DB Power Limited

CIN: U40109MP2006PLC019008

Business Office : Village – Badadarha, Post – Kanwali, Dist – Sakti, Chhattisgarh, PIN – 495695

Tel. : +91-7389912699

No. DBPL/ENV/292 Date: 18.11.2022

To,
Inspector General of Forests
Ministry of Environment, Forest and Climate Change,
Integrated Regional Office, Aranya Bhawan,
North Block, Sector-19, Naya Raipur,
Atal Nagar, Chhattisgarh – 492002
iro.raipur-mefcc@gov.in

Subject: Six Monthly Compliance Report for the period of April 2022 – September 2022

Ref: Environment Clearance granted by MOEF vide letter no. J-13012/79/2008-IA. II (T) Dated 16/09/2010 to our 2X600 MW Thermal Power Plant located at village – Badadarha, Taluka- Dabhra, Dist –Sakti, Chhattisgarh, DB Power Limited.

Dear Sir,

We are pleased to enclose herewith six monthly Compliance Status Report for the conditions stipulated in subject EC granted to our Thermal power plant located at Village - Badadarha, Taluk - Dabhra, District-Sakti, Chhattisgarh. The report has following enclosures –

1. CSR & Expenses Report - Annexure IA & IB
2. FGD Progress Status Report – Annexure II
3. Fly Ash Utilization Report – Annexure III
4. Environment Monitoring Report-Annexure IV
5. Social Audit Report – Annexure V
6. Glimpses of awareness programmes on single use plastic (SUP) ban- Annexure VI

Thanking you,
Yours Faithfully

Authorized Signatory

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Enclosures: as above

Copy to:

The Member Secretary, Chhattisgarh Environment Conservation Board,
Paryavas Bhavan, North Block Sector-19, Atal Nagar, Raipur (C.G.) 492002

Regional Officer, Chhattisgarh Environment Conservation Board
Vyapar Vihar, Near Pt. Dindayal Upadyay Garden, Dist: Bilaspur (C.G.)

Registered Office:
Block 1A, 5TH Floor, Corporate Block, DB City Park, DB City Arera Mills, Opposite M. P. Nagar Zone – I, Bhopal – 462016 (M. P.)
Tel. : +91-755-3988884 Fax: +91-755-267 5190

Status of compliance of conditions of Environment Clearance granted by MOEF vide letter no. J-13012/79/2008-IA.II (T) dated 16.09.2010 to M/S DB Power limited, 2X600 MW Thermal Power Plant located at Baradarha, Sakti, Chhattisgarh

(Period : April 2022 – September 2022)

A. Specific Conditions

S. No.	Stipulation	Compliance Status
i.	Vision document specifying prospective plan for the site shall be formulated and submitted to the Ministry within six months.	Complied.
ii.	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5% and 34% respectively at any given time. In case of variation of coal quality at any point of time, fresh reference shall be made to MoEF for suitable amendments to environmental clearance condition wherever necessary.	Company is procuring coal from Coal India subsidiaries namely SECL & MCL. We are committed to comply MOEF&CC notification vide S.O. 1561(E) dated 21.05.2020.
iii.	A bi-flue stack of 275 m height shall be provided with continuous online monitoring equipments for SOx, NOx and Particulate Matter. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack may also monitored on periodic basis.	A 275 meter tall twin flue stack has been constructed for effective dispersion of fumes aimed at proper dilution. We have installed continuous online monitoring system each attached to stack for SOx, NOx and Particulate Matter. The exit velocity of flue gas > 22 m/s.
iv.	Source sustainability study of water requirement shall be carried out by an institute of repute. The study shall also specify the source of water for meeting the requirement during lean season. The Report shall be submitted to the Regional Office of the Ministry within six months.	Complied. Source sustainability study was carried out by ISM Dhanbad and same had been submitted along with compliance report vide our Letter No. DBPL/ENV/41 Dated 28.05.2018.
v.	Hydro-geological study of the area shall be reviewed annually and report submitted to the Ministry.	Hydro-geological study in progress for pre and post monsoon of 2022, report will be submitted in the next compliance.
vi.	No ground water shall be extracted for use in operation of the power plant even in Lean season. COC of 5.0 shall be adopted.	Ground water is not extracted for industrial & domestic use. COC of 6.5 is maintained in water circulated through the cooling tower during operation. This is aimed at water conservation.
vii.	No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up /operation of the power plant. Minimum required environmental flow suggested by the competent Authority of the state govt. shall be maintained in the channel / Rivers (as applicable) even in lean season.	Being complied.
viii.	Local employable youth shall be trained in skills relevant to the project for eventual employment in the project itself. The action taken report and details thereof to this effect shall be submitted to the Regional Office of the Ministry and the State Govt. Dept. concerned from time to time.	The local youths are being trained in skills such as Plumbing, Masonry, Hand pump repair etc. by DB Power CSR team. CSR Report indicating such initiatives is attached as **Annexure I A.**

