted way back in 1975 to accelerate power development in India. Since then it has established itself as the dominant power major with presence in the entire value chain of the power generation business. From fossil fuels it has forayed into generating electricity via hydro, nuclear and renewable energy sources. This foray will play a major role in lowering its carbon footprint by reducing green house gas emissions. To strengthen its core business, the corporation has diversified into the fields of consultancy, power trading, training of power professionals, rural electrification, ash utilisation and coal mining as well.

NTPC became a Maharatna company in May 2010. As of January 2020, there are 10 Maharatnas CPSEs in India. NTPC is ranked No. 2 Independent Power Producer(IPP) in Platts Top 250 Global Energy Company rankings.

The total installed capacity of the company is 73,874 MW (including JVs) own stations include 26 coal based, 7 gas based, 1 Hydro, 15 Solar and 1 Small hydro project. Under JVs and Subsidiaries, NTPC has 9 coal based, 4 gas based, 8 hydro based and 19 renewable energy projects. By 2032, non fossil fuel based generation capacity shall make up nearly 50% of NTPC's portfolio.

NTPC has been operating its plants at high efficiency levels. As on 31.03.2023 the company has 17% of the total national capacity and, it contributes 25% of total power generation of India due to its focus on high efficiency.

Growth of NTPC installed capacity and generation



➤ About Talaipalli CMP

- ❖ Block allocation => Coal Block allotted by Ministry of Coal, Government of India vide letter o.13016/29/2003-CA-I dated 25th January, 2006 to NTPC.
- ❖ Linkage => Linked to LARA Power Project (4000MW), of NTPC in Chhattisgarh about 60 km southwards of the coal block.
- ❖ Area of Block => 2349.35 ha (Approx).
- ❖ Villages in Block => Total 8 villages: Talaipalli, Salepalli, Nayarampur, Kudurmahua, Raikera, Chotigudah, Ajiigarh & Bichhinara.
- ❖ Coal dispatch => MGR corridor 60 Km (Approx.) from Coal block to Kotralia Rly station (Falling in 23 villages) of TLCMP project. However, commissioning of MGR system is delayed. The primary cause of delay in the commissioning of the MGR is the issues related to land acquisition due to which complete site is not available for construction activities. The enactment of new Land Acquisition Act has also contributed towards delay in implementation. The corridor identified for the siding also passes through forest area for which obtaining forest clearance took

considerable time. However, civil construction work is in full swing in patches where the land is available. The commissioning of MGR is expected by April, 2022.

- ❖ Gross Geological Reserves in the block => 1400.58 MT.
- ❖ Average Quality of OC coal => GCV 4378 Kcal/kg, Ash 35.87%
Average Grade 'G-11'
- ❖ Method of Mining => Opencast (Shovel-Dumper combination)
- ❖ Life of the Mine => 52 years after 2 years of Const. Period.

CHAPTER- 2

**“Compliance of the conditions
stipulated in “Environmental Clearance”
granted to Talaipalli CMP”**

Talaipalli

Six Monthly Compliance Report on the status of compliance of the conditions stipulated in Environment Clearance granted to Talaipalli Coal Mining Project Vide Ltr No J-11015/279/2009-IA, II(M) Dated 02.01.2013, Revalidation of EC Vide Ltr No J-11015/279/2009-IA, II(M) Dated 28.10.2015, Amendment in EC vide Ltr No J-11015/279/2009-IA, II(M) Dated 06.11.2019. for the Period: October 2023 to March 2024.

1. Environment Clearance granted to Talaipalli Coal Mining Project Vide Ltr No J-11015/279/2009-IA, II(M) Dated 02.01.2013.

A. SPECIFIC CONDITIONS

Sl.	Specific Conditions	Present Status as on 31.03.2024
i.	The maximum production capacity shall not exceed 18 MTPA for opencast mining and 0.72 MTPA for underground mining.	Noted. Mining in excess to 18.72 MTPA will not be done.
ii.	The Plan for diversion of Kurra nala shall be modified to include a major stream flowing through the ML towards the north side. The diversion channel shall be designed taking into consideration the realignment of the channel to join with River Kelo to its original path. Approval of the Flood & Irrigation Department, Govt. Of Chhattisgarh shall be obtained for plan for diversion of Kurra Nala and the stream. The proposed embankment along the diverted channel shall be stabilised with plantation using a mix of native species. Stone pitching shall be done towards forest area.	Area drainage study for diversion of Kurra nala has been approved by Water Resources Dept., Govt. of Chhattisgarh vide letter no 3289 dated 03.11.2015 The work of construction of Garland Drains is under progress in phased manner depending upon the extent of mining activity.
iii.	Top soil of an estimated 25.32 Mm ³ generated during initial 9 years shall be stacked properly within the mineralised area with proper slope at earmarked site(s) and shall be used concurrently for reclamation and development of green belt within a year of its generation.	Topsoil is being stacked separately and will be used for reclamation. Topsoil quantity stacked till 31.03.2024 is 4.10 Mcum.
iv.	During the initial 4 years of opencast mining, an estimated 264.52 Mm ³ of OB generated to be accommodated in temporary external dumps of 60m height in a coal bearing area of 446 ha within the mine lease, shall be re-handled during the 5th year of mine operation when backfilling begins. In addition, 80 ha of an isolated patch of ext. OB dump shall also be re-handled back into the mine void. At the post mining stage, there shall be no permanent external dump outside the coal block.	Total Over Burden (OB) generated till 31.03.2024 is 54.86 Mcum. The height of external OB dump is 50 m(approx.). Noted, no permanent external dump outside the coal block will be present post mining stage.
v.	Reclamation of areas after re-handling of temporary external OB dumps and backfilled de-coaled voids and habitat restoration of the mined	Reclamation will be done as per approved mine plan using 3-tier native forest species found in the pre-mining

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Sr. Mgr (EMA)

Sl.	Specific Conditions	Present Status as on 31.03.2024
	out area shall be carried out by developing a 3-tier native forest ecosystem using native species found in the pre-mining forest ecosystem. A nursery of native species found in pre-mining eco-system shall be developed for reclamation and for habitat eco-restoration. Afforestation plan shall also include reintroduction of species on which the tribal's are dependent for minor forest produce for their livelihoods.	forest ecosystem. A nursery is being developed for reclamation and for habitat eco-restoration.
vi.	Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilised for watering the mine area, roads, green belt development, etc. The drains shall be regularly de-silted and maintained properly.	Catch drains are being provided in the garland drains to arrest silt and sediments. The water so collected is being used for sprinkling in the mine premises.
vii.	Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also be provided for adequate retention period to allow proper settling of silt material.	Regular desilting of garland drains and sump is being ensured.
viii.	Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data.	Presently height of external OB dump is 50 m (approx.). To check runoff and siltation, garland drains are being maintained along overburden dump with catch pits.
ix.	No groundwater shall be used for the mine operations except for drinking purpose and during the initial years of mine operation. Any additional water requirement envisaged for mine operations shall be obtained from mine pit water, by recycle/reuse to the maximum extent and from rainwater harvesting measures.	NOC for ground water withdrawal in respect of Talaipalli coal mining project has been accorded by the Central Ground Water Authority, New Delhi vide Ref No CGWA/NOC/MIN/REN/2/2020/5621 dated 30 th Jan 2020 which is valid up-to 18 th Dec 2024. Ground water is being used as per permission obtained from the Ground Water Authority.
x.	Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality including TDS and TSS in May and in monsoon. Data thus collected shall be submitted to the Ministry of Environment & Forests and to the	Regular monitoring of groundwater level and quality is being monitored by M/s Vardan Envirolab. (NABL Accredited lab). Monitoring details being submitted to RO, MOEF & CC and CPCB offices regularly. All the observed parameters are within the prescribed limits. Two Nos of Piezometer installed at Nayarampur village and 132 KV Substation at Raikera village for regular

[Handwritten Signature]

Sl.	Specific Conditions	Present Status as on 31.03.2024
	Central Pollution Control Board quarterly within one month of monitoring.	monitoring of ground water level as per stipulation with financial implication of Rs 18.86 Lakhs.
xi.	A Plan for recharging and monitoring of ground water in the impact zone and implemented in consultation with the State Ground Water Board, which includes creation of ponds and wells in impact zone and check dams in River Kelo, Pajhar Nadi in consultation with concerned Government Dept. A suitable scheme for supply of drinking water to 8 surrounding villages shall also be prepared in consultation with State Government, particularly where village wells go dry in the Impact zone.	Eleven (11) numbers of ground water recharge borewells have been constructed at village Nayarampur at dipside end of block boundary. Presently there is no problem of drinking water in villages in core zone. Safe drinking water will be supplied to villages in surrounding core zone where wells go dry due to impact of mining activities if required.
xii.	ETP shall also be provided for workshop, and CHP. Effluents shall be treated to confirm prescribed standards, particularly for pH and TSS in case of discharge into any watercourse within or outside the lease.	02 numbers of ETP have been installed at workshop area each in West Pit and South Pit Extension contract along with provision of oil and grease trap. The treated water is again used for washing of vehicles. ETP effluent is being tested regularly and test results are within prescribed limit. M/s. Vardan Envirolab an NABL accredited is monitoring and submitting the report.
xiii.	An STP shall be provided for the township/colony to treat the domestic effluents to prescribed standards and for their re-use in project activities and in development of green belt in the colony.	Township is under construction stage. STP conforming to prescribed standard, is being provided in township. The treated sewage water shall be used in plantation and horticulture.
xiv.	Industrial wastewater (workshop and wastewater) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed for treatment of workshop effluents.	Industrial wastewater is properly collected and treated in installed ETP at workshop and the results of treated effluents conform to the standard prescribed under GSR 422 (E). Oil and grease trap has been installed for treatment of workshop effluents.
xv.	No fly ash from the linked TPPs shall be used in backfilling of the de-coaled void without undertaking an environmental feasibility study and without prior approval of this Ministry under EIA Notification, 2006.	Mining operation is in initial phase and final void has not been created till date. No Fly ash from the linked TPPs will be used for the purpose of backfilling of void without the prior approval of MoEF&CC.
xvi.	Controlled blasting shall be practiced only during daytime with use of delay electric detonators. Drills shall be wet operated. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.	Controlled blasting is being followed. 04 nos of Drill machines are deployed with wet drilling operations. Blasting is being done during daytime with electric detonators only.
xvii.	Crushers at the CHP shall be operated with high efficiency bag filters, water sprinkling system	Presently, coal transportation from pit to wharf wall is being carried out using



Sl.	Specific Conditions	Present Status as on 31.03.2024
	shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc. Hoppers of the coal crushing unit shall be fitted with high efficiency bag filters and mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points, stockyards.	high-capacity dumpers. Design, drawings and geotechnical studies have already been conducted for award of CHP package which is under tendering stage. All measures to check fugitive emission & dust control has been incorporated in the design of CHP.
xviii	All approach roads shall be black topped and swept regularly with mechanical sweepers and internal roads and major haul roads shall be black topped or concreted and provided with mobile and fixed type sprinklers. A 3-tier avenue plantation using local species shall be developed along the main roads, and approach roads to the mine. In addition, green belt shall be developed using local species all along the periphery of the site, along the areas such as crushing unit, and stockyards, which shall be properly maintained. Water sprinkling arrangements shall be established and functional during transfer and loading of coal.	All internal approach roads have been black topped. The roads are swept daily. Sprinkling along all approach and haul road is being done round the clock. Further, fog canon is deployed for dust suppression. Avenue plantation (8000 nos) using local species carried out along the approach roads to the mine through M/s. CGRVVN.
xix.	A Conservation Plan for the endangered faunal species reported in the study area and for the medicinal plants found in and around the project area shall be implemented in consultation with the State Forest and Wildlife Departments. An in-situ conservatory of species found in the pre mining original ecosystem and rare and endangered plant species including medicinal plants species found in the study area during, pre-mining phase shall be established, and species reintroduced during mine reclamation and habitat restoration. The Conservation Plan shall include conservation of areas within the project boundary to be left undisturbed as free passageways for the wildlife to reach the forests in the study area. The Conservation Plan shall also include activities of mine reclamation and wildlife habitat restoration of mined out areas within the core zone and project area using native species representative of the forest ecosystem during the pre-mining phase. Separate funds of Rs. 5 crores as capital costs shall be earmarked for implementation of the various activities under the Conservation Plan. The status of the Conservation Plan including expenditure (capital and revenue) shall be reported once a year as part of the monitoring report to this Ministry and	Wildlife Conservation Plan as approved by State PCCF(WL), Raipur on 12.04.12 shall be implemented. As per approval, Rs. 5.2 crores have been deposited in the CAMPA fund on 15.02.13. Expenditure shall be made as per plan and report of the same shall be submitted to MoEF&CC, Delhi and Regional Office, Nagpur. Further, NTPC shall participate in RWLCP & contribute financially, if required and directed.



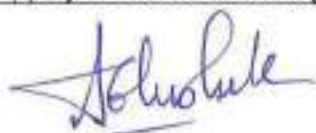
Sl.	Specific Conditions	Present Status as on 31.03.2024
	to the MOEF Regional Office, Bhopal. The proponent shall also participate in the Regional Wildlife Conservation Plan (RWLCP) for the study area prepared by the State Wildlife Dept. and in addition to the above funds shall also contribute financially for implementation of the RWLCP. Habitat development / conservation measures along the migratory route / habitats of elephants found / visiting the area shall form a part of the Regional Action Plan.	
xx.	The proponent shall ensure that the 70 km stretch of MGR which includes a part of the elephant migratory corridor provides safe passageway for the elephants, the number and locations of which shall be finalised after a detailed study in consultation with the State Forest and Wildlife Departments, Govt. of Chhattisgarh and inputs from Dr Raman Sukumar, Professor and Chairman, Centre for Ecological Sciences, Indian Institute of Science, Bangalore. Adequate number of over/under passes shall be constructed along the MGR route, visited / reported / inhabited by elephants in the area in consultation with PCCF (WL), and at least 5 under/over passes shall be created particularly along the 7km stretch of the 70km MGR route, which forms a part of the elephant migratory corridor. In the rest of the route wherever required, similar under / overpasses shall be created. The WL Plan shall include measures for awareness for conservation of wildlife training to the drivers of MGR for use of siren, horn, fire crackers to move animals away from railway tracks, avoiding use of MGR during time of maximum animal movement.	07 numbers of underpass have been constructed along MGR track for elephant migration which provide safe passageway for the elephants in consultation with state forest and wildlife departments, Govt of Chhattisgarh. The amount of Rs. 5.2 Crore has been deposited for implementation of wildlife Conservation plan to the state forest department under CAMPA. Training to locomotive drivers is imparted for use of siren, horn, firecrackers to move animals away from railway tracks.
xxi.	An Environment Cell / Panel of experts consisting of WL expert, ecologist, sociologist and hydrology shall be created to verse the implementation of the WL Conservation Plan and Plan for Habitat/eco-restoration. No cacti species shall be used in reclamation and eco-restoration of the mine.	Services of experts i.e. WL expert, ecologist and hydrologist shall be hired in due course during implementation of conservation plan. Sociologist is already on roll of Talaipalli Coal Mining Project.
xxii.	Area brought under afforestation shall be not less than 1876.04 ha which includes, backfilled area (1848.38 ha), which includes area reclaimed after re-handling of temporary external OB dumps and topsoil dump, embankment (15 ha) along ML boundary, infrastructure area (5 ha), along roads, green belt (7.66 ha), and in undisturbed areas / safety zone and in colony outside the ML by	Noted. The tree density of about around 2500 plants / ha will be maintained. Till date 17500 saplings in approx. 7.0 ha land have been planted through M/s. Chhattisgarh Rajaya Van Vikas Nigam. Native species are given preference for plantation. Around 8000 saplings have



Sl.	Specific Conditions	Present Status as on 31.03.2024
	planting native species in consultation with the local DFO / Agriculture Department. The density of the trees shall be around 2500 plants per ha.	been planted along roadside connecting township to mine.
xxiii.	A Progressive Mine Closure Plan shall be implemented by reclamation of 1848.38 ha of the total quarry area of 2079.34 ha by backfilling and reclamation and by afforestation, to create a 3-storey forest ecosystem, by planting native species in consultation with the local DFO / Agriculture Department / relevant institution. The density of the trees shall be around 2500 plants per ha. The balance 230.96 ha void left as a water body of a max. depth of 60m which shall be gently sloped and the upper benches stabilised with grass and plantation.	Noted. A Mine closure plan was approved by MOC on 31.03.2010 and shall be implemented as per stipulations.
xxiv.	R&R Plan prepared for the 8 villages in the core zone - Talaipalli, Bichinara, Nayarampur, Kudurmoha, Raikera, Chotiguda, Ajigarh and Salhepalli with 635 land and homestead losers and 960 land losers shall be implemented within an agreed time-frame of 3-5 years and shall be not less than the norms laid down/approval by the State Government and shall not be inferior than that in the National R&R Policy and shall be completed within the agreed time-frame. R&R shall include specific income generation schemes and setting up of SHGs and cooperatives and activities and assistance under the Tribal Development Plan for the tribal being displaced and provision of annuities for the under-privileged sections. The provision also includes a Corpus Fund for the maintenance of the Resettlement site. The status of the implementation of the R&R Plan along with financial status of the activities undertaken shall be uploaded on the company website and updated at least once in a year.	Resettlement and Rehabilitation Plan of Talaipalli coal block has been prepared in line with the provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 & Chhattisgarh State R&R policy and the same has been approved by Commissioner, Bilaspur CG. As per the R&R Plan, various programmes are in implementation for the improvement of Health, Education, Skill Development of the communities and also basic infrastructures/amenities like drinking water facilities, drainage, CC Road and connecting roads and etc as per the need and requirement of the villagers and as per the direction of District Administration.
xxv	The Project cost shall include a Tribal Development Plan for a minimum cost of Rs 10 crores. The activities for Tribal Development under CSR and R&R shall be dovetailed with the District Tribal Welfare Plan being prepared annually by the State Government which should be used to prepare and dovetail the activities. Training / capacity development and skill development shall form an integral part of CSR and R&R Action Plan, wherein project affected youth are given training in it is for enhancing their skill for direct/indirect employment. A colony for outsourced personnel shall be provided.	Under CD / CSR and R&R activities, more emphasis is given on tribal development, training/ capacity development and skill development. The activities are being planned in consultation with State Govt. Under CSR activities, Training for capacity development / skill enhancement were organised like training on vehicle driving, Godna painting (painting on cloth), wood crafting, cloth weaving, tailoring, basic computer training, training on goat

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Sl.	Specific Conditions	Present Status as on 31.03.2024
	The R&R Action Plan shall also provide for annuities to vulnerable persons of the society as per R&R Policy of Govt. of Chhattisgarh. A female social scientist shall also be included for implementation of R&R and CSR.	farming, poultry, sericulture (thread making from kosa), etc. There is provision for annuity payment to vulnerable persons of the society in approved R&R Plan for mining area.
xxvi	The proponent shall implement activities undertaken under CSR for neighbouring village in the study area for the life of the project. The activities shall include establishing / strengthening of school roads, drainage and sanitation, community halls, drinking water in the villages and skill development of the local communities. The CSR Plan shall also include Tribal Welfare activities for the tribals and their skill development for alternate livelihood and addressing issues such as availability of minor forest produce for the tribal/local communities. The details of the activities and expenditure made thereon in each of the villages taken up under CSR shall be displayed on the company's website and updated at least once in six months. The socio-economic development of the villages shall be monitored over the life of the project using indices such as the UNDP Human Development Index.	1.Under R&R-Community Development activities more emphasis is given on tribal development in the fields of training/capacity development and skill development. 2. Trainings like Godna painting, Kosa Sarees & Handloom making, LMV driving, HEMM driving, Mushroom cultivation, tailoring training, Bag making and agri based Value added products were provided to the women SHGs & youth as per the consultation with District Administration. 3. Since, the villagers are opted for Self-resettlement and NTPC is creating various basic amenities like drinking water facilities through hand pumps and solar operated pumps, installation of solar streetlights, construction of CC roads at new settlements, construction of community buildings like school buildings, community halls, Anganwadi centres Panchayat offices and other infrastructure as per the need/requirement in consultation with District Administration. Expenditure of Rs.2,55,72,840.00 incurred during the period 01.10.2023 to 31.03.2024. (details placed at Annexure-1 along with the photographs.)
xxvii.	For monitoring land use pattern and for post mining land use, a time series of land use maps based on satellite imagery (on a scale of 1:5000) of the core zone and buffer zone, from the start of the project until the end of mine life shall be prepared once 3 years (for anyone particular season which is consistent in the time series), and the report submitted to MOEF and its Regional office at Bhopal.	Consultancy work to study Land Use Land Cover study post mining activity at NTPC TLCMP has been conducted through M/s. REGISTRAR GURU GHASIDAS UNIVERSITY vide PO 460076688 dated 29.10.2023. LULC study reports has been submitted to MoEF&CC and its Regional Office.
xxviii	A Final Mine Closure Plan along with details Corpus Fund shall be submitted to the Ministry of Environment & Forests for approval 5 years in advance of final mine closure for approval. The Plan shall include habitat restoration of the project area consisting of a 3-storey forest	A Final Mine Closure Plan with corpus fund details will be submitted to MOEF&CC for approval well in advance as per stipulation.



Sl.	Specific Conditions	Present Status as on 31.03.2024
	ecosystem, using a mix of native species found in the pre-mining ecosystem in the study area.	
xxix.	The approved Mining Plan shall be modified to integrate Specific Conditions No. (iv), (v) and (xxiii) and approval obtained prior to start of mining operations.	Specific condition no. iv, v & xxiii already covered in approved mining plan.

B. GENERAL CONDITIONS

S.No	General Conditions	Present Status as on 31.03.2024
i.	No change in technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	Any change in plan and mining technology will be submitted to MoEF&CC well in advance for approval.
ii	No change in the calendar plan including quantum of mineral coal and waste being produced shall be made.	Noted for adherence & compliance.
iii	Four ambient air quality monitoring stations shall be established in the core zone as well as the buffer zone for monitoring PM10, PM2.5, SO2 and NOx. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally & ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, in the particulate matter etc. shall be carried out at least once in six months.	Four nos. of ambient air quality monitoring stations are established in consultation with the Chhattisgarh State Pollution Control Board at different locations in the core zone as well as in the buffer zone for monitoring of air quality parameters, as stipulated. Environment Monitoring is being carried out by M/s. Vardan Envirolab and monitoring data enclosed.
iv	Data on ambient air quality (PM10, PM2.5 SO2 and NOx.) and heavy metals (such as Hg, As, Ni, Cr, etc) and other monitoring data shall be regularly submitted to the Ministry including its Regional Office at Bhopal and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognised under the EP Rules, 1986 shall be furnished as part of the compliance report.	Monitored data on ambient air quality and heavy metals are collected in core and buffer zone stations. The data/report is being submitted (half yearly) to the concerned statutory authority of MoEF&CC/SPCB/ CPCB.
v	Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.	Adequate measures are being taken for control of noise levels below 85 dB(A) in the work environment during the operation phase of mining block. Workers in high noise areas are being provided ear plugs/muffs along with other PPEs.
vi	Industrial wastewater (workshop and wastewater from the mine) shall be properly collected and treated so as to conform to the standards including for heavy metals before	Oil and grease trap installed at workshop area in vehicle washing area and is operation for effective treatment of industrial effluents conforming to

[Signature]

	discharge prescribed under GSR 422 (E) dated 19 May 1993 and 31 December 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.	prescribed standards before final discharge.
vii	Vehicular emissions shall be kept under control and regularly monitored.	Regular Pollution monitoring of all vehicles involved in the mining project is being carried out to keep emissions under control.
viii	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analysed through a laboratory recognised under EP Rules, 1986.	Adequate numbers and type of pollution monitoring, and analysis equipment have been installed in core and buffer zone of the mine area by project environment management cell in consultation with the Chhattisgarh Environment & Conservation Board and monitoring is being conducted through NABL accredited Lab M/s. Vardan Envirolab and monitoring data is being shared with CECB regularly.
ix	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed.	Protective respiratory devices are available in sufficient quantity for personnel working in dusty areas. All such personnel are provided with adequate training and information on safety & health aspects. Schedule being followed for implementation of Occupational health surveillance programme of workers during operation of the Mine Block to determine the impact due to exposure to dust and corrective measures being taken up for the same. Compliances regarding environment quality, health issues of outsourced manpower are also taken care. Mandatory Initial & periodical medical examination of workers is being carried out as per provisions of Mines Rules 1955.
x	A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company.	Separate Environmental Management Cell with suitable qualified personnel has been already functional at Corporate Level. At site Deputy General Manager & Senior Manager level executives have been posted under Environment Management Cell who is directly reporting to the head of the company.
xi	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other	Noted for compliance. The expenditure report will be sent to MoEF&CC & its Regional Office on yearly basis. The



	purpose. Year-wise expenditure shall be reported to this Ministry and its Regional Office at Bhopal.	requisite funds for environmental mitigation measures have been included in the project cost. Financial provision stipulated towards environment protection measures will not be diverted for other purpose.
xii	The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the ministry of Environment & Forests at http://envfor.nic.in	Copy of the clearance letter has been already marked by MoEF&CC to CPCB, State Pollution Control Board and District Administration. The receipt of the Environment Clearance has been advertised in two local newspapers widely circulated around the project. Ispat times dated 06.01.2013, Raigarh edition Jankarm dated 06.01.2013, Raigarh edition.
xiii	A copy of the environmental clearance letter shall be marked to concerned Panchayat / Zilla Parishad, Municipal Corporation or Urban Local Body and local NGO, if any, from whom any suggestion /representation has been received while processing the proposal. A copy of the clearance letter shall all so be displayed on the company's website.	While processing the proposal, no suggestion/ representation has been received from Panchayat/ Zilla Parishad, Municipal Corporation, Urban Local Body and local NGO. However, the copy of EC was also marked by the MoEF&CC to the District Administration. Copy of environment clearance letter is available on company's website .
xiv	A copy of the clearance letter shall be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Centre and Collector's Office / Tehsildar's Office for 30 days.	Copy of Environmental Clearance (EC) letter was sent to office of District Industry Centre vide letter dated 09/01/2013; Tehsildars office vide letter dated 09/01/2013. A copy of the EC is marked to CECB on dated 04/01/2013 for display at the Regional Office for a period of 30 days.
xv	The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) and critical pollutants such as PM10 PM2.5, SO2 and NOx (ambient and stack if any) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mines office and in corporate office and on the company's website.	The Environmental Clearance has been uploaded on the Company's website. The compliance status of the stipulated EC conditions was also uploaded in company website https://www.ntpc.co.in/en/status-hyc-reports .
xvi	The project proponent shall submit six monthly reports on the status of compliance of the	Noted and will be complied as per the requirements of MoEF&CC.

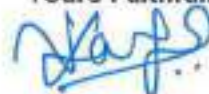


	stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the MOEF, the respective Zonal offices of CPCB and the SPCB.	
xvii	The Regional Office of this Ministry located at Bhopal shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	Noted and will be complied as per the requirements of MoEF&CC.
xviii	The environmental statement for each financial year ending 31st March in Form-V 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 uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MOEF by E-mail.	Environmental statement for each financial year ending 31st March in Form-V is mandated and submitted to CECB as prescribed under EPA Rules, 1986. Last Environmental statement for year ending 21.03.2022 submitted on 26.09.2023.



C. Revalidation of Environment Clearance, Vide Ltr. No. J-11015/279/2009-IA-II(M) Pt. file, Dated:28th October, 2015.		
S.No	Specific Condition	Present Status as on 31.03.2024
i	Any Change in scope of work will attract the provisions of the Environment (Protection) Act, 1986 and Environmental Impact Assessment Notification, 2006 in conjunction with the subsequent amendments/ circulars.	Noted and agreed.
ii	All conditions stipulated in the EC letter No. J-11015/279/2009-IA.II(M) Dated 02nd January 2013 shall remain unchanged.	Noted and agreed.
iii	The allottee shall be liable, if any, for any act of violation of the EP Act, 1986 / EIA Notification 2006 / Subsequent amendments and circulars which it has inherited during the revalidation/ transfer.	Noted and agreed.
iv	Allottee shall be liable for compliance of all Court directions, if any.	Noted and agreed.
D. Amendment in Environment Clearance" Vide Ltr. No J-11015/279/2009-IA. II(M) Dated 06.11.2019		
S.No	Specific Condition	Present Status as on 31.03.2024
i	No changes in technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	Any change in plan and mining technology will be submitted to MoEF&CC well in advance for approval.
ii	No changes in calendar plan including quantum of mineral coal and waste being produced shall be made.	Noted and agreed
iii	Adequate dust suppression measures shall be taken along transportation route.	Water tankers and mobile fog cannon are being deployed along transportation route to suppress dust.
iv	The PP shall expedite the commissioning of the MGR as early as possible.	MGR (Merry Go Round Railway) System has been constructed and put in use since 21 November 2022.
v	No transportation of Coal by road is allowed after commencement of the MGR.	Noted and agreed
vi	All the mitigation measures proposed in Traffic Impact Assessment study shall be complied.	All the mitigation measures proposed in Traffic Impact Assessment study are being complied.
vii	All other terms and conditions stipulated in environment clearance dated 2nd January, 2013 and subsequent revalidation of EC dated 28th October, 2015, shall remain unchanged.	Noted and agreed.

Yours Faithfully



Vijay Kumar Kanungo
General Manager

ANNEXURE-1

Community Development Activities taken in and around Talaipalli Coal Mining Project for the period 01.10.2023 to 31.03.2024.				
Si. No.	Head	Activity Details	Area	Amount in Rs.
1.	Health & Sanitation	Medical Camps at Project affected Villages.	CBA	40,000.00
2.	Education	Procurement of 12 nos Office Almirah at Govt. Swami Atmanand Utkrish Vidhyalay Raikera.	Raikera	96,000.00
		RO Alkaline Water Purifier 12 Litre. at Primary School Dhangarpara (Ambedkar Chauk) Gharghoda.	Gharghoda	10,000.00
3.	Skill Development	Nill		
4.	Roads & Infra Structure	Renovation Work at Ekalavya Model (Adharsh) Residential School Premises, Kharsiyan District Administration Under Community Development activities.	Kharsiyan	48,46,400.00
		Renovation Works at Youth Centre Gharghoda.	Gharghoda	29,19,000.00
		Renovation of female ward buildings, toilets water Harvesting system of CHC Gharghoda.	CHC Gharghoda	3,24,000.00
		Renovation works at SDM House Gharghoda.	Gharghoda	2,00,000.00
		Payment of 2nd Instalment to Chotiguda Gram Panchayat for Construction of Govt. Buildings and Others.	Chotiguda	40,10,000.00
		Construction of RCC Bridge at Nunderha Road Raikera.	Raikera	22,00,000.00
		Construction of Pavilions end at Gharghoda Stadium.	Gharghoda	15,63,713.00
		Construction of CC Road at Nundarha Road Raikera (Deposit Work CEO Gharghoda)	Raikera	48,00,000.00
		Pond Deepening work at Village Kotrimal Gram Panchayat under Community Development Activities as per District Administration order	Salhepali	12,44,603.00
		Pond Deepening work at Gram Panchayat Kudumkela under Community Development Activities as per District Administration order.	Kudumkela	11,79,012
5.	Drinking Water	Digging Of 10 No. Borewells at project affected villages	CBA	14,50,000.00
		Borewell Repair Work at Talaipalli Village.	Talaipalli	9,500.00
6.	Women's Empowerment	Procurement of 43 no's Motor Driven Sewing Machine at Project Affected SHG Women.	CBA	2,55,000.00
7.	Sports	Provided Cricket Materials at Gram Panchayat Kanchanpur.	Kanchanpur	20,000.00
		Provided Cricket Kit for CEO Gharghoda.	Gharghoda	19,000.00

N T P C Limited
Talaipalli Coal Mining Project
CD/CSR Activities taken up (TLCMP)

8.	Others Works	Procurement of Electric Parts For repairing of Electrical Wiring Works at Gharghoda Thana.	Gharghoda	37,559.00
		Cultural programme at Raikera Village (Devta Shifting)	Raikera	2,05,000.00
		Procurement of Karma Dress at Nawadih Villagers	Nawadih	40,000.00
		Procurement of hp Printer at SDM Office Gharghoda.	Gharghoda	92,000.00
		Payment for repairing of Electrical wiring work in Gharghoda Thana Under CD-CSR activity of TLCMP.	Gharghoda	12,053.00
9.	Miscellaneous	Nil		
Total expenditure on CD Activities of TLCMP From 01.10.2023 to 31.03.2024				2,55,72,840



Medical Camp at Talaipalli Village.



Sewing Machine Distribution at SHG women's Project affected Villages.



Inauguration of CC Road Nundeha Road Raikera.



Pond Deeping Work at Village Salhepali.