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ix.	Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.	Complied
x.	Provision for installation of FGD shall be provided for future use. High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm3. Adequate dust extraction system such as cyclones / bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	1. Adequate space for installation for Flue Gas De-Sulphurisation (FGD) Plant has been provided for future use. DBPL has awarded EPC work to meet the MOEF emission norms. Contract awarded to Chinese EPC contractor M/s TUNA Corporation in Sep 2019. Project work is in progress. Find the attached FGD project status report as **Annexure-II** 2. High Efficiency (99.94%) Electro-static precipitator having 80 fields has been installed. This has kept particulate emission from stack < 50 mg/Nm3. 3. We have provided dust extraction system (DE) complete with filter bags, cage and hopper fitted to Crusher unit, transfer points (5, 6, 7 and 8) and bunkers. We have also provided dust suppression system (DS) at crusher house, TP-1,2,3 and 4 and also at MUH and ERH. The conveyors have been closed on all sides using color coated galvanized profile sheet (CCGP) to confine fugitive emissions. We have provided water cannons at strategic locations in coal handling. At ash silo loading point of ash, water fogging and spraying system is installed for fugitive emission of ash. Similar system is also installed at wagon tippler zone. Water sprinkling using tankers is done for dust suppression on road inside and outside premises. Ash transportation from generation point to silo and to ash pond is done using closed MS pipes. Above actions have immensely helped us contain fugitive emission and meet ambient air quality norms in the area.

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xi.	Utilization of 100% Fly Ash generated shall be made from 4th year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time. Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (As,Hg,Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.	Fly ash generation & utilization report from April-2022 to September-2022 is attached as **Annexure III.** Heavy metal monitoring is done periodically and analysis report is attached as **Annexure IV**.
xii.	Ash pond shall be lined with HDPE / LDPE lining or any other suitable impermeable media such that no leaching takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached. For disposal of Bottom Ash in abandoned mines (if proposed to be undertaken) it shall be ensured that the bottom and sides of the mined out areas are adequately lined with clay before Bottom Ash is tilled up. The project proponent shall inform the State Pollution Control Board well in advance before undertaking the activity.	Complied. LDPE liners used for lining of Ash pond.
xiii.	Green Belt consisting of 3 tiers of plantations of native species around plant and at least 100 m width shall be raised. Wherever 100 m width is not feasible a 50 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not less than 2500 per ha with survival rate not less than 75 %.	The total plantation done in the area of 211 acre is 2, 05,000 (with 84% survival).
xiv.	Two nearest village shall be adopted and basic amenities like development of roads, drinking water supply, primary health center, primary school etc shall be developed in coordination with the District administration. For the tribal families (if any) affected directly or indirectly by the proposed project, specific schemes for upliftment of their sustainable livelihood shall be prepared with time bound implementation and in built monitoring program me. The status of implementation shall be submitted to the Regional Office of the Ministry from time to time.	We have adopted 2 villages Tundri and Badadrha located near the plant as required. Basic amenities like development of roads, drinking water supply, health camps, infrastructure and other support in schools, etc are being done. **Annexure I A.**
xv.	An action plan for R&R (as applicable) with package for the project affected persons be submitted and implemented as per prevalent R&R policy within three months from the date of issue of this letter.	Complied.
xvi.	An amount of Rs 26.0 Corers shall be earmarked as one time capital cost for CSR program. Subsequently a recurring expenditure of Rs 5.2 Corers per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within one month along with road map for implementation.	Expenses incurred towards implementation of CSR program from April-22 to September-22 is attached as **Annexure 1B**.

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xvii.	While identifying CSR programme the company shall conduct need based assessment for the nearby villages to study economic measures with action plan which can help in upliftment of poor Section of society. Income generating projects consistent with the traditional skills of the people besides development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such program. Company shall provide separate budget for community development activities and income generating program. This will be in addition to vocational training for individuals imparted to take up self employment and jobs.	CSR activities have been undertaken by DB Power Ltd. CSR activity detail is attached as **Annexure I A.**
xviii.	It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.	Social Audit report for the year **2021-22 is** attached as Annexure-V.

B. General Conditions

S. No.	Stipulation	Compliance Status
i.	The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. There shall be no discharge outside the Plant boundary except during monsoon. Arrangements shall be made that effluents and storm water do not get mixed.	• Treated water of ETP is reused green belt irrigation besides in ash handling plant. • Ash Dyke decant water is treated and re-circulated to ash water sump for reuse. • The plant is designed for zero discharge. • Process and storm water is kept separate.
ii.	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt / Plantation.	Sewage Treatment Plants (15 in number) have been installed and commissioned. The treated water from STPs is used for green belt nursing.
iii.	Rainwater harvesting should be adopted, Central Groundwater Authority / Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of issue of clearance and details shall be furnished to the Regional Office of the Ministry.	We have constructed 7 number of Rain water harvesting structures for the purpose. This is complete with a receiving pond, gravel/sand bed filter besides bore well. The collected water is subjected to ground water recharging.
iv.	Adequate safety measures shall be provided in the plant area to check / minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.	Complied. We have provided a Fire Detection & Protection System (FDPS) including fire hydrants at all strategic points. The detail of same has already been submitted to your office.
v.	Storage facilities for auxiliary liquid fuel such as LDO and HFO /LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur Sulphur content in the liquid fuel will not exceed 0. 5%, Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.	A storage facility for LDO is in place after obtaining license from PESO. We also own onsite Disaster/emergency plan duly approved by Factory inspectorate for meeting emergencies.

vi.	Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg, Cr,As, Pb) and records maintained and submitted to the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	The ground water monitoring is done at regular intervals and records are maintained.
vii.	Monitoring surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.	The monitoring is done at regular intervals and records maintained. **Annexure IV**
viii.	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Complied
ix.	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in the high noise areas, requisite personal protective equipment like earplugs / ear muffs etc. shall be provided, Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy / less noisy areas.	• Turbine is housed in a specially designed acoustic insulated box. • Compressors are kept in isolated closed chambers. • Boiler safety valves are fitted with silencers to contain noise. • In high noise areas PPE like Ear plugs / Ear Muffs are provided to keep impact minimum. • High noise area kept unmanned as far as practical. Above arrangements have helped keep noise level below 85 dB (A) and impact negligible plant equipment work zone. The ambient noise monitoring is also conducted regularly and records maintained. See **Annexure IV**
x.	Regular monitoring of ground level concentration of SO2, NOX, PM2.5 & PM10 and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.	Regular monitoring for ambient air quality is carried in the impact zone (both core and buffer). Values are well within norms. The monitoring report is enclosed as **Annexure IV.** We have installed 4 nos. online AAQMS for real time monitoring of ground level concentration and are integrated to the central server of CPCB. These are working fine.

xi.	Provision shall be made for the housing of construction labor (as applicable) within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the Project.	Complied.
xii.	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informs that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests.	Complied
xiii.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad / Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Complied
xiv.	An Environmental Cell shall be created at the project site itself and shall be headed by an officer of appropriate seniority and qualification. It shall be ensured that the head of the Cell shall directly report to the head of the organization.	Environmental Cell is in place and is suitably staffed. It is headed by a senior officer reporting directly to the head of the organization.
xv.	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically, It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM (PM2.5 & PM10), SO2, NOX (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.	Complied.
xvi.	The environment statement for each financial year ending 31st March in From –V as is mandated to be submitted by the project proponent to the concerned State pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.	Complied. Environment Statement submitted for FY 2021-22 vide letter dated 14.09.2022.