CHAPTER 3

“Details of Environmental Monitoring”

Details of Environmental Monitoring

Post Project Environment Monitoring Schedule has been prepared, and the Monitoring work was carried out by M/s Hubert Enviro Care Pvt. Ltd up-to Feb 2024 & M/s. Vardan Envirolab has started execution of work from March 2024. The test reports are presented below:



Vardan Envirolab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Hr)
CPCB Recognized | ISO 9001 | ISO 14001 | ISO 45001



Test Report

Sample Number: VEL/A/01
Name & Address of the Party: NTPC Ltd.
1071 Talaipalli Coal Mining Project,
Lailunga Road, Gharghoda Raigarh
Chhattisgarh (496111).

Report No.: VEL/AP/2403180001
Format No.: 7.8 F-03
Party Reference No.: 4000327460-108-1071
Date:- 05.03.2024
Reporting Date: 21/03/2024
Period of Analysis: 18/03/2024 - 21/03/2024
Receipt Date: 18/03/2024

Sample Description: AMBIENT AIR QUALITY MONITORING

General Information

Sampling Location : Chotigada (Village)
Sample Collected By : VEL Representative
Sampling Instrument Used : Respirable Dust Sampler & Fine Particulate Sampler
Instrument Code : VEL/INS/ENV/RDS/40 & VEL/INS/ENV/FPS/01
Instrument Calibration Status : Calibrated
Meteorological Condition During Monitoring : Clear Sky
Date of Monitoring : 13/03/2024 to 14/03/2024
Time of Monitoring : 10:40 A.M. To 10:40 A.M.
Ambient Temperature (°C) : Min.22°C, Max.37°C
Surrounding Activity : Human & Vehicular Activities
Scope of Monitoring : Regulatory Requirement
Sampling & Analysis Protocol : CPCB Guidelines & IS: 5182
Sampling Duration : 24 Hours
Parameter Required : As Per Work Order

TEST RESULTS

S. No.	Parameters	Test Method	Results	Units	Limits As Per NAAQS
1.	Particulate Matter 2.5 (as PM _{2.5})	IS: 5182 (P-24)	42.45	µg/m ³	60
2.	Particulate Matter 10 (as PM ₁₀)	IS: 5182 (P-23)	62.98	µg/m ³	100
3.	Sulphur Dioxide (as SO ₂)	IS: 5182 (P-2)	11.45	µg/m ³	80
4.	Nitrogen Dioxide (as NO ₂)	IS: 5182 (P-6)	26.23	µg/m ³	80



Terms & Conditions

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- This test report in full or in part, shall not be reproduced in any court of law without prior written approval of the laboratory.
- To confirm the authenticity of this certificate of analysis, please contact us through email at lab@vardan.co.in
- Laboratory is not responsible for the authenticity of photocopied test report. The test samples will be retained only for specific period.
- The report is, with Bafis A-Approved Report.
- This test report will not be used for publicity or advertising or media purpose without prior written permission from the laboratory.
- Using optical disc not imply endorsement of the tested sample by the lab. Under no circumstances, the lab accepts any liability caused by the use or misuse of the test report.





Vardan Envirolab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 |Hr|
CPCB Recognized | ISO 9001 | ISO 14001 | ISO 45001



Test Report

Sample Number: VEL/A/08
Name & Address of the Party: NTPC Ltd.
1071 Talaipalli Coal Mining Project,
Lailunga Road, Gharghoda Raigarh
Chhattisgarh (496111).

Report No.: VEL/AP/2403300008
Format No.: 7.8 F-03
Party Reference No.: 4000327460-108-1071
Date:- 05.03.2024
Reporting Date: 03/04/2024
Period of Analysis: 30/03/2024 - 03/04/2024
Receipt Date: 30/03/2024

Sample Description: AMBIENT AIR QUALITY MONITORING

General Information

Sampling Location : Raikera Village
Sample Collected By : VEL Representative
Sampling Instrument Used : Respirable Dust Sampler & Fine Particulate Sampler
Instrument Code : VEL/INS/ENV/RDS/43 & VEL/INS/ENV/FPS/04
Instrument Calibration Status : Calibrated
Meteorological Condition During Monitoring : Clear Sky
Date of Monitoring : 25/03/2024 to 26/03/2024
Time of Monitoring : 10:40 A.M. To 10:40 A.M.
Ambient Temperature (°C) : Min.22°C, Max.37°C
Surrounding Activity : Human & Vehicular Activities
Scope of Monitoring : Regulatory Requirement
Sampling & Analysis Protocol : CPCB Guidelines & IS: 5182
Sampling Duration : 24 Hours
Parameter Required : As Per Work Order

TEST RESULTS

S. No.	Parameters	Test Method	Results	Units	Limits As Per NAAQS
1.	Particulate Matter 2.5 (as PM _{2.5})	IS: 5182 (P-24)	47.89	µg/m ³	60
2.	Particulate Matter 10 (as PM ₁₀)	IS: 5182 (P-23)	60.11	µg/m ³	100
3.	Sulphur Dioxide (as SO ₂)	IS: 5182 (P-2)	12.65	µg/m ³	80
4.	Nitrogen Dioxide (as NO ₂)	IS: 5182 (P-6)	27.44	µg/m ³	80



Terms & Conditions

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- This test report in full or in part, shall not be reproduced in any form without prior written approval of the laboratory.
- In case the laboratory issues certificate of analysis, please contact us through email at info@vardan.co.in
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- The reporting, with Suffix A-Accredited Report.
- This test report will not be used for publicity or advertising or media purpose without prior written permission from the laboratory.
- Giving opinion does not imply endorsement of the tested sample by the lab. Under no circumstances, the lab accepts any liability caused by the use or misuse of the test report.





Test Report

Sample Number: VEL/N/02
Name & Address of the Party: NTPC Ltd.
1071 Talaipalli Coal Mining Project,
Lailunga Road, Gharghoda Raigarh
Chhattisgarh (496111),
Report No.: VEL/AP/24030160002
Format No.: 7.8 F-03
Party Reference No.: 4000327460-108-1071
Date: 05.03.2024
Reporting Date: 18/03/2024
Period of Analysis: 16/03/2024-18/03/2024
Receipt Date: 16/03/2024

Sample Description: Ambient Noise Level Monitoring

General Information:-

Sample Collected By : Vardan EnviroLab Representative
Sampling Location : NTPC Site Office Raikera
Sampling Instrument Used : Sound Level Meter
Instrument Code : VEL/INS/ENV/SLM/04
Instrument Calibration Status : Calibrated
Meteorological condition during monitoring : Clear Sky
Date of Monitoring : 13/03/2024 to 14/03/2024
Time of Monitoring : 10:00 AM to 10:00 AM
Surrounding Activity : Human, Vehicular and Plant Activities
Scope of Monitoring : Regulatory Requirement
Control measure if Any : No any
Sampling & Analysis Protocol : IS-9989 & CPCB Guideline
Sampling Duration : 24.0 Hours
Parameter Required : As per Work Order

TEST RESULTS

S. No.	Parameters	Test Method	Test Result dB (A)		Unit
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 06:00 am)	
1.	L_{eq}	IS 9989	50.76	42.35	dB(A)
Category of Zones:		Leq in dB (A)			
		Day	Night		
Industrial		75	70		
Commercial		65	55		
Residential		55	45		
Silence Zone		50	40		

Note: "A" "decibel" is a unit in which noise is measured.

End of Report



Terms & Conditions

- The results reported herein are valid only for the sample tested in this sample & not liable for results apply to the sample as received.
- This test report in full or in part shall not be reproduced in any court of law without prior written approval of the laboratory.
- To confirm the authenticity of this certificate of analysis, please contact us through email at lab@vardan.co.in
- Lab story is not responsible for the authenticity of photocopied test report. The test sample will be retained only for specific period.
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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Hr)
CPCB Recognized | ISO 9001 | ISO 14001 | ISO 45001



Test Report

Sample Number: VEL/N/05
Name & Address of the Party: NTPC Ltd.
1071 Talaipalli Coal Mining Project,
Lailunga Road, Charghoda Raigarh
Chhattisgarh (496111).

Report No.: VEL/AP/24030160005
Format No.: 7.8 F-03
Party Reference No.: 4000327460-108-1071
Date: 05.03.2024
Reporting Date: 18/03/2024
Period of Analysis: 16/03/2024-18/03/2024
Receipt Date: 16/03/2024

Sample Description: Ambient Noise Level Monitoring

General Information:-

Sample Collected By : Vardan EnviroLab Representative
Sampling Location : Chintapani Village
Sampling Instrument Used : Sound Level Meter
Instrument Code : VEL/INS/ENV/SLM/03
Instrument Calibration Status : Calibrated
Meteorological condition during monitoring : Clear Sky
Date of Monitoring : 14/03/2024 to 16/03/2024
Time of Monitoring : 06:00 AM to 06:00 AM
Surrounding Activity : Human, Vehicular and Plant Activities
Scope of Monitoring : Regulatory Requirement
Control measure if Any : No any
Sampling & Analysis Protocol : IS-9989 & CPCB Guideline
Sampling Duration : 24.0 Hours
Parameter Required : As per Work Order

TEST RESULTS

S.No.	Parameters	Test Method	Test Result dB (A)		Unit
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 06:00 am)	
1.	L_{eq}	IS 9989	52.25	41.30	dB(A)
Category of Zones		Leq in dB (A)			
		Day	Night		
Industrial		75	70		
Commercial		65	55		
Residential		55	45		
Silence Zone		50	40		

Note: "A" (decibel) is a unit in which noise is measured.

End of Report



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- The test report will not be used for publicity or advertising or media purpose without prior written permission of the laboratory.
- Quoting options does not imply endorsement of the tested sample by the lab. Under no circumstances, the lab accepts any liability caused by the use or misuse of the test report.





Test Report

Sample Number: VEL/N/01
Name & Address of the Party: NTPC Ltd.
1071 Talaipalli Coal Mining Project,
Lailunga Road, Gharghoda Raigarh
Chhattisgarh (496111).

Report No.: VEL/AP/2403290011
Format No.: 7.8 F-03
Party Reference No.: 4000327460-108-1071
Date:- 05.03.2024
Reporting Date: 01/04/2024
Period of Analysis: 29/03/2024-01/04/2024
Receipt Date: 29/03/2024

Sample Description: Ambient Noise Level Monitoring

General Information:-

Sample Collected By : Vardan Envirolab Representative
Sampling Location : Chotiguda Village
Sampling Instrument Used : Sound Level Meter
Instrument Code : VEL/INS/ENV/SLM/06
Instrument Calibration Status : Calibrated
Meteorological condition during monitoring : Clear Sky
Date of Monitoring : 24/03/2024 to 25/03/2024
Time of Monitoring : 06:00 AM to 06:00 AM
Surrounding Activity : Human, Vehicular and Other Activities
Scope of Monitoring : Regulatory Requirement
Control measure if Any : No any
Sampling & Analysis Protocol : IS-9989 & CPCB Guideline
Sampling Duration : 24.0 Hours
Parameter Required : As per Work Order

TEST RESULTS

S. No.	Parameters	Test Method	Test Result dB (A)		Unit
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 06:00 am)	
1.	L_{eq}	IS 9989	50.77	41.15	dB(A)
Category of Zones		Leq in dB (A)			
		Day	Night		
Industrial		75	70		
Commercial		65	55		
Residential		55	45		
Silence Zone		50	40		

Note: "A" decibel is a unit in which noise is measured.

End of Report



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Test Report

Sample Number: VEL/N/03
Name & Address of the Party: NTPC Ltd.
1071 Talaipalli Coal Mining Project,
Lailunga Road, Chharghoda Raigarh
Chhattisgarh (496111).

Report No.: VEL/AP/2403290013
Format No.: 7.8 F-03
Party Reference No.: 4000327460-108-1071
Date:- 05.03.2024
Reporting Date: 01/04/2024
Period of Analysis: 29/03/2024-01/04/2024
Receipt Date: 29/03/2024

Sample Description: Ambient Noise Level Monitoring

General Information:-

Sample Collected By : Vardan Envirolab Representative
Sampling Location : Kudhurmoha Village
Sampling Instrument Used : Sound Level Meter
Instrument Code : VEL/INS/ENV/SLM/09
Instrument Calibration Status : Calibrated
Meteorological condition during monitoring : Clear Sky
Date of Monitoring : 24/03/2024 to 25/03/2024
Time of Monitoring : 11:00 AM to 11:00 AM
Surrounding Activity : Human, Vehicular and Plant Activities
Scope of Monitoring : Regulatory Requirement
Control measure if Any : No any
Sampling & Analysis Protocol : IS-9989 & CPCB Guideline
Sampling Duration : 24.0 Hours
Parameter Required : As per Work Order

TEST RESULTS

S. No.	Parameters	Test Method	Test Result dB (A)		Unit
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 06:00 am)	
1.	L_{eq}	IS 9989	51.20	41.74	dB(A)
Category of Zones		Leq in dB (A)			
		Day	Night		
Industrial		75	70		
Commercial		65	55		
Residential		55	45		
Silence Zone		50	40		

Note: "A" "decibel" is a unit in which noise is measured.

End of Report



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Test Report

Sample Number: VEL/N/09
Name & Address of the Party: NTPC Ltd.
1071 Talaipalli Coal Mining Project,
Lailunga Road, Gharghoda Raigarh
Chhattisgarh (496111).

Report No.: VEL/AP/2403290019
Format No.: 7.8 F-03
Party Reference No.: 4000327460-108-1071
Date: 05.03.2024
Reporting Date: 01/04/2024
Period of Analysis: 29/03/2024-01/04/2024
Receipt Date: 29/03/2024

Sample Description: Ambient Noise Level Monitoring

General Information:-

Sample Collected By : Vardan EnviroLab Representative
Sampling Location : Salhepali Village
Sampling Instrument Used : Sound Level Meter
Instrument Code : VEL/INS/ENV/SLM/09
Instrument Calibration Status : Calibrated
Meteorological condition during monitoring : Clear Sky
Date of Monitoring : 26/03/2024 to 27/03/2024
Time of Monitoring : 02:00 PM to 02:00 PM
Surrounding Activity : Human, Vehicular and Plant Activities
Scope of Monitoring : Regulatory Requirement
Control measure if Any : No any
Sampling & Analysis Protocol : IS-9989 & CPCB Guideline
Sampling Duration : 24.0 Hours
Parameter Required : As per Work Order

TEST RESULTS

S. No.	Parameters	Test Method	Test Result dB (A)		Unit
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 06:00 am)	
1.	L_{eq}	IS 9989	51.32	42.10	dB(A)
Category of Zones		Leq in dB (A)			
		Day	Night		
Industrial		75	70		
Commercial		65	55		
Residential		55	45		
Silence Zone		50	40		

Note: *A "decibel" is a unit in which noise is measured.

End of Report



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- Client's actions does not imply endorsement of the tested sample by the lab. Under no circumstances, the lab accepts any liability caused by the use or misuse of the test report.



Test Report

Sample Number: VEL/W/01
Name & Address of Party: NTPC Ltd.
1071 Talaipalli Coal Mining Project,
Lailunga Road, Gharghoda Raigarh
Chhattisgarh (496111).