<table>
<tr><td>xvii.</td><td>The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same bye-mail to the Regional Office, Ministry of. Environment and Forests.</td><td>Complied. The last six monthly compliance reports to EC conditions were submitted via email to MOEF Regional office at Nagpur vides our Email dated 26.05.2022. Now onwards , it will be submitted to IRO, MoEFF&CC, Raipur, CG.</td></tr>
<tr><td>xviii.</td><td>Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions.
A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponent 'will upload the compliance status in their website and up-date the same from time to time at least six monthly basis. Criteria pollutants levels including NOX (Stack & ambient air) shall be displayed at the main gate of the power plant.</td><td>Being Complied as and when required.</td></tr>
<tr><td>xix.</td><td>Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up, These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.</td><td>The Expenditure incurred in environmental protection measures are – Capital Expenditure up to March 2018 = 1237.48 Crore
Recurring Expenditure :
<table><tr><td>Department</td><td>Expenses from April-22 to Sept-22 (in Crore)</td></tr><tr><td>Environment</td><td>0.35</td></tr><tr><td>Horticulture</td><td>0.06</td></tr><tr><td>Fly ash utilization</td><td>64.55</td></tr><tr><td>OHC</td><td>0.17</td></tr><tr><td>Total</td><td>65.14</td></tr></table></td></tr>
<tr><td>xx.</td><td>The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.</td><td>Complied.
Informed vide letter dated 06.06.2011.</td></tr>
<tr><td>xxi.</td><td>Full cooperation shall be extended to the Scientists / Officers from the Ministry / Regional Office of the Ministry at Bhopal / CPCB / SPCB who would be monitoring the compliance of environmental status.</td><td>Full cooperation will be extended to the Scientists / Officers from the Ministry / Regional Office of the Ministry at Bhopal / CPCB / SPCB as and when required.</td></tr>
</table>

A glimpse of CSR activities from April 22 to September 2022

DB Power Ltd

CSR Activities

Constructed CC road (310 meter) in Patel Mohalla at village Badadarha.

Drilling of bore well and installation of submersible pump at village Baispali.

Beautification in premises of Collector office has been done at Janjgir-Champa.

DB Power Ltd

CSR Activities

Construction of boundary wall of Jyoti Kalash (Temple) and Bathing steps near temple have been completed at village Adbhar.

On the occasion of the marriage of girls of plant affected village (Badadarha & Tundri) 11 nos sewing machines and Rs.55,000/- financial help to villagers (11 villagers, Rs. 5000/each) for procurement of fridge have been given to them by DBPL management.

Organized Kanya Bhoj program and Provided Dari (02 Nos) and Chandni (01 Nos) to Kurupat dev samiti on the occasion of Ramnavmi Puja at Kurupat temple Tundri.

DB Power Ltd

CSR Activities

Tailoring Training Center- 19th Batches is being run with 15 candidates.

Hand Pump (70 Nos) & Submersible Pump (21 Nos)- Repaired 22 hand pumps and 54 times motor pumps of plant affected villages.

Celebration of Independence Day and also distributed sweets to government schools (plant and railway corridor villages) on the occasion of Independence Day.

CSR Activities

- **Facilitated to youths (6 Girls from Tundri) to start online classes for preparation of PAT exam.**
- **Provided National Flags (2000 pcs) to villagers nearby plant and railway corridor villages for hosting with honor on the occasion of Amrit Mahotsav.**
- **Cleaning of Dari pond at Rampur.**
- **Repaired Kachcha Canal for irrigation at village Badadarha.**
- **Provided Fans to government higher secondary School at Sondka.**
- **Provided grocery items to villagers (11 People) nearby plant villages for performing Daskarm.**
- **Provided drinking water to villagers (08 People) nearby plant villages for social cause.**
- **Community Health Center-** 1107 cases attended nearby plant villages.
- **Ambulance referral service-** 170 cases attended plant villages.
- **To control dust-** Sprinkling has been done on main road from Tundri to Odekera via Kanwali, Approach road Badadarha, L&T road and ash dyke at DBPL.
- **Street Lights (72 Nos)-** Repaired 145 times street lights at Badadarha and Rampur respectively.
- **Biogas (35 Nos)-** Repaired 23 times biogas at Badadarha and Rampur respectively.

Thanks

DB Power Limited							
CSR EXP SORTED MONTH WISE Apr TO Sep 2022							
	April '22	**May'22**	**June'22**	**July'22**	**Aug'22**	**Sep'22**	GRAND TOTAL
CSR EXP SORTED MONTH WISE							
Health & Sanitation	16176	652324	1269374	79823	72913	582743	2673352
Infrastructure	418246	2423575	415485	20807140	6314086	683034	31061566
Cultural & Social Events	116505	2572150	94085	522150	82525	290836	3678251
Rehabilitation and Compensation	1000000	931429	932365	929072	932612	-1380594	3344884
Women Empowerment & Skill	0	0	24022	6283	6500	6531	43336
Education &Skill Development	0	0	27000	13500	13500	13500	67500
Operating Expenses	24245	11373	24659	6753	54039	51138	172206
MONTHLY TOTAL	**1575172**	**6590851**	**2786990**	**22364720**	**7476174**	**247187**	**41041095**

Annexure-II

FGD: Progress status note [Sep 22]

Contract Award Status [Construction contracts]

- Award of Civil Construction Package has been completed; agencies **(M/s. Galaxy Infra)** are given the job viz. Package 1 for Electrical and Control Building and Package 2 for Complex building & common facilities **(M/s. Sarvamangala Infra Build)**.
- Both the agencies mobilized and work is progressing as per the schedule.
- Award of Mechanical Construction Package has been done and the agency **(M/s. Simar Infra)** mobilized in November 2021.
- Award of Electrical and C&I Erection Package is under finalisation.
- **Team Deployment status:**
- M/s Tuna's Project In charge and Commercial head reported at DBPL site and deployed their team for Construction and erection activities (Team Size – 8 Persons)
- M/s. Galaxy Infra and their team deployed at Site for Constructing the Electrical & Control building and Pump foundations # 1 & 2 and Pipe Rack foundations.
- M/s. Simar Infra and their team deployed at Site for Absorber # 1 & 2 and other miscellaneous tanks.
- M/s. Sarvamangala Infra Build and their team deployed at Site for Complex Building and Common Structure for Constriction work purpose.

Design / Engineering approval status

- Out of 140 approval category drawings, 122 drawings are approved and released to proceed for furtherance.
- Remaining 18 approval drawings falls under non-critical category and O&M Manuals.
- Out of 220 Information category drawings, 183 drawings are released to proceed for furtherance. (Balance drawing is 37Nos)
- Balance drawings shall be submitted periodically by M/s. Tuna.

Equipment's supply status

- All Offshore equipment's ordering, Drawing submission & ITP submission 100% completed.
- Inspection completed, 27no's out of 36 no's (Booster Fan, Oxidation Blower, Rubber Pipelines, Slurry spray Nozzles were inspected in the month of Aug 22)
- Manufacturing under progress for Under Ground Hopper, Vibration feeder, Limestone crusher, Bucket conveyor, Dust suppression system, Limestone dust collector, Pressure release valve, Star wheel type feeder, Lime stone weigh feeder.
- Onshore equipment's order placed for OVDT, High Voltage Switch Cabinet, Low Voltage Switch Cabinet, DC System, UPS, Local Control Cabinet, Cables, DCS System, CEMS, Instruments, Elevator, Other Anticorrosive & Steel etc.,
- The followed items were ready for dispatch, Oxidation Blower, Inlet Butterfly Valves, Pressure release valve, Slurry Pump, Crane & Hoist, Side & Top Entry Agitators, and Slurry Spray Nozzle. Material dispatched on 26th Sep 2022
- The below list of Offshore equipment's are reached at Vizag port Custom clearance under progress.
    - Wet Ball Mill

- The below list of Offshore items are reached at DBPL Site for start up the erection activity,
    - Dampers
    - Seal Air Fan
    - Seal Air Heater
    - Spray Headers
    - Mist Eliminators
    - Vacuum Belt Filter
    - Top Chimney Absorber
    - Air compressor
    - Air Drier
    - Air Receiver
    - Hydro Cyclone
    - Re-circulation Pumps
    - Expansion Joints
    - Water Pump