Report No.: VEL/W/2403290001
Format No.: 7.8 F-03
Party Reference No.: 4000327460-108-1071
Date: 05.03.2024

Sample Description: Ground Water Sample
Sample Location: Chotiguda Village
Sample Collected by: Vardan Envirolab Representative
Sampling and Analysis Protocol: APHA 23rd Edition 2017 & IS 3025

Reporting Date: 05/04/2024
Period of Analysis: 29/03/2024 to 05/04/2024
Receipt Date: 29/03/2024
Sampling Date: 24/03/2024
Preservation: Refrigerated
Sampling Quantity: 2.0 Ltr + 250 ml

Sampling Type: Grab

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS 3025 (P-11)	7.41	—	6.5 to 8.5	No Relaxation
2.	Colour	IS 3025 (P-4)	6.0	Hazen	5	15
3.	Turbidity	IS 3025 (P-10)	1.0	NTU	1	5
4.	Odour	IS 3025 (P-5)	Agreeable	—	Agreeable	Agreeable
5.	Taste	IS 3025 (P-8)	Agreeable	—	Agreeable	Agreeable
6.	Total Hardness (as CaCO ₃)	IS 3025 (P-21)	72.98	mg/L	200	600
7.	Calcium (as Ca)	IS 3025 (P-40)	17.45	mg/L	75	200
8.	Alkalinity (as CaCO ₃)	IS 3025 (P-23)	36.98	mg/L	200	600
9.	Chloride (as Cl)	IS 3025 (P-32)	7.23	mg/L	250	1000
10.	Residual free Chlorine	IS 3025 (P-26)	*BLQ**LOQ-0.15)	mg/L	0.2	—
11.	Cyanide (as CN)	IS 3025 (P-27)	*BLQ**LOQ-0.02)	mg/L	0.05	No Relaxation
12.	Magnesium (as Mg)	APHA, 3500 Mg B, Calculation Method	7.15	mg/L	30	100
13.	Total Dissolved Solids	IS 3025 (P-16)	152.00	mg/L	500	2000
14.	Sulphate (as SO ₄)	IS 3025 (P-24)	7.22	mg/L	200	400
15.	Fluoride (as F)	APHA, 4500 F D, SPADNS Method	0.36	mg/L	1.0	1.5
16.	Nitrate (as NO ₃)	IS 3025 (P-34)	4.12	mg/L	45	No Relaxation
17.	Iron (as Fe)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	0.29	mg/L	1.0	No relaxation



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Test Report

Sample No.: VEL/W/01			Report No: VEL/W/2403290001			
S. No	Parameter	Test-Method	Result	Unit	Limits of IS:10500-2012	
					Requirement (Acceptable) Limit	Permissible limit in the Absence of Alternate Source
18.	Aluminium (as Al)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ-0.002)	mg/L	0.03	0.2
19.	Boron	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ 0.01)	mg/L	0.5	2.4
20.	Total Chromium (as Cr)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ-0.002)	mg/L	0.05	No Relaxation
21.	Phenolic Compounds	IS 3025 (P-43)	*BLQ(**LOQ 0.0004)	mg/L	0.001	0.002
22.	Anionic Detergents (as MBAS)	IS 3025 (P-68)	*BLQ(**LOQ-0.05)	mg/L	0.2	1.0
23.	Zinc (as Zn)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	0.41	mg/L	5	15
24.	Copper (as Cu)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ 0.002)	mg/L	0.05	1.5
25.	Manganese (as Mn)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ- 0.01)	mg/L	0.1	0.3
26.	Cadmium (as Cd)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ 0.002)	mg/L	0.005	No Relaxation
27.	Lead (as Pb)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ 0.002)	mg/L	0.01	No Relaxation
28.	Selenium (as Se)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ 0.001)	mg/L	0.01	No Relaxation
29.	Arsenic (as As)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ 0.005)	mg/L	0.01	No Relaxation
30.	Mercury (as Hg)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ 0.0005)	mg/L	0.001	No Relaxation
31.	Total Coliform	IS 15185:2016	Absent	Per 100ml	Shall not be detectable in any 100 ml sample	
32.	Ecoli	IS 15185:2016	Absent	Per 100ml		

*BLQ-Below Limit of Quantification, **LOQ- Limit of Quantification. Remarks:- All Parameters are within the Permissible Limits
Amendment No. 1 in Sept. 2015 (Limits of Iron & Arsenic) and Amendment No.2 in Sept. 2018(Limit of Boron & IS method of Total Coliform & E.coli)

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Test Report

Sample Number: VEL/W/02
Name & Address of Party: NTPC Ltd.
1071 Talaipalli Coal Mining Project,
Lailunga Road, Gharghoda Raigarh
Chhattisgarh (496111).

Sample Description: Ground Water Sample
Sample Location: NTPC Site Office Raikera
Sample Collected by: Vardan Envirolab Representative
Sampling and Analysis Protocol: APHA 23rd Edition 2017& IS 3025

Report No.: VEL/W/2403290002
Format No.: 7.8 F-03
Party Reference No.: 4000327460-108-1071
Date:- 05.03.2024
Reporting Date: 05/04/2024
Period of Analysis: 29/03/2024 to 05/04/2024
Receipt Date: 29/03/2024
Sampling Date: 24/03/2024
Preservation: Refrigerated
Sampling Quantity: 2.0 Ltr. + 250 ml
Sampling Type: Grab

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS 3025 (P-11)	7.55	—	6.5 to 8.5	No Relaxation
2.	Colour	IS 3025 (P-4)	7.0	Hazen	5	15
3.	Turbidity	IS 3025 (P-10)	1.0	NTU	1	5
4.	Odour	IS 3025 (P-5)	Agreeable	—	Agreeable	Agreeable
5.	Taste	IS 3025 (P-8)	Agreeable	—	Agreeable	Agreeable
6.	Total Hardness (as CaCO ₃)	IS 3025 (P-21)	71.96	mg/L	200	600
7.	Calcium (as Ca)	IS 3025 (P-40)	18.45	mg/L	75	200
8.	Alkalinity (as CaCO ₃)	IS 3025 (P-23)	12.65	mg/L	200	600
9.	Chloride (as Cl)	IS 3025 (P-32)	7.88	mg/L	250	1000
10.	Residual free Chlorine	IS:3025 (P-26)	*BLQ**LOQ-0.15	mg/L	0.2	1
11.	Cyanide (as CN)	IS 3025 (P-27)	*BLQ**LOQ-0.02	mg/L	0.05	No Relaxation
12.	Magnesium (as Mg)	APHA, 3500 Mg B, Calculation Method	6.30	mg/L	30	100
13.	Total Dissolved Solids	IS 3025 (P-16)	163.00	mg/L	500	2000
14.	Sulphate (as SO ₄)	IS 3025 (P-24)	7.12	mg/L	200	400
15.	Fluoride (as F)	APHA, 4500 F D, SPADNS Method	0.37	mg/L	1.0	1.5
16.	Nitrate (as NO ₃)	IS 3025 (P-34)	4.32	mg/L	45	No Relaxation
17.	Iron (as Fe)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	0.26	mg/L	1.0	No relaxation

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(Authorized Signatory)
05/04/2024





Test Report

Sample No.: VEL/W/02			Report No: VEL/W/2403290002			
S. No	Parameter	Test-Method	Result	Unit	Limits of IS:10500-2012	
					Requirement (Acceptable) Limit	Permissible limit in the Absence of Alternate Source
18.	Aluminium (as Al)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ-0.002)	mg/L	0.03	0.2
19.	Boron	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ-0.01)	mg/L	0.5	2.4
20.	Total Chromium (as Cr)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ-0.002)	mg/L	0.05	No Relaxation
21.	Phenolic Compounds	IS 3025 (P-43)	*BLQ(**LOQ-0.0004)	mg/L	0.001	0.002
22.	Anionic Detergents (as MBAS)	IS 3025 (P-68)	*BLQ(**LOQ-0.05)	mg/L	0.2	1.0
23.	Zinc (as Zn)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	0.47	mg/L	5	15
24.	Copper (as Cu)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ-0.002)	mg/L	0.05	1.5
25.	Manganese (as Mn)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ-0.01)	mg/L	0.1	0.3
26.	Cadmium (as Cd)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ-0.002)	mg/L	0.003	No Relaxation
27.	Lead (as Pb)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ-0.002)	mg/L	0.01	No Relaxation
28.	Selenium (as Se)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ-0.001)	mg/L	0.01	No Relaxation
29.	Arsenic (as As)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ-0.005)	mg/L	0.01	No Relaxation
30.	Mercury (as Hg)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	*BLQ(**LOQ-0.0005)	mg/L	0.001	No Relaxation
31.	Total Coliform	IS 15185:2016	Absent	Per 100ml	Shall not be detectable in any 100 ml sample	
32.	E.coli	IS 15185:2016	Absent	Per 100ml		

*BLQ-Below Limit of Quantification, **LOQ-Limit of Quantification. Remarks: All Parameters are within the Permissible Limits.

*Amendment No.1 in July 2015 (Limits of Iron & Arsenic) and Amendment No.2 in Sept. 2018 (Limit of Boron & IS method of Total Coliform & E.coli)

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- The report is valid only for the stated period.
- This test report will not be used for publicity or advertising or media purpose without prior written permission of the laboratory.
- Giving of price does not imply endorsement of the tested sample by the lab. Under no circumstances, the lab accepts any liability caused by the use or misuse of the test report.

(Authorized Signatory)



Test Report

Sample Number: VEL/W/03
Name & Address of Party: NTPC Ltd.
1071 Talaipalli Coal Mining Project,
Lailunga Road, Gharghoda Raigarh
Chhattisgarh (496111).

Sample Description: Ground Water Sample
Sample Location: Kudhurmoha Village
Sample Collected by: Vardan Envirolab Representative
Sampling and Analysis Protocol: APHA 23rd Edition 2017 & IS 3025

Report No.: VEL/W/2403290003
Format No.: 7.8 F-03
Party Reference No.: 4000327460-108-1071
Date:- 05.03.2024
Reporting Date: 05/04/2024
Period of Analysis: 29/03/2024 to 05/04/2024
Receipt Date: 29/03/2024
Sampling Date: 24/03/2024
Preservation: Refrigerated
Sampling Quantity: 2.0 Ltr + 250 ml
Sampling Type: Grab

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS 3025 (P-11)	7.10	--	6.5 to 8.5	No Relaxation
2.	Colour	IS 3025 (P-4)	8.0	Hazen	5	15
3.	Turbidity	IS 3025 (P-10)	1.0	NTU	1	5
4.	Odour	IS 3025 (P-5)	Agreeable	--	Agreeable	Agreeable
5.	Taste	IS 3025 (P-8)	Agreeable	--	Agreeable	Agreeable
6.	Total Hardness (as CaCO ₃)	IS 3025 (P-21)	12.88	mg/L	200	600
7.	Calcium (as Ca)	IS 3025 (P-40)	14.67	mg/L	75	200
8.	Alkalinity (as CaCO ₃)	IS 3025 (P-23)	35.88	mg/L	200	600
9.	Chloride (as Cl)	IS 3025 (P-32)	7.12	mg/L	250	1000
10.	Residual free Chlorine	IS:3025 (P-28)	*BLQ(*LOQ-0.15)	mg/L	0.2	1
11.	Cyanide (as CN)	IS 3025 (P-27)	*BLQ(*LOQ-0.02)	mg/L	0.05	No Relaxation
12.	Magnesium (as Mg)	APHA, 3500 Mg B, Calculation Method	8.81	mg/L	30	100
13.	Total Dissolved Solids	IS 3025 (P-16)	162.00	mg/L	500	2000
14.	Sulphate (as SO ₄)	IS 3025 (P-24)	7.12	mg/L	200	400
15.	Fluoride (as F)	APHA, 4500 F.D. SPADNS Method	0.37	mg/L	1.0	1.5
16.	Nitrate (as NO ₃)	IS 3025 (P-34)	4.36	mg/L	45	No Relaxation
17.	Iron (as Fe)	VEL/STP/ICP/W-01, Issue No.-01, 01/11/21	0.27	mg/L	1.0	No relaxation

Terms & Conditions

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Sample Description No. HECSI/AA/009/221023	
Sample Location	Naya Rampur Village
Type of Sample	Ambient Air
Date of Sampling	22/12/2023-23/12/2023
Test Parameters	As per scope of work

S.No	Parameters	Units	Results Obtained	Test Method	NAAQ Standards:2009	
1	Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	10.62	CPCB guide lines Volume 1:2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	26.48	IS: 5182 (Part - 6):2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than $10 \mu\text{m}$	$\mu\text{g}/\text{m}^3$	63.84	IS: 5182 (Part - 23):2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than $2.5 \mu\text{m}$	$\mu\text{g}/\text{m}^3$	23.14	IS: 5182 (Part - 24):2019	60 (24 hours)	40 (Annual)

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, $\mu\text{g}/\text{m}^3$ -Micrograms per cubic meter.



[Signature]
Authorized Signatory

Sample Description No. IIECSL/AA/010/221223	
Sample Location	Chimtapani
Type of Sample	Ambient Air
Date of Sampling	23/12/2023-24/12/2023
Test Parameters	As per scope of work

S.No	Parameters	Units	Results Obtained	Test Method	NAAQ Standards:2009	
1	Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	10.61	CPCB guide lines Volume 1:2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	23.77	IS: 5182 (Part - 6):2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than $10 \mu\text{m}$	$\mu\text{g}/\text{m}^3$	62.14	IS: 5182 (Part - 23):2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than $2.5 \mu\text{m}$	$\mu\text{g}/\text{m}^3$	33.79	IS: 5182 (Part - 24):2019	60 (24 hours)	40 (Annual)

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, $\mu\text{g}/\text{m}^3$ -Micrograms per cubic meter.



[Signature]
Authorized Signatory

3.3 Industrial Effluent Water Quality – Test Results

The following tables explain the test results as per the given sample description:

Sample Description No. IIECSL/WW/012/061223					
Sample Location		TLCMP West Pit			
Type of Sample		Industrial Effluent Water			
Date of Sampling		06/12/2023			
Test Parameters		As per Scope of Work			
Nature of Sampling		Spot			
S. No.	Parameters	Results	Limits (As per E.P. Act)		
			Inland Surface water	Public Sewer	Land for Irrigation
1	Colour (Hazen)	BLQ(LOQ 1.0)	-	-	-
2	Odour	Agreeable	-	-	-
3	Electrical Conductivity ($\mu\text{S}/\text{cm}$)	140.0	-	-	-
4	pH	6.78	5.5-9.0	5.5-9.0	5.5-9.0
5	Total Suspended Solids, (mg/l)	12.0	100	600	200
6	BOD (3 days at 27°C), (mg/l)	8.0	30	350	100
7	COD, (mg/l)	26.0	250	-	-
8	Oil & Grease, (mg/l)	BLQ(LOQ4.0)	10	20	10
9	Total Dissolved Solids, (mg/l)	114.0	500	1500	2100
10	Iron as Fe(mg/l)	BLQ(LOQ:0.02)	-	-	-
11	Manganese as Mn(mg/l)	BLQ(LOQ:0.05)	-	-	-
12	Chloride as Cl(mg/l)	50.33	1000	1000	600



[Signature]
Authorized Signatory

Hubert Enviro Care Systems (P) Ltd

Sample Description No. HECSL/WW/016/221223					
Sample Location		TLCMP South Pit			
Type of Sample		Industrial Effluent Water			
Date of Sampling		22/12/2023			
Test Parameters		As per Scope of Work			
Nature of Sampling		Spot			
S. No.	Parameters	Results	Limits (As per E.P. Act)		
			Inland Surface water	Public Sewer	Land for Irrigation
1	Colour (Hazen)	BLQ(LOQ 1.0)	-	-	-
2	Odour	Agreeable	-	-	-
3	Electrical Conductivity (µS/cm)	140.0	-	-	-
4	pH	6.58	5.5-9.0	5.5-9.0	5.5-9.0
5	Total Suspended Solids, (mg/L)	12.0	100	600	200
6	BOD (3 days at 27°C), (mg/L)	5.0	30	350	100
7	COD, (mg/L)	26.0	250	-	-
8	Oil & Grease, (mg/L)	BLQ(LOQ 4.0)	10	20	10
9	Total Dissolved Solids, (mg/L)	99.0	500	1500	2100
10	Iron as Fe (mg/l)	BLQ(LOQ:0.02)	-	-	-
11	Manganese as Mn (mg/l)	BLQ(LOQ:0.05)	-	-	-
12	Chloride as Cl (mg/l)	43.9	1000	1000	600



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Sample Description No..HECSL/WT/014/221223

Sample Location	Kelo Nadi
Type of Sample	Surface Water
Date of Sampling	22/12/2023
Test Parameters	As per Scope of Work
Nature of Sampling	Spot

Sl. No.	Parameters	Units	Results	Test Method	IS:10500-2012	
					Acceptable Limits	Permissible Limits
1	Beta Endosulphan	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.0004	No Relaxation
2	Endosulfansulphate	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.0004	No Relaxation
3	Chlorpyrifos	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.03	No Relaxation
4	Butachlor	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.125	No Relaxation
5	Alachor	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.02	No Relaxation
6	Atrazine	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.002	No Relaxation
7	Aldrin	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.00003	No Relaxation
8	Dieldrin	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.00003	No Relaxation
9	Monocrotophos	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007	0.001	No Relaxation
10	Ethion	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.003	No Relaxation
11	Phorate	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.002	No Relaxation
12	2,4-D	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007	0.03	No Relaxation
13	Isoproturon	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007	0.009	No Relaxation
14	Methyl Parathion	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007	0.0003	No Relaxation
15	Malathion	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007	0.190	No Relaxation
16	Nickel	mg/l	BLQ(LOQ 0.001)	USEPA Method 200.8:1994	0.02	No Relaxation
17	Ammonia as NH ₃	mg/l	BLQ(LOQ:0.02)	IS 3025(Part-34):1982	0.5	No Relaxation
18	Barium as Ba	mg/l	BLQ(LOQ 0.01)	USEPA Method 200.8:1994	0.7	No Relaxation
19	Silver as Ag	mg/l	BLQ(LOQ 0.001)	USEPA Method 200.8:1994	0.1	No Relaxation
20	Chloramines	mg/l	BLQ(LOQ:0.1)	IS 3025(Part-26):2021	4.0	No Relaxation
21	Molybdenum	mg/l	BLQ(LOQ 0.01)	USEPA Method 200.8:1994	0.07	No Relaxation
22	Polychlorinated Biphenyls	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.5:1995	0.0005	No Relaxation



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Sample Description No.. HECSL/WT/014/221223

Sample Location	Kelo Nadi
Type of Sample	Surface Water
Date of Sampling	22/12/2023
Test Parameters	As per Scope of Work
Nature of Sampling	Spot

Sl. No.	Parameters	Units	Results	Test Method	IS:10500-2012	
					Acceptable Limits	Permissible Limits
13	Trihalomethanes					
	Dibromochloromethane	mg/l	BLQ(LOQ 0.05)	APHA 6232 23rd Edn: 2017	0.1	No Relaxation
	Bromodichloromethane	mg/l	BLQ(LOQ 0.05)	APHA 6232 23rd Edn: 2017	0.06	No Relaxation
	Chloroform	mg/l	BLQ(LOQ 0.05)	APHA 6232 23rd Edn: 2017	0.2	No Relaxation
	Bromoform	mg/l	BLQ(LOQ 0.05)	APHA 6232 23rd Edn: 2017	0.1	No Relaxation
3	Cyanide	mg/l	BLQ(LOQ:0.01)	IS 3025(Part-27) Sec 1: 2021	0.05	No Relaxation
40	Polynuclear Aromatic Hydrocarbons	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.0001	No Relaxation
4	Total Arsenic	mg/l	BLQ(LOQ:0.005)	USEPA Method 200.8:1994	0.01	No Relaxation
42	Total Chromium	mg/l	BLQ(LOQ: 0.01)	USEPA Method 200.8:1994	0.05	No Relaxation

Note :-BLQ-Below the Limit of Quantification, LOQ-Limit of Quantification, NTU-Nephelometric Turbidity Unit,
mg/l-Milligram per litre.



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Sample Description No..HECSL/WT/020/221223

Sample Location	Salhepali
Type of Sample	Borewell Water
Date of Sampling	22/12/2023
Test Parameters	As per Scope of Work
Nature of Sampling	Spot

S.No.	Parameters	Units	Results	Test Method
1	pH (at 25°C)	-	7.16	IS 3025(Part - 11):2022
2	Fluoride	mg/l	0.25	IS 3025(Part - 60):2008
3	Sodium	mg/l	35.0	IS 3025 (Part 45):1993
4	Total Alkalinity as CaCO ₃	mg/l	130.0	IS 3025(Part - 23):1986
5	Colour	Hazen Unit	BLQ(LOQ:1.0)	IS 3025(Part - 4):2021
6	Turbidity	NTU	BLQ(LOQ:0.1)	IS 3025(Part - 10):1984
7	Odour	-	Agreeable	IS 3025(Part - 5):1983
8	Taste	-	Agreeable	IS 3025(Part - 8):1984
9	Total Hardness as CaCO ₃	mg/l	125.0	IS 3025(Part - 21):2009
10	Calcium as Ca	mg/l	36.34	IS 3025(Part - 40):1991
11	Chloride as Cl	mg/l	78.15	4500 Cl - BAPHA23:d Edn:2017
12	Residual free Chlorine	mg/l	BLQ(LOQ:0.1)	IS 3025(Part - 26):2021
13	Magnesium as Mg	mg/l	12.63	IS 3025(Part - 46):1994
14	Total Dissolved Solids	mg/l	345.2	IS 3025(Part-16):1984
15	Sulphate as SO ₄	mg/l	31.96	IS 3025(Part - 24):1986
16	Nitrate as NO ₃	mg/l	4.25	IS 3025(Part 34):1988
17	Iron as Fe	mg/l	BLQ(LOQ:0.02)	IS 3025(Part - 53):2003
18	Aluminium as Al	mg/l	BLQ(LOQ:0.03)	IS 3025(Part - 55):2003
19	Zinc as Zn	mg/l	BLQ(LOQ 0.1)	USEPA Method 200.8:1994
20	Chromium as Cr	mg/l	BLQ(LOQ:0.01)	USEPA Method 200.8:1994
21	Copper as Cu	mg/l	BLQ(LOQ:0.01)	USEPA Method 200.8:1994
22	Manganese as Mn	mg/l	BLQ(LOQ:0.05)	USEPA Method 200.8:1994
23	Cadmium as Cd	mg/l	BLQ(LOQ:0.001)	USEPA Method 200.8:1994
24	Lead as Pb	mg/l	BLQ(LOQ 0.005)	USEPA Method 200.8:1994
25	Selenium as Se	mg/l	BLQ(LOQ 0.005)	USEPA Method 200.8:1994
26	Arsenic as As	mg/l	BLQ(LOQ 0.005)	USEPA Method 200.8:1994



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Sample Description No.. HECSL/WT/020/221223

Sample Location	Salhepali
Type of Sample	Borewell Water
Date of Sampling	22/12/2023
Test Parameters	As per Scope of Work
Nature of Sampling	Spot

S.No.	Parameters	Units	Results	Test Method
27	Mercury as Hg	mg/l	BLQ(LOQ 0.0005)	USEPA Method 200.8:1994
28	Potassium as K	mg/l	4.0	IS 3025 (Part - 45):1993
29	Pesticides			
	Alpha HCH	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Beta HCH	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Gamma HCH (Lindane)	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Delta HCH	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	O,P-DDT	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	P,P-DDT	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	O,P-DDD	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	P,P-DDD	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	O,P-DDE	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	P,P-DDE	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Alpha Endosulfan	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Beta Endosulphan	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Endosulfansulphate	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Chlorpyrifos	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Butachlor	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Alachor	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Atrazine	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Aldrin	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Dieldrin	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Monocrotophos	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007
	Ethion	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Phorate	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	2,4-D	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007



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Sample Description No.. HEC/SL/WT/020/221223

Sample Location	Salhepali
Type of Sample	Borewell Water
Date of Sampling	22/12/2023
Test Parameters	As per Scope of Work
Nature of Sampling	Spot

S.No.	Parameters	Units	Results	Test Method
	Isoproturon	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007
	Methyl Parathion	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007
	Malathion	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007
30	Nickel	mg/l	BLQ(LOQ 0.001)	USEPA Method 200.8:1994
31	Antimony as Sb	mg/l	BLQ(LOQ:0.02)	USEPA Method 200.8:1994
32	Barium as Ba	mg/l	BLQ(LOQ 0.01)	USEPA Method 200.8:1994
33	Beryllium as Be	mg/l	BLQ(LOQ 0.01)	USEPA Method 200.8:1994
34	Cyanide	mg/l	BLQ(LOQ:0.1)	IS 3025(Part-27):Sec 1: 2021
35	Boron	mg/l	BLQ(LOQ:0.1)	IS:3025(Part-57):2021
36	Phosphate	mg/l	BLQ(LOQ:0.02)	IS:3025(Part-31):2021

Note :-BLQ-Below the Limit of Quantification, LOQ-Limit of Quantification, NTU-Nephelometric Turbidity Unit,
mg/l-Milligram per litre.



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Sample Description No. HECSL/AA/016/091123	
Sample Location	Kudurmoha
Type of Sample	Ambient Air
Date of Sampling	09/11/2023-10/11/2023
Test Parameters	As per scope of work

S.No	Parameters	Units	Results Obtained	Test Method	NAAQ Standards:2009	
1	Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	12.52	CPCB guide lines Volume 1:2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	29.51	IS: 5182 (Part - 6):2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than $10 \mu\text{m}$	$\mu\text{g}/\text{m}^3$	56.34	IS: 5182 (Part - 23):2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than $2.5 \mu\text{m}$	$\mu\text{g}/\text{m}^3$	25.96	IS: 5182 (Part - 24):2019	60 (24 hours)	40 (Annual)

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, $\mu\text{g}/\text{m}^3$ -Micrograms per cubic meter.



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Sample Description No. HECSL/AA/017/081123	
Sample Location	Chimtapani
Type of Sample	Ambient Air
Date of Sampling	08/11/2023-09/11/2023
Test Parameters	As per scope of work

S.No	Parameters	Units	Results Obtained	Test Method	NAAQ Standards:2009	
1	Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	12.54	CPCB guide lines Volume 1:2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	26.07	IS: 5182 (Part - 6):2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 μm	$\mu\text{g}/\text{m}^3$	56.93	IS: 5182 (Part - 23):2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 μm	$\mu\text{g}/\text{m}^3$	25.02	IS: 5182 (Part - 24):2019	60 (24 hours)	40 (Annual)

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, $\mu\text{g}/\text{m}^3$ -Micrograms per cubic meter.



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Sample Description No. HECSL/WW/013/071123

Sample Location		TLCMP South Pit			
Type of Sample		Industrial Effluent Water			
Date of Sampling		07/11/2023			
Test Parameters		As per Scope of Work			
Nature of Sampling		Spot			
S. No.	Parameters	Results	Limits (As per E.P. Act)		
			Inland Surface water	Public Sewer	Land for Irrigation
1	Colour (Hazen)	BLQ(LOQ 1.0)	-	-	-
2	Odour	Agreeable	-	-	-
3	Electrical Conductivity ($\mu\text{S}/\text{cm}$)	136.0	-	-	-
4	pH	6.76	5.5-9.0	5.5-9.0	5.5-9.0
5	Total Suspended Solids, (mg/L)	9.0	100	600	200
6	BOD (3 days at 27°C), (mg/L)	6.0	30	350	100
7	COD, (mg/L)	30.0	250	-	-
8	Oil & Grease, (mg/L)	BLQ(LOQ4.0)	10	20	10
9	Total Dissolved Solids, (mg/L)	90.0	500	1500	2100
10	Iron as Fe(mg/l)	BLQ(LOQ:0.02)	-	-	-
11	Manganese as Mn(mg/l)	BLQ(LOQ:0.05)	-	-	-
12	Chloride as Cl(mg/l)	39.68	1000	1000	600

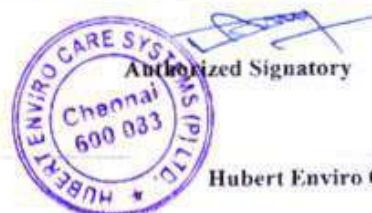



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Sample Description No.. HECSL/WT/198/241123

Sample Location	Naya Rampur
Type of Sample	Borewell Water
Date of Sampling	23/11/2023
Test Parameters	As per Scope of Work
Nature of Sampling	Spot

S.No.	Parameters	Units	Results	Test Method
1	pH (at 25°C)		7.52	IS 3025(Part - 11):2022
2	Fluoride	mg/l	0.25	IS 3025(Part - 60):2008
3	Sodium	mg/l	33.0	IS 3025 (Part 45):1993
4	Total Alkalinity as CaCO ₃	mg/l	170.0	IS 3025(Part - 23):1986
5	Colour	Hazen Unit	BLQ(LOQ:1.0)	IS 3025(Part- 4):2021
6	Turbidity	NTU	BLQ(LOQ:0.1)	IS 3025(Part- 10):1984
7	Odour	-	Agreeable	IS 3025(Part - 5):1983
8	Taste	-	Agreeable	IS 3025(Part - 8):1984
9	Total Hardness as CaCO ₃	mg/l	210.0	IS 3025(Part - 21):2009
10	Calcium as Ca	mg/l	42.08	IS 3025(Part - 40):1991
11	Chloride as Cl	mg/l	69.28	4500 Cl- BAPHA23rd Edn:2017
12	Residual free Chlorine	mg/l	BLQ(LOQ:0.1)	IS 3025(Part - 26):2021
13	Magnesium as Mg	mg/l	25.51	IS 3025(Part - 46):1994
14	Total Dissolved Solids	mg/l	341.0	IS 3025(Part-16):1984
15	Sulphate as SO ₄	mg/l	36.58	IS 3025(Part- 24):1986
16	Nitrate as NO ₃	mg/l	4.16	IS 3025(Part 34):1988
17	Iron as Fe	mg/l	BLQ(LOQ:0.02)	IS 3025(Part - 53):2003
18	Aluminium as Al	mg/l	BLQ(LOQ:0.03)	IS 3025(Part - 55):2003
19	Zinc as Zn	mg/l	BLQ(LOQ 0.1)	USEPA Method 200.8:1994
20	Chromium as Cr	mg/l	BLQ(LOQ:0.01)	USEPA Method 200.8:1994
21	Copper as Cu	mg/l	BLQ(LOQ:0.01)	USEPA Method 200.8:1994
22	Manganese as Mn	mg/l	BLQ(LOQ:0.05)	USEPA Method 200.8:1994
23	Cadmium as Cd	mg/l	BLQ(LOQ:0.001)	USEPA Method 200.8:1994
24	Lead as Pb	mg/l	BLQ(LOQ 0.005)	USEPA Method 200.8:1994
25	Selenium as Se	mg/l	BLQ(LOQ 0.005)	USEPA Method 200.8:1994
26	Arsenic as As	mg/l	BLQ(LOQ 0.005)	USEPA Method 200.8:1994



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Sample Description No.. HECSL/WT/198/241123

Sample Location	Naya Rampur
Type of Sample	Borewell Water
Date of Sampling	23/11/2023
Test Parameters	As per Scope of Work
Nature of Sampling	Spot

S.No.	Parameters	Units	Results	Test Method
27	Mercury as Hg	mg/l	BLQ(LOQ 0.0005)	USEPA Method 200.8:1994
28	Potassium as K	mg/l	4.0	IS 3025 (Part - 45):1993
29	Pesticides			
	Alpha HCH	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Beta HCH	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Gamma HCH (Lindane)	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Delta HCH	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	O,P-DDT	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	P,P-DDT	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	O,P-DDD	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	P,P-DDD	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	O,P-DDE	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	P,P-DDE	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Alpha Endosulfan	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Beta Endosulphan	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Endosulfansulphate	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Chlorpyrifos	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Butachlor	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Alachor	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Atrazine	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Aldrin	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Dieldrin	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Monocrotophos	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007
	Ethion	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Phorate	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	2,4-D	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007



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Sample Description No.. HECSL/WT/198/241123

Sample Location	Naya Rampur
Type of Sample	Borewell Water
Date of Sampling	23/11/2023
Test Parameters	As per Scope of Work
Nature of Sampling	Spot

S.No.	Parameters	Units	Results	Test Method
	Isoproturon	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007
	Methyl Parathion	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007
	Malathion	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007
30	Nickel	mg/l	BLQ(LOQ 0.001)	USEPA Method 200.8:1994
31	Antimony as Sb	mg/l	BLQ(LOQ:0.02)	USEPA Method 200.8:1994
32	Barium as Ba	mg/l	BLQ(LOQ 0.01)	USEPA Method 200.8:1994
33	Beryllium as Be	mg/l	BLQ(LOQ 0.01)	USEPA Method 200.8:1994
34	Cyanide	mg/l	BLQ(LOQ:0.1)	IS 3025(Part-27):Sec 1: 2021
35	Boron	mg/l	BLQ(LOQ:0.1)	IS:3025(Part-57):2021
36	Phosphate	mg/l	BLQ(LOQ:0.02)	IS:3025(Part-31):2021

Note :- BLQ-Below the Limit of Quantification, LOQ-Limit of Quantification, NTU-Nephelometric Turbidity Unit,
mg/l-Milligram per litre.



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Sample Description No. HECSL/AA/020/301023	
Sample Location	Kudurmoha Village
Type of Sample	Ambient Air
Date of Sampling	27/10/2023 - 28/10/2023
Test Parameters	As per scope of work

S.No	Parameters	Units	Results Obtained	Test Method	NAAQ Standards:2009	
1	Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	11.50	CPCB guide lines Volume 1/2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	22.96	IS: 5182 (Part - 6):2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 μm	$\mu\text{g}/\text{m}^3$	47.24	IS: 5182 (Part - 23):2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 μm	$\mu\text{g}/\text{m}^3$	22.82	IS: 5182 (Part - 24):2019	60 (24 hours)	40 (Annual)

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, $\mu\text{g}/\text{m}^3$ -Micrograms per cubic meter.



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Sample Description No. HECSL/AA/009/221023	
Sample Location	Naya Rampur Village
Type of Sample	Ambient Air
Date of Sampling	22/10/2023-23/10/2023
Test Parameters	As per scope of work

S.No	Parameters	Units	Results Obtained	Test Method	NAAQ Standards:2009	
1	Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	12.22	CPCB guide lines Volume 1 2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	23.69	IS: 5182 (Part - 6) 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than $10 \mu\text{m}$	$\mu\text{g}/\text{m}^3$	57.12	IS: 5182 (Part - 23) 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than $2.5 \mu\text{m}$	$\mu\text{g}/\text{m}^3$	25.68	IS: 5182 (Part - 24) 2019	60 (24 hours)	40 (Annual)

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, $\mu\text{g}/\text{m}^3$ -Micrograms per cubic meter.