Construction status

Civil Work

- Booster fan foundation Unit#1 – Completed and Unit #2 is Raft casting completed & pedestal reinforcement & Shuttering work under progress.
- Duct support foundation Unit #1 & 2 – Completed
- Electrical and Control Building – Ground floor EL+3.5mtrs slab casting completed & EL+7.45 mtrs Slab shuttering work in-progress.
- Elevator # 1 – 100% ready for equipment's erection.
- Elevator # 2 Excavation 100% completed & Raft ready for casting.
- Pipe rack foundation 6 out of 16 excavations (3nos Foundation casted.
- Complex Building - Excavation work –100% Completed.(Except U/G hopper)
- Complex Building - 1st and 2nd level of wall casting 100% completed of F1, F2 & F3.
- Complex building-3rd level of wall casting under progress of F1, F2, & F3.(F2 wall -3rd level casting 75 % completed)
- Complex Building - Wet ball mill – Pedestal casting work under progress.
- Complex Building ground floor EL+7.7mtr @First floor Level Scaffolding work under progress.
- Complex Building - 21 Nos Column Casting completed up to level of 8 mtrs.

Mechanical- Fabrication & Erection

- Absorber #1-32.4 mtrs erection completed along with Ring stiffener.
- Conical portion Unit #1- 14mtrs out of 30 mtrs fit-up, welding work completed and ready for erection.
- Absorber II -32.4 mtrs erection completed along with Ring stiffener.
- Top Chimney absorber Unit#1- 10mtrs out of 58 mtrs fit-up, welding work completed and ready for erection.
- Process water tank – 9 mtrs out of 10 mtrs erection work completed.
- Hydro cyclone – 5mtrs out of 15mtrs erection work completed.
- Limestone slurry preparation tank-2 no's & Emergency Storage tank - Base plate erection work completed & Shell erection under progress.
- Mist Eliminator Support erection 100% completed inside the absorber.

1.1. Site Photographs

Location	Photograph
Absorber-2	
Absorber-1	

Location	Photograph
Emergency storage Water Tank	
Process Water Tank	

Location	Photograph
Conical Portion Bed-2	
Conical Portion Bed-1(Front View)	

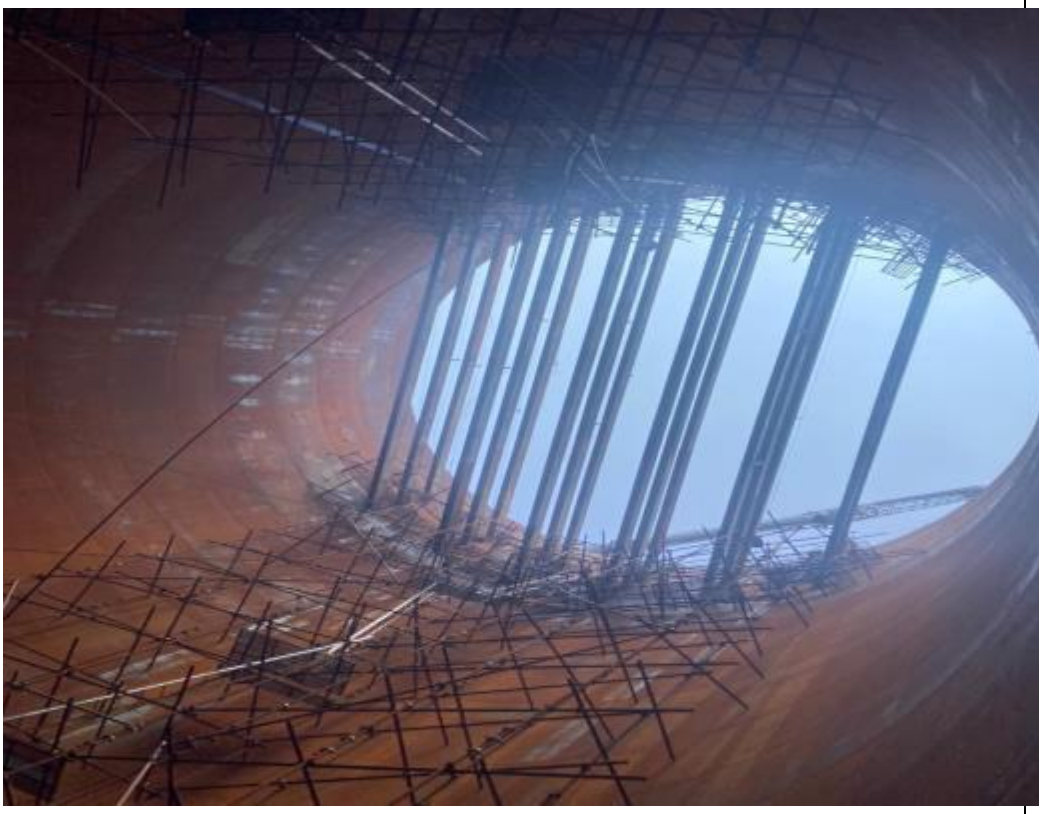
Location	Photograph
Electrical Control Building	
Booster Fan-Unit 2	