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3.3 Industrial Effluent Water Quality – Test Results

The following tables explain the test results as per the given sample description:

Sample Description No. HECSL/WW/012/081023					
Sample Location		TLCMP West Pit			
Type of Sample		Industrial Effluent Water			
Date of Sampling		08/10/2023			
Test Parameters		As per Scope of Work			
Nature of Sampling		Spot			
S. No.	Parameters	Results	Limits (As per E.P. Act)		
			Inland Surface water	Public Sewer	Land for Irrigation
1	Colour (Hazen)	BLQ(LOQ 1.0)	-	-	-
2	Odour	Agreeable	-	-	-
3	Electrical Conductivity ($\mu\text{S}/\text{cm}$)	120.0	-	-	-
4	pH	6.30	5.5-9.0	5.5-9.0	5.5-9.0
5	Total Suspended Solids, (mg/l)	7.0	100	600	200
6	BOD (3 days at 27°C), (mg/l)	4.0	30	350	100
7	COD, (mg/l)	16.0	250	-	-
8	Oil & Grease, (mg/l)	BLQ(LOQ4.0)	10	20	10
9	Total Dissolved Solids, (mg/l)	88.0	500	1500	2100
10	Iron as Fe(mg/l)	BLQ(LOQ:0.02)	-	-	-
11	Manganese as Mn(mg/l)	BLQ(LOQ:0.05)	-	-	-
12	Chloride as Cl(mg/l)	40.04	1000	1000	600



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Sample Description No. HECSL/WW/016/301023					
Sample Location		TLCMP South Pit			
Type of Sample		Industrial Effluent Water			
Date of Sampling		30/10/2023			
Test Parameters		As per Scope of Work			
Nature of Sampling		Spot			
S. No.	Parameters	Results	Limits (As per E.P. Act)		
			Inland Surface water	Public Sewer	Land for Irrigation
1	Colour (Hazen)	BLQ(LOQ 1.0)	-	-	-
2	Odour	Agreeable	-	-	-
3	Electrical Conductivity ($\mu\text{S}/\text{cm}$)	129.0	-	-	-
4	pH	6.50	5.5-9.0	5.5-9.0	5.5-9.0
5	Total Suspended Solids, (mg/L)	5.0	100	600	200
6	BOD (3 days at 27°C), (mg/L)	5.0	30	350	100
7	COD, (mg/L)	8.0	250	-	-
8	Oil & Grease, (mg/L)	BLQ(LOQ4.0)	10	20	10
9	Total Dissolved Solids, (mg/L)	86.0	500	1500	2100
10	Iron as Fe(mg/l)	BLQ(LOQ:0.02)	-	-	-
11	Manganese as Mn(mg/l)	BLQ(LOQ:0.05)	-	-	-
12	Chloride as Cl(mg/l)	36.0	1000	1000	600



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4.3 Surface Water Quality – Test Results

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Sample Description No..HECSL/WT/014/301023

Sample Location	Kelo Nadi
Type of Sample	Surface Water
Date of Sampling	30/10/2023
Test Parameters	As per Scope of Work
Nature of Sampling	Spot

Sl. No.	Parameters	Units	Results	Test Method	IS:10500-2012	
					Acceptable Limits	Permissible Limits
1	pH (at 25°C)	-	7.13	IS 3025(Part-11):2022	6.5 -8.5	No Relaxation
2	Colour	Hazen Unit	5.0	IS 3025(Part-4): 2021	5	15
3	Turbidity	NTU	145.7	IS 3025(Part-10):1984	1	5
4	Odour	-	Agreeable	IS 3025(Part-5):1983	Agreeable	Agreeable
5	Taste	-	Disagreeable	IS 3025(Part-8): 1984	Agreeable	Agreeable
6	Total Hardness as CaCO ₃	mg/l	60.0	IS 3025(Part-21):2009	200	600
7	Calcium as Ca	mg/l	12.02	IS 3025(Part-40):1991	75	200
8	Total Alkalinity as CaCO ₃	mg/l	52.0	IS 3025(Part-23): 1986	200	600
9	Chloride as Cl	mg/l	17.81	4500 Cl ⁻ —BAPHA 23rd Edn-2017	250	1000
10	Residual free Chlorine	mg/l	BLQ(LOQ:0.1)	IS 3025(Part-26):2021	0.2	1
11	Magnesium as Mg	mg/l	7.29	IS 3025(Part-46):1994	30	100
12	Total Dissolved Solids	mg/l	115.0	IS 3025(Part-16): 1984	500	2000
13	Sulphate as SO ₄	mg/l	19.61	IS 3025(Part-24):Sec 1:2022	200	400
14	Fluoride	mg/l	BLQ(LOQ:0.2)	IS 3025(Part-60):2008	1.0	1.5
15	Nitrate as NO ₃	mg/l	2.93	IS 3025 (Part 34): Sec 3:2021	45	No Relaxation
16	Iron as Fe	mg/l	1.69	IS 3025(Part-53):2003	1.0	No Relaxation
17	Aluminium as Al	mg/l	BLQ(LOQ:0.03)	IS 3025(Part-55):2003	0.03	0.2
18	Boron as B	mg/l	BLQ(LOQ:0.1)	IS 3025(Part-57):2021	0.5	1.0
19	Phenolic compounds as CaSO ₃ H	mg/l	BLQ(LOQ:0.001)	APHA 23rd edition (Method 5530C) 2017	0.001	0.002
20	Nonionic Detergents as MBAS	mg/l	BLQ(LOQ:0.05)	Annex K of IS13428-2005	0.2	1.0



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Sample Description No..HECSL/WT/014/301023

Sample Location	Kelo Nadi
Type of Sample	Surface Water
Date of Sampling	30.10.2023
Test Parameters	As per Scope of Work
Mode of Sampling	Spot

Sl. No.	Parameters	Units	Results	Test Method	IS:10500-2012	
					Acceptable Limits	Permissible Limits
21	Zinc as Zn	mg/l	BLQ(LOQ 0.1)	USEPA Method 200.8:1994	5	15
22	Copper as Cu	mg/l	BLQ(LOQ 0.01)	USEPA Method 200.8:1994	0.05	1.5
23	Manganese as Mn	mg/l	BLQ(LOQ:0.05)	USEPA Method 200.8:1994	0.1	0.3
24	Cadmium as Cd	mg/l	BLQ(LOQ0.001)	USEPA Method 200.8:1994	0.003	No Relaxation
25	Lead as Pb	mg/l	BLQ(LOQ 0.005)	USEPA Method 200.8:1994	0.01	No Relaxation
26	Selenium as Se	mg/l	BLQ(LOQ 0.005)	USEPA Method 200.8:1994	0.01	No Relaxation
27	Mercury as Hg	mg/l	BLQ(LOQ 0.0005)	USEPA Method 200.8:1994	0.001	No Relaxation
28	Mineral Oil	mg/l	BLQ(LOQ 0.5)	IS 3025(Part39):1991	0.5	No Relaxation
29	Sulphide as S2-	mg/l	BLQ(LOQ:0.04)	IS 3025 (Part-29):1986	0.05	No Relaxation
30. Pesticides						
	Alpha HCH	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.00001	No Relaxation
	Beta HCH	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.00004	No Relaxation
	Gamma HCH (Lindane)	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.002	No Relaxation
	Delta HCH	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.00004	No Relaxation
	O,P-DDT	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.001	No Relaxation
	P,P-DDT	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.001	No Relaxation
	O,P-DDD	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.001	No Relaxation
	P,P-DDD	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.001	No Relaxation
	O,P-DDE	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.001	No Relaxation
	P,P-DDE	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.001	No Relaxation
	Alpha Endosulfan	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.0004	No Relaxation



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Sample Description No..HECSL/WT/014/301023

Sample Location	Kelo Nadi
Type of Sample	Surface Water
Date of Sampling	30.10.2023
Test Parameters	As per Scope of Work
Nature of Sampling	Spot

Parameters	Units	Results	Test Method	IS:10500-2012	
				Acceptable Limits	Permissible Limits
Beta Endosulphan	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.0004	No Relaxation
Endosulfansulphate	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.0004	No Relaxation
Chlorpyrifos	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.03	No Relaxation
Butochlor	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.125	No Relaxation
Alachlor	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.02	No Relaxation
Arazine	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.002	No Relaxation
Aldrin	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.00003	No Relaxation
Dieldrin	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.00003	No Relaxation
Monocrotophos	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007	0.001	No Relaxation
Ethion	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.003	No Relaxation
Phorate	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.002	No Relaxation
2,4-D	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007	0.03	No Relaxation
Isoproturon	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007	0.009	No Relaxation
Methyl Parathion	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007	0.0003	No Relaxation
Melathion	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007	0.190	No Relaxation
Nickel	mg/l	BLQ(LOQ 0.001)	USEPA Method 200.8:1994	0.02	No Relaxation
Ammonia as NH ₃	mg/l	BLQ(LOQ:0.02)	IS 3025(Part 14):1982	0.5	No Relaxation
Barium as Ba	mg/l	BLQ(LOQ 0.01)	USEPA Method 200.8:1994	0.7	No Relaxation
Silver as Ag	mg/l	BLQ(LOQ 0.001)	USEPA Method 200.8:1994	0.1	No Relaxation
Chloramines	mg/l	BLQ(LOQ:0.1)	IS 3025(Part 26):2021	4.0	No Relaxation
Molybdenum	mg/l	BLQ(LOQ 0.01)	USEPA Method 200.8:1994	0.07	No Relaxation
Polychlorinated Biphenyls	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.5:1995	0.0005	No Relaxation



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Sample Description No., HECSL/WT/014/301023

Sample Location	Kelo Nadi
Type of Sample	Surface Water
Date of Sampling	30/10/2023
Test Parameters	As per Scope of Work
Nature of Sampling	Spot

Parameters	Units	Results	Test Method	IS:10500-2012	
				Acceptable Limits	Permissible Limits
Trihalomethanes					
Dibromochloromethane	mg/l	BLQ(LOQ 0.05)	APHA 6232 23rd Edn. 2017	0.1	No Relaxation
Bromodichloromethane	mg/l	BLQ(LOQ 0.05)	APHA 6232 23rd Edn. 2017	0.06	No Relaxation
Chloroform	mg/l	BLQ(LOQ 0.05)	APHA 6232 23rd Edn. 2017	0.2	No Relaxation
Bromoform	mg/l	BLQ(LOQ 0.05)	APHA 6232 23rd Edn. 2017	0.1	No Relaxation
Cyanide	mg/l	BLQ(LOQ:0.01)	IS 3025(Part-27), Sec. 1-2021	0.05	No Relaxation
Polynuclear Aromatic Hydrocarbons	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995	0.0001	No Relaxation
Total Arsenic	mg/l	BLQ(LOQ:0.005)	USEPA Method 200.8:1994	0.01	No Relaxation
Total Chromium	mg/l	BLQ(LOQ: 0.01)	USEPA Method 200.8:1994	0.05	No Relaxation

Note :-BLQ-Below the Limit of Quantification, LOQ-Limit of Quantification, NTU-Nephelometric Turbidity Unit, mg/l-Milligram per litre.



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Sample Description No.. HECSL/WT/019/301023

Sample Location	Naya Rampur
Type of Sample	Borewell Water
Date of Sampling	30/10/2023
Test Parameters	As per Scope of Work
Nature of Sampling	Spot

No.	Parameters	Units	Results	Test Method
1	pH (at 25°C)	-	7.39	IS 3025(Part - 11):2022
2	Fluoride	mg/l	0.27	IS 3025(Part - 60):2008
3	Sodium	mg/l	36.0	IS 3025 (Part 45):1993
4	Total Alkalinity as CaCO ₃	mg/l	160.0	IS 3025(Part - 23):1986
5	Colour	Hazen Unit	BLQ(LOQ:1.0)	IS 3025(Part - 4):2021
6	Turbidity	NTU	BLQ(LOQ:0.1)	IS 3025(Part - 10):1984
7	Odour	-	Agreeable	IS 3025(Part - 5):1983
8	Taste	-	Agreeable	IS 3025(Part - 8):1984
9	Total Hardness as CaCO ₃	mg/l	170.0	IS 3025(Part - 21):2009
10	Calcium as Ca	mg/l	36.07	IS 3025(Part - 40):1991
11	Chloride as Cl	mg/l	71.75	4500 Cl— BAPHA 23rd Edn:2017
12	Residual free Chlorine	mg/l	BLQ(LOQ:0.1)	IS 3025(Part - 26):2021
13	Magnesium as Mg	mg/l	17.01	IS 3025(Part - 46):1994
14	Total Dissolved Solids	mg/l	321.0	IS 3025(Part - 16):1984
15	Sulphate as SO ₄	mg/l	33.64	IS 3025(Part - 24):1986
16	Nitrate as NO ₃	mg/l	3.95	IS 3025(Part 34):1988
17	Iron as Fe	mg/l	BLQ(LOQ:0.02)	IS 3025(Part - 53):2003
18	Aluminium as Al	mg/l	BLQ(LOQ:0.03)	IS 3025(Part - 55):2003
19	Zinc as Zn	mg/l	BLQ(LOQ:0.1)	USEPA Method 200.8:1994
20	Chromium as Cr	mg/l	BLQ(LOQ:0.01)	USEPA Method 200.8:1994
21	Copper as Cu	mg/l	BLQ(LOQ:0.01)	USEPA Method 200.8:1994
22	Manganese as Mn	mg/l	BLQ(LOQ:0.05)	USEPA Method 200.8:1994
23	Cadmium as Cd	mg/l	BLQ(LOQ:0.001)	USEPA Method 200.8:1994
24	Lead as Pb	mg/l	BLQ(LOQ:0.005)	USEPA Method 200.8:1994
25	Selenium as Se	mg/l	BLQ(LOQ:0.005)	USEPA Method 200.8:1994
26	Arsenic as As	mg/l	BLQ(LOQ:0.005)	USEPA Method 200.8:1994



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Sample Description No.. HECSL/WT/019/301023

Sample Location	Naya Rampur
Type of Sample	Borewell Water
Date of Sampling	30/10/2023
Test Parameters	As per Scope of Work
Nature of Sampling	Spot

S.No.	Parameters	Units	Results	Test Method
1	Mercury as Hg	mg/l	BLQ(LOQ 0.0005)	USEPA Method 200.8:1994
2	Potassium as K	mg/l	4.0	IS 3025 (Part - 45):1993
3	Pesticides			
	Alpha HCH	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Beta HCH	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Gamma HCH (Lindane)	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Delta HCH	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	O,P-DDT	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	P,P-DDT	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	O,P-DDD	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	P,P-DDD	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	O,P-DDE	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	P,P-DDE	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Alpha Endosulfan	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Beta Endosulphan	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Endosulfansulphate	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Chlorpyrifos	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Butachlor	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Alachor	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Atrazine	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Aldrin	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Dieldrin	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Monocrotophos	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007
	Ethion	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	Phorate	mg/l	BLQ(LOQ 0.00001)	USEPA Method 525.2:1995
	2,4-D	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007



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Sample Description No.. HECSL/WT/019/301023

Sample Location	Naya Rampur
Type of Sample	Borewell Water
Date of Sampling	30-10-2023
Test Parameters	As per Scope of Work
Nature of Sampling	Spot

S.No.	Parameters	Units	Results	Test Method
	Isoproturon	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007
	Methyl Parathion	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007
	Malathion	mg/l	BLQ(LOQ 0.00001)	USEPA Method 8321B:2007
30	Nickel	mg/l	BLQ(LOQ 0.001)	USEPA Method 200.8:1994
31	Antimony as Sb	mg/l	BLQ(LOQ 0.02)	USEPA Method 200.8:1994
32	Barium as Ba	mg/l	BLQ(LOQ 0.01)	USEPA Method 200.8:1994
33	Beryllium as Be	mg/l	BLQ(LOQ 0.01)	USEPA Method 200.8:1994
34	Cyanide	mg/l	BLQ(LOQ 0.1)	IS:3025(Part-27):2021
35	Boron	mg/l	BLQ(LOQ 0.1)	IS:3025(Part-57):2021
36	Phosphate	mg/l	BLQ(LOQ 0.02)	IS:3025(Part-31):2021

Note :-BLQ-Below the Limit of Quantification. LOQ-Limit of Quantification, NTU-Nephelometric Turbidity Unit,
mg/l-Milligrams per litre.



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CHAPTER 4

**“Environment Clearance Granted to
Talaipalli Coal Mining Project, NTPC Ltd.”**

NoJ-11015/279/2009 - IA.II(M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
C.G.O.Complex, Lodi Road New
New Delhi -110003.
Dated: 02 January, 2013

To

The General Manager,
M/s NTPC,
Engineering complex,
A-8A, Sector-24,
NOIDA - 201301.

Sub: Talaipalli Coalmine (OC at 18 MTPA capacity and UG at 0.72 MTPA capacity of a total project area of 2349.35 ha) of M/s NTPC located in villages Talaipalli, Bichinara, Nayarampur, Kudurmoha, Raikera, Chotiguda, Ajiigarh, & Salehpali, Tehsil Gharghoda, district Raigarh, Chhattisgarh - Environmental Clearance - reg.

Sir,

This is with reference to letter No. CC:ESE:7011:2009:GEN: dated 25.09.2009 along with application for Terms of Reference (TOR) for a new Talaipalli Opencast-cum-Underground Coalmine and this Ministry's letter dated 23.11.2009 granting the TOR and your letter No. CC:ESE:7011:2009:GEN: dated 30.03.2011 for environmental clearance and subsequent letters dated 20.09.2011, 21.10.2011, and 22.02.2012 on the aforesaid subject. The Ministry of Environment & Forests has considered the application. It is noted that the proposal is for opening a new Talaipalli Opencast-cum-Underground Coalmine project of 18.72 MTPA production capacity in a total project area of 2349.35 ha located in Tehsil Gharghoda in district Raigarh, Chhattisgarh. The mine is captive to the company's Lara Super Thermal Power Project (4000MW) located at a distance of 60km. There are no National Parks, WL Sanctuaries, Biosphere Reserves within the 10 km study area. There are 5 blocks of Reserve Forest (RFs) Silot, Rai, Tolgi East, Tolgi West, Deodongri found within 10 Km radius of study area. A number of endangered species such as elephant, bear and leopard are reported in the study area. The total project area of 2349.35 ha includes ML of an area of 2113 ha and an area of 236.35 ha of land outside the ML which is required for colony, R&R colony and MGR. The MGR route passes through an elephant migratory corridor. Of the total project area, 1320.99 ha is private land, 261.97 ha is Govt. land, 766.393 ha is forestland. Forestry clearance has been obtained vide letter of the FC Division no. 8-18/2012-FC dated 5th November, 2012. The break-up of land use for the project is given below:

<u>S.No.</u>	<u>Particular</u>	<u>Private</u>	<u>Govt.</u>	<u>Forest</u>	<u>Total</u>
1	Mine lease area	1200.90	202.00	710.10	2113
2	Colony	6.317	30.25	-	36.567
3	R&R Colony	-	19.22	-	19.22
4	MGR corridor	113.77	10.50	56.293	180.563
	Total	1320.987	261.97	766.393	2349.35

1.2 River Kelo flows 60m along the eastern boundary of the ML and Pajhar nala at 3.5 km. A number of first order/second order streams originate from the ML. Kurra nala is a seasonal nala originating from the northern side of the block and passes through the block and joins River Kelo. It is proposed to divert Kurra nala flowing through the ML into a Channel (diversion canal) which would be constructed along the northern side of the block and ultimately join River Kelo. A detailed Area Drainage Study comprising run off characterization, flood frequency analysis, etc has been carried out. Based on
EC-Talaipalli

the study, the diversion channel has been designed taking into consideration the realignment of the channel with the River to its original path. The Channel Diversion Plan has been submitted to the Flood & Irrigation Dept., Govt. of Chhattisgarh.

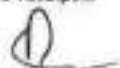
1.3 Of the total ML area, 2079.34 ha is for the mine, 26 ha is for infrastructure and an embankment proposed along River Kelo and 7.66 ha is for green belt. It is proposed to leave a 60m wide forestland between River Kelo and quarry area undisturbed due to safety reasons as a study carried out has indicated that the exposure of coal seam left out after mining is prone to catching fire. Grade of coal is E-G with ash content upto 52%. Mining technology for OC mining would be shovel-dumper and Board & Pillar and Continuous Miner for UG mine. There are 21 coal horizons and it would be unsafe to work the top seams by UG mining. The lower 4 seams are planned by UG mining. UG mining would commence 20 years after commencement of OC mining. The parting between OC and OG mining is about 33m-51 m. Ultimate working depth is 404m bgl. The total estimated OB generation from the mine is 3777.07 Mm³, of which 264.52 Mm³ of OB would be stored in external OB dump of 446 ha in northern side of 90m from ground level. During the initial years, 264.52 Mm³ of OB would be temporarily accommodated in temporary external dumps of 60m-90m height in coal bearing area of 446 ha within the mine lease, which would be re-handled during the 5th year of mine operation when backfilling begins and continues upto 20th year and concurrent backfilling would implemented beyond 20th year and until 52nd year of mine operations. As a result, land acquisition of 446 ha of land for external OB dump is not required. At the post mining stage, there would be no permanent external dump outside the coal block. In addition, 80 ha of an isolated patch of backfilled area raised to a height of 60m would be re-handled back into the mine void and the height of the internal dump would be match with nearby topography/ground level. Of the total ML area of 2079.34 ha, 1848.38 ha would be simultaneously backfilled and reclaimed with plantation and the balance 230.96 ha would be left as a void and final void depth of 60m by backfilling into the final pit void.

1.4 The total estimated water requirement of the project is 2390 m³/d, of which 750m³/d is for domestic use and 1640 m³/d is for the mine operation. A detailed hydrological study of the area has been carried out and the falls under "Safe Category" as far as ground water development is concerned. Water table is in the range of 6.10-7.20m bgl (pre-monsoon) and 2.9-12.3 m bgl (post-monsoon). Confined aquifer is at the depth of 200m. Water harvesting measures and monitoring of ground water and surface waters would be implemented.

1.5 A Conservation Plan for endangered wildlife of the area was drawn and submitted to the State Government. The Wild life conservation plan includes provision for the safe passage/corridor for the elephants, creation of underpass along elevated MGR, with passageway for free movement of herds of elephants, reducing speeds of train in elephant passages, development of plantation of fodder, habitat restoration. A budgetary provision of Rs 5 crores has been made for wild life conservation. The Plan for afforestation has been submitted to Chhattisgarh State Forest Department as part of the diversion proposal of 1532 acre land in Dharamanjai garh and Raigarh at the cost of Rs 13.75 crores. An estimated 56, 727 TPD of coal would be transported through an MGR system of 180.54 ha of land upto Kotaraliya Railway Siding to the linked Lara Super Thermal Power Station at a distance of 60km. The MGR would pass through an elephant migratory corridor. It is proposed to create underpass along MGR for the safe passage of elephants as overhead multiple tubed conveyors covering such a long distance is not technoeconomically feasible. However, adequate number of over/under passes would be constructed along the MGR route, visited/reported/inhabited by elephants in the area in consultation with PCCF (WL), and at least 5 under/over passes shall be created particularly along the 7km stretch of the 70km MGR route, which forms a part of the elephant migratory corridor. In the rest of the route wherever required, similar under/overpasses shall be created. A detailed study has been initiated.

1.6 The project involves R&R of 1595 PAFs, which includes 635 land and homestead losers and 960 land losers. R&R Plan has been prepared after a detailed survey was carried out and after 10 VDAC meetings and Gram Sabhas and meetings with DC, for a total cost of Rs 677 crores, of which rehabilitation plan is for Rs 214 crores. CSR plan has been prepared for Rs 40 crores. Since the project falls in a notified tribal area, a Plan for Tribal Development for Rs 5 crores has been prepared. Capital costs for EMP is Rs 1018.80 lakhs with an annual recurring budget of Rs 5.66/T of coal. Public Hearing was held on 10.12.2010. Life of the OC mine is 52 years and UG mine is 30 years. Total capital cost of the project is Rs 6000 crores.

2. The Ministry of Environment & Forests hereby accords environmental clearance for the above mentioned Talaipalli Coalmine (OC at 18 MTPA capacity and UG at 0.72 MTPA capacity of a total project area of 2349.35 ha) of M/s National Thermal Power Corporation



(NTPC) Ltd. located in Tehsil Gharghoda, district Raigarh, Chhattisgarh under the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto and Circulars there under subject to the compliance of the terms and conditions mentioned below:

A. Specific Conditions

- i. The maximum production capacity shall not exceed 18 MTPA for opencast mining and 0.72 MTPA for underground mining.
- ii. The Plan for diversion of Kurra nala shall be modified to include a major stream flowing through the ML towards the north side. The diversion channel shall be designed taking into consideration the realignment of the channel to join with River Kelo to its original path. Approval of the Flood & Irrigation Department, Govt. Of Chhattisgarh shall be obtained for plan for diversion of Kurra Nala and the stream. The proposed embankment along the diverted channel shall be stabilised with plantation using a mix of native species. Stone pitching shall be done towards forest area.
- iii. Top soil of an estimated 25.32 Mm³ generated during initial 9 years shall be stacked properly within the mineralised area with proper slope at earmarked site(s) and shall be used concurrently for reclamation and development of green belt within a year of its generation.
- iv. During the initial 4 years of opencast mining, an estimated 264.52 Mm³ of OB generated to be accommodated in temporary external dumps of 60m height in a coal bearing area of 446 ha within the mine lease, shall be re-handled during the 5th year of mine operation when backfilling begins. In addition, 80 ha of an isolated patch of ext. OB dump shall also be rehandled back into the mine void. At the post mining stage, there shall be no permanent external dump outside the coal block.
- v. Reclamation of areas after rehandling of temporary external OB dumps and backfilled decoaled voids and habitat restoration of the mined out area shall be carried out by developing a 3-tier native forest ecosystem using native species found in the pre-mining forest ecosystem. A nursery of native species found in pre-mining eco-system shall be developed for reclamation and for habitat eco-restoration. Afforestation plan shall also include reintroduction of species on which the tribals are dependent for minor forest produce for their livelihoods.
- vi. Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilised for watering the mine area, roads, green belt development, etc. The drains shall be regularly desilted and maintained properly.
- vii. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also be provided for adequate retention period to allow proper settling of silt material.
- viii. Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data.
- ix. No groundwater shall be used for the mine operations except for drinking purpose and during the initial years of mine operation. Any additional water requirement envisaged for mine operations shall be obtained from mine pit water, by recycle/reuse to the maximum extent and from rainwater harvesting measures.
- x. Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality including TDS and TSS in May and in monsoon. Data thus collected shall be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring.
- xi. A Plan for recharging and monitoring of ground water in the impact zone and implemented in consultation with the State Ground Water Board, which includes creation of ponds and wells in impact zone and check dams in River Kelo, Pajhar Nadi in consultation with concerned Government Dept. A suitable scheme for supply of drinking water to 8 surrounding villages shall also be prepared in consultation with State Government, particularly where village wells go dry in the impact zone.
- xii. ETP shall also be provided for workshop, and CHP. Effluents shall be treated to conform to

prescribed standards, particularly for pH and TSS in case of discharge into any watercourse within or outside the lease.

- xiii. An STP shall be provided for the township/colony to treat the domestic effluents to prescribed standards and for their reuse in project activities and in development of green belt in the colony.
- xiv. Industrial wastewater (workshop and wastewater) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed for treatment of workshop effluents.
- xv. No fly ash from the linked TPPs shall be used in backfilling of the decoaled void without undertaking an environmental feasibility study and without prior approval of this Ministry under EIA Notification, 2006.
- xvi. Controlled blasting shall be practiced only during daytime with use of delay electric detonators. Drills shall be wet operated. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.
- xvii. Crushers at the CHP shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc. Hoppers of the coal crushing unit shall be fitted with high efficiency bag filters and mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points, stockyards.
- xviii. All approach roads shall be black topped and swept regularly with mechanical sweepers and internal roads and major haul roads shall be black topped or concreted and provided with mobile and fixed type sprinklers. A 3-tier avenue plantation using local species shall be developed along the main roads, and approach roads to the mine. In addition, green belt shall be developed using local species all along the periphery of the site, along the areas such as crushing unit, and stockyards, which shall be properly maintained. Water sprinkling arrangements shall be established and functional during transfer and loading of coal.
- xix. A Conservation Plan for the endangered faunal species reported in the study area and for the medicinal plants found in and around the project area shall be implemented in consultation with the State Forest and Wildlife Departments. An in-situ conservatory of species found in the pre-mining original ecosystem and rare and endangered plant species including medicinal plants species found in the study area during pre-mining phase shall be established and species reintroduced during mine reclamation and habitat restoration. The Conservation Plan shall include conservation of areas within the project boundary to be left undisturbed as free passageways for the wildlife to reach the forests in the study area. The Conservation Plan shall also include activities of mine reclamation and wildlife habitat restoration of mined out areas within the core zone and project area using native species representative of the forest ecosystem during the pre-mining phase. Separate funds of Rs. 5 crores as capital costs shall be earmarked for implementation of the various activities under the Conservation Plan. The status of the Conservation Plan including expenditure (capital and revenue) shall be reported once a year as part of the monitoring report to this Ministry and to the MOEF Regional Office, Bhopal. The proponent shall also participate in the Regional Wildlife Conservation Plan (RWLCP) for the study area prepared by the State Wildlife Dept. and in addition to the above funds shall also contribute financially for implementation of the RWLCP. Habitat development/conservation measures along the migratory route/habitats of elephants found/visiting the area shall form a part of the Regional Action Plan.
- xx. The proponent shall ensure that the 70 km stretch of MGR which includes a part of the elephant migratory corridor provides safe passageway for the elephants, the number and locations of which shall be finalised after a detailed study in consultation with the State Forest and Wildlife Departments, Govt. of Chhattisgarh and inputs from Dr Raman Sukumar, Professor and Chairman, Centre for Ecological Sciences, Indian Institute of Science, Bangalore. Adequate number of over/under passes shall be constructed along the MGR route, visited/reported/inhabited by elephants in the area in consultation with PCCF (WL), and atleast 5 under/over passes shall be created particularly along the 7km stretch of the 70km MGR route, which forms a part of the elephant migratory corridor. In the rest of the route wherever required, similar under/overpasses shall be created. The WL Plan shall include measures for awareness for conservation of wildlife, training to the drivers of MGR for use of siren, horn, fire crackers to move animals away from railway tracks, avoiding use of MGR during time of maximum animal movement.

- xxi. An Environment Cell/Panel of experts consisting of WL expert, ecologist, sociologist and hydrology shall be created to verse the implementation of the WL Conservation Plan and Plan for Habitat/eco-restoration. No cacti species shall be sued in reclamation and eco-restoration of the mine.
- xxii. Area brought under afforestation shall be not less than 1876.04 ha which, includes, backfilled area (1848.38 ha), which includes area reclaimed after re-handling of temporary external OB dumps and topsoil dump, embankment (15 ha) along ML boundary, infrastructure area (5 ha), along roads, green belt (7.66ha), and in undisturbed areas/safety zone and in colony outside the ML by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.
- xxiii. A Progressive Mine Closure Plan shall be implemented by reclamation of 1848.38 ha of the total quarry area of 2079.34 ha by backfilling and reclamation and by afforestation, to create a 3-storey forest ecosystem, by planting native species in consultation with the local DFO/Agriculture Department/relevant institution. The density of the trees shall be around 2500 plants per ha. The balance 230.96 ha void left as a water body of a max. depth of 60m which shall be gently sloped and the upper benches stabilised with grass and plantation.
- xxiv. R&R Plan prepared for the 8 villages in the core zone - Talaipalii, Bichinara, Nayarampur, Kudurmoha, Raikera, Chotiguda, Ajigarh and Salehpali with 635 land and homestead losers and 960 land losers shall be implemented within an agreed time-frame of 3-5 years and shall be not less than the norms laid down/approval by the State Government and shall not be inferior than that in the National R&R Policy and shall be completed within the agreed time-frame. R&R shall include specific income generation schemes and setting up of SHGs and cooperatives, and activities and assistance under the Tribal development Plan for the tribals being displaced and provision of annuities for the under-privileged sections. The provision also includes a Corpus Fund for the maintenance of the Resettlement site. The status of the implementation of the R&R Plan along with financial status of the activities undertaken shall be uploaded on the company website and updated at least once in a year.
- xxv. The Project cost shall include a Tribal Development Plan for a minimum costs of Rs 10 crores. The activities for Tribal Development under CSR and R&R shall be dovetailed with the District Tribal Welfare Plan being prepared annually by the State Government which should be used to prepare and dovetail the activities. Training/capacity development and skill development shall form an integral part of CSR and R&R Action Plan, wherein project affected youth are given training in it is for enhancing their skill for direct/indirect employment. A colony for outsourced personnel shall be provided. The R&R Action Plan shall also provide for annuities to vulnerable persons of the society as per R&R Policy of Govt. of Chhattisgarh. A female social scientist shall also be included for implementation of R&R and CSR.
- xxvi. The proponent shall implement activities undertaken under CSR for neighboring villages in the study area for the life of the project. The activities shall include establishing/strengthening of schools roads, drainage and sanitation, community halls, drinking water in the villages and skill development of the local communities. The CSR Plan shall also include Tribal Welfare activities for the tribals and their skill development for alternate livelihood and addressing issues such as availability of minor forest produce for the tribal/local communities. The details of the activities and expenditure made thereon in each of the villages taken up under CSR shall be displayed on the company's website and updated at least once in six months. The socio-economic development of the villages shall be monitored over the life of the project using indices such as the UNDP Human Development Index.
- xxvii. For monitoring land use pattern and for post mining land use, a time series of landuse maps, based on satellite imagery (on a scale of 1: 5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for anyone particular season which is consistent in the time series), and the report submitted to MOEF and its Regional office at Bhopal.
- xxviii. A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests for approval 5 years in advance of final mine closure for approval. The Plan shall include habitat restoration of the project area consisting of a 3storey forest ecosystem, using a mix of native species found in the pre-mining ecosystem in the study area.
- xxix. The approved Mining Plan shall be modified to integrate Specific Conditions No. (iv), (v) and (xxiii) and approval obtained prior to start of mining operations.

B. General Conditions

- i. No change in technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.
- ii. No change in the calendar plan including quantum of mineral coal and waste being produced shall be made.
- iii. Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring PM_{10} , $PM_{2.5}$, SO_2 and NO_x . Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, in the particulate matter etc. shall be carried out at least once in six months.
- iv. Data on ambient air quality (PM_{10} , $PM_{2.5}$, SO_2 and NO_x) and heavy metals such as Hg, As, Ni, Cr, etc) and other monitoring data shall be regularly submitted to the Ministry including its Regional Office at Bhopal and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognised under the EP Rules, 1986 shall be furnished as part of the compliance report.
- v. Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.
- vi. Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, and treated so as to conform to the standards including for heavy metals before discharge prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.
- vii. Vehicular emissions shall be kept under control and regularly monitored.
- viii. Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analysed through a laboratory recognised under EP Rules, 1986.
- ix. Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.

Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed.
- x. A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company.
- xi. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its Regional Office at Bhopal.
- xii. The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the ministry of Environment & Forests at <http://envfor.nic.in>
- xiii. A copy of the environmental clearance letter shall be marked to concerned Panchayat/Zila Parishad, Municipal Corporation or Urban Local Body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on the company's website.
- xiv. A copy of the clearance letter shall be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Centre and Collector's Office/Tehsildar's Office for 30 days.



- xv. The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) and critical pollutants such as PM10, PM2.5, SO2 and NOx (ambient and stack if any) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mines office and in corporate office and on the company's website.
 - xvi. The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the MOEF, the respective Zonal offices of CPCB and the SPCB.
 - xvii. The Regional Office of this Ministry located at Bhopal shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/information/monitoring reports.
 - xviii. The environmental statement for each financial year ending 31st March in Form-V 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 uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MOEF by E-mail.
3. The Ministry or any other competent authority may stipulate any further condition for environmental protection.
 4. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986.
 5. The above conditions will be enforced *inter-alia*, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.


 (Dr. Manoranjan Hota)
 Director

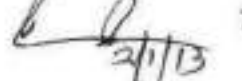
Copy to:

1. Secretary, Ministry of Coal, New Delhi.
2. DG (F) and Special Secretary, Ministry of Environment and Forests, New Delhi.
3. Secretary, Department of Environment & Forests, Government of Chhattisgarh, Secretariat, Raipur.
4. Principal Chief Conservator of Forests and CWLW, Govt. of Chhattisgarh, Raipur.
5. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, E-2/240 Area Colony, Bhopal - 462016.
6. Chairman, Chhattisgarh State Environment Conservation Board, 1-Tilak Nagar, Shiv Mandir Chowk, Main Road, Avanti Vihar, RAIPUR-Chhattisgarh - 492001.
7. Chairman, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110032.
8. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
9. District Collector, Raigarh, Government of Chhattisgarh.
10. Monitoring File 11. Guard File 12. Record File.


 (Dr. Manoranjan Hota)
 Director

EC-Tailaipalli

HOD, Env. Engrg. : For information please.


 2/1/13

Government of India
Ministry of Environment, Forest & Climate Change

Indira Paryavaran Bhawan
Aliganj Road,
Jor Bagh, New Delhi

No. J-11015/279/2009-IA-II(M) Pt. file

Dated: 28th October, 2015

To,

The Managing Director,
M/s NTPC Limited,
NTPC Bhawan, Scope Complex,
7, Institutional Area, Lodhi Road,
New Delhi -110003
Email: partham@ntpc.co.in

Sub: Revalidation/Transfer of Environmental Clearance of Talaipalli Coalmine (OC at 18 MTPA capacity and UG at 0.72 MTPA capacity) in a project area of 2349.35 ha) in villages Talaipalli, Bichinara, Nayarampur, Kudurmoha, Raikera, Chotiguda, Ajiigarh, & Salehpali, Tehsil Gharghoda, District Raigarh (Chhattisgrah) – reg.

The Ministry of Environment, Forest and Climate Change (MoEFCC), in accordance with the Environmental Impact Assessment (EIA) Notification, 2006 and subsequent amendment thereto had accorded Environmental Clearance (EC) for **Talaipalli Coalmine (OC at 18 MTPA capacity and UG at 0.72 MTPA capacity) in a project area of 2349.35 ha) in villages Talaipalli, Bichinara, Nayarampur, Kudurmoha, Raikera, Chotiguda, Ajiigarh, & Salehpali, Tehsil Gharghoda, District Raigarh (Chhattisgrah) to M/s National Thermal Power Corporation Limited** subject to compliance of terms and conditions stipulated therein vide letter No. J-11015/279/2009-IA.II (M) dated 2nd January, 2013.

WHEREAS the Hon'ble Supreme Court of India vide judgment dated 25th August, 2014 read with the order dated 24th September, 2014 has cancelled the allocation of 204 coal blocks and issued directions with regard to such coal blocks wherein the Central Government in pursuance of the said directions has to take immediate action to implement the said order.



WHEREAS in pursuance of the judgment and order of the Hon'ble Supreme Court, the nominated authority has, in accordance with provisions of the Coal Mines (Special Provisions) Second Ordinance, 2014 and the Coal Mines (Special Provisions) Rules, 2014 conducted the auction of the mines.

WHEREAS Ministry of Coal (MOC) vide letter No. **13016/38/2015-CA-III dated 18th September, 2015** has informed that, their Ministry has allotted 8 Coal Mines through allotment routes to 3 different allottees. MOC has requested this Ministry to facilitate transfer of the Environment Clearance and Forest Clearance of these blocks to the successful allottees.

WHEREAS Ministry of Coal vide Allotment Order under clause (c) of sub-rule (2) of rule 7 and sub-rule (1) of rule 13 and Order No. **103/31/2015/NA dated 8th September, 2015** has allotted the **Talaipalli Coalmine (OC at 18 MTPA capacity and UG at 0.72 MTPA capacity) in a project area of 2349.35 ha) in villages Talaipalli, Bichinara, Nayarampur, Kudurmoha, Raikera, Chotiguda, Ajiigarh, & Salehpali, Tehsil Gharghoda, District Raigarh (Chhattisgarh) to M/s National Thermal Power Corporation Limited as the successful allottee.**

WHEREAS vide Gazette Notification S.O. 811 (E) Notification dated 23.03.2015, MOEFCC has made amendments to paragraph 11 in the Gazette Notification S.O.1533 (E) dated 14th September, 2006. Vide the said amendment; where an allocation of coal block is cancelled in any legal proceeding; or by the Government in accordance with law, the environmental clearance granted in respect of such coal block may be transferred, subject to the same validity period as was initially granted, to any legal person to whom such block is subsequently allocated, and in such case, obtaining of "no objection" from either the holder of environment clearance or from the regulatory authority concerned shall not be necessary and no reference shall be made to the Expert Appraisal Committee or the State Level Expert Appraisal Committee concerned.

WHEREAS in light of the MOC Allotment Order No. **103/31/2015/NA dated 8th September, 2015**, transfer of EC may not be warranted as the Successful Allottee **M/s National Thermal Power Corporation Limited** is already in possession of EC letter No. **J-11015/279/2009-IA.II (M) dated 2nd January, 2013**.

However, the said EC may be considered for revalidation in favour of **M/s National Thermal Power Corporation Limited for Talaipalli Coalmine (OC at 18 MTPA capacity and UG at 0.72 MTPA capacity) in a project area of 2349.35 ha) in villages Talaipalli, Bichinara, Nayarampur, Kudurmoha, Raikera, Chotiguda, Ajiigarh, & Salehpali, Tehsil Gharghoda, District Raigarh (Chhattisgarh) subject to the following conditions;**




- (i) Any change in scope of work will attract the provisions of the Environment (Protection) Act, 1986 and Environmental Impact Assessment Notification, 2006 in conjunction with the subsequent amendments / circulars.
- (ii) All conditions stipulated in the EC letter No.J-11015/279/2009-IA.II (M) dated 2nd January, 2013 shall remain unchanged.
- (iii) The allottee shall be liable, if any, for any act of violation of the EP Act, 1986 / EIA Notification 2006/subsequent amendments and circulars which it has inherited during the revalidation/transfer.
- (iv) Allottee shall be liable for compliance of all court directions, if any.


(P. R. Sakhare)
Scientist C

Copy to :

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. The Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, E-2/240 Arera Colony, Bhopal – 462016.
3. The Secretary, Department of Environment & Forests, Government of Chhattisgarh, Secretariat, Raipur
4. The Member Secretary, Chhattisgarh State Environment Conservation Board, 1- Tilak Nagar, Shiv Mandir Chowk, Main Road, Avanti Vihar, Raipur – Chhattisgarh – 492001..
5. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi -110 032
6. The Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi
7. The Advisor, Coal India Limited, SCOPE Minar, Core-I, 4th Floor, Vikas Marg, Laxmi nagar, New Delhi.
8. The District Collector, **Raigarh**, Government of Chhattisgarh
9. Monitoring File 10. Guard File 11. Record File 12. Notice Board.


(P. R. Sakhare)
Scientist C



File No.: J-11015/279/2009-IA-II(M)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division



Dated 06/03/2024



To,

The Senior Manager (Env-Mgmt)
NTPC Mining Limited
NTPC BHAWAN, CORE-7, 7 INSTITUTIONAL AREA, LODHI ROAD, South East DELHI, NEW
DELHI - 110003,
env-mines@ntpcmining.co.in

Subject: Transfer of Environmental Clearance dated 02.01.2013, granted to Talaipalli Coal Mining Project, from NTPC Ltd to NTPC Mining Limited under the provision of the EIA Notification 2006 and as amended thereof- regarding.

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/CG/CMIN/459631/2024 dated 23/01/2024 for grant of transfer of EC to the project under the provision of para 11 of the EIA Notification 2006-and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC24A0101CG5565842T
(ii) File No.	J-11015/279/2009-IA-II(M)
(iii) Clearance Type	Transfer of EC
(iv) Category	A
(v) Schedule No./ Project Activity	1(a) Mining of minerals
(vi) Sector	Coal Mining
(vii) Name of Project	TALAI PALLI COAL MINING PROJECT
(viii) Location of Project (District, State)	RAIGARH, CHHATTISGARH
(ix) Issuing Authority	MoEF&CC
(x) EC Date	02/01/2013
(xi) Details of Transferee	NTPC Mining Limited, NTPC Bhawan, Core-7, 7 Institutional area, Lodhi Road, South East Delhi, NEW DELHI - 110003
(xii) Details of Transferor	NTPC Limited, NTPC Limited, NTPC Bhawan, SCOPE Complex, Institutional Area, Lodhi Road, New Delhi – 110003

3. Ministry has granted environmental clearance on 02.01.2013 in favour of M/s NTPC Ltd for Talaipalli Coal Mining Project (OC at 18 MTPA capacity and /ug at 0.72 MTPA Capacity) in mine lease area of 2349.35 ha located in villages Talaipalli, Bichinara, Naryampur, Kudurmoha, Raikera, Chotiguda, Ajijgarh, and Salehpalli, in tehsil Gharghoda, district Raigarh (Chhattisgarh). Revalidation / Transfer of EC was accorded by MoEF&CC vide letter dated 28.10.2015 and further amendment of EC for coal transportation through Road was accorded by vide letter dated 06.11.2019.

4. Talaipalli Coal Block was allotted in favour of NTPC through the Allotment Letter No. 103/31/2015/NA dated 08.09.2015 under the Coal Mine Special Provision Act, 2015.

5. It has been informed to the Ministry that NTPC is transferring the allotment of Talaipalli Coal Block including land and rights therein to its wholly owned subsidiary, NTPC Mining Limited ('NML') to have a focused management of the coal mining business, improving efficiency and productivity by leveraging latest technologies, while ensuring safe and reliable operations, through a Business Transfer Agreement ("BTA") dated 17th Aug'2023.

6. The Ministry of Coal vide letter dated January 2nd, 2024 has issued Amendment No. 1 to the Allotment Order No. No. 103/31/2015/NA dated 08.09.2015 for transfer of allotment of Talaipalli coal block from NTPC Limited to NTPC Mining Limited. NTPC vide letter dated 17th Jan 2024 submitted the NOC for the transfer of EC of Talaipalli Coal Block from NTPC Limited to NTPC Mining Limited. Further, as per the provision of para 11 of EIA Notification 2006 (as amended) submitted an undertaking dated 17/01/2024 to comply with EC conditions and also NOC dated 17/01/2024 received from transferor i.e. NTPC.

7. The MoEF&CC has examined the requisite information/documents required for the transfer of EC under the provisions contained in the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and hereby accords Transfer of EC dated 02.01.2013 to NTPC MINING LIMITED subject to compliance of EC conditions issued vide EC letter dated 02.01.2013.

8. The Ministry may revoke or suspend the clearance if implementation of any of the EC conditions is not satisfactory. The Ministry reserves the right to stipulate additional conditions if found necessary.

9. This issue with the approval of the Competent Authority.

Copy To

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
2. Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Ground Floor, Aranya Bhawan, North Block, Sector- 19,, Naya Raipur, Atal Nagar, Chhattisgarh – 492002
3. The Chairman, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi
4. The Regional Director, Central Ground Water Board, Central Ground Water Board, North Central Chhattisgarh Region, Reena Apartment, 2nd Floor, NH 43, Dhamtari Road, Panchpedi Naka, Raipur- 492001, Chattisgarh
5. The Chairman, Chhattisgarh Environment Conservation Board, Paryavas Bhavan, North Block Sector-19, Atal Nagar Dist- Raipur(C.G.)492002.
6. The Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas Bhavan, North Block Sector-19, Atal Nagar Dist- Raipur(C.G.)492002
7. The District Collector, **Raigarh , Chhattisgarh**
8. PARIVESH Portal

Additional EC Conditions

(i) Project Proponent (M/s NTPC Mining Ltd) to comply with directions, in toto, given by the Hon'ble NGT vide Order dated 15.02.2022 in Original Application No 104/2018 in the matter of Shivpal Bhagat & Ors & UoI .

(ii) The Project Proponent (NTPC Mining Ltd) is under obligation to implement commitments made in the Environment Management Plan and to comply with all EC conditions issued vide letter dated 02.01.2013 & 28.10.2015 and further amendment of EC accorded by vide letter dated 06.11.2019.

CHAPTER 5

General Photographs



Picture : Oil & Grease Pit at Workshop



Picture: Piezometer Installed at NTPC TLCMP



Picture: Tree Plantation at Township on the Occasion of World Water Day



Picture: Fencing Work Completed along the Plantation Area at Raikera for Protection of Plants



Picture: ENVIRONMENTAL MONITORING BEING CARRIED OUT



Picture : Safety Pledge to Workers Before Start of Every Shift is Being Followed



Picture: Ground Water Harvesting Structure



Picture: Underground pit for Medical waste Management



Picture: Pond De-siltation work at Salhepali Village



Picture: 01 CAAQMS Installed



Picture: Roadside Plantation



Picture: Safety Zone Fencing work in progress



Picture: Construction of Garland Drain along the mine boundary i/p



Picture: Construction of Garland Drain & toe wall along dump i/p



Picture: Construction of Garland Drain & toe wall along dump i/p