Location	Photograph
Top Chimney Absorber	
Elevator -II	

Location	Photograph
Complex Building First Floor Slab	
Complex Building Area	

Location	Photograph
Hydro cyclone Tank	
Wet Ball Mill Foundation	

Location	Photograph
Absorber- Conical Shell Assembly (Bed-1)Top View	
Pipe Rack Foundation & pedestal	

Location	Photograph
Mist Eliminator Supports	
Limestone Slurry Tank	

Annexure-III

Ash Generation & Utilization Report
From April-22 to September-22

Sr.no	Month	Total Ash Generation (MT)	In making of Fly Ash based/ Bricks/ Blocks/ Tiles etc.	In manufacture of Portland Pozzolana Cement	In construction of Highways & Roads including Flyovers	Part replacement of cement in concrete	In Hydro Power Sector in RCC Dam Construction	In Ash dyke raising	In reclamation of low lying Area	In Mine filling	In Agriculture/ Waste land Devlopment	Others	Total Ash Utilization	Ash Utilization (%)
1	Apr-22	256092.7	2366.2	59451.5	0.0	0.0	0.0	0.0	85353.0	327383.0	0.0	0.0	474553.7	185.31
2	May-22	262686.7	1459.5	32472.8	0.0	0.0	0.0	0.0	94017.8	314187.4	0.0	0.0	442137.5	168.31
3	Jun-22	252120.7	2745.3	41494.0	0.0	0.0	0.0	0.0	94276.0	289918.3	0.0	0.0	428433.5	169.93
4	Jul-22	104010.4	1152.9	5581.1	0.0	0.0	0.0	0.0	1949.3	144126.8	0.0	0.0	152810.0	146.92
5	Aug-22	138680.1	1181.1	0.0	0.0	159.9	0.0	0.0	0.0	107764.5	0.0	0.0	109105.5	78.67
6	Sep-22	162629.6	1603.0	26.8	0.0	0.0	0.0	0.0	0.0	147619.2	0.0	0.0	149248.9	91.77
Total		**1176220**	**10508**	**139026**	**0**	**160**	**0**	**0**	**275596**	**1330999**	**0**	**0**	**1756289**	**149.32**

Annexure-IV

Environment Monitoring Report

Netel (India) Limited

TEST REPORT

REF	: NIL/DBPL/AAQ/BZ/08-01		
Customer Name	: M/s. DB Power Limited		
Customer Address	: 2 X 600MW, Village - Badadhara, District: Janjgir–Champa (C.G.) 495695		
Sample Type	: **Ambient Air**	**Sampling done by**	: Netel India Limited
Date of Sampling	: 01.09.2022 - 29.09.2022	**Analysis Date**	: 02.09.2022 - 30.09.2022
Sample Received	: 02.09.2022 - 30.09.2022	**Date of Reporting**	: 01.10.2022
Sampling Location	: **BADADARHA VILLAGE**		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	PM_{10}	$PM_{2.5}$	SO_2	NO_2	CO	Hg
	µg/m³	µg/m³	µg/m³	µg/m³	mg/m³	ng/m³
Method Reference	IS 5182 (Part 23)	IS 5182 (Part 24)	IS 5182 (Part 02)	IS 5182 (Part 06)	IS 5182 (Part 10)	EPA Method IO-5
NAAQM Standard	100 µg/m³	60 µg/m³	80 µg/m³	80 µg/m³	2 mg/m³	---
Date of Sampling	**REPORT**					
01.09.2022	56.4	28.2	15.0	26.1	0.70	N.D.
05.09.2022	56.3	27.8	15.6	19.5	0.47	N.D.
08.09.2022	53.8	24.3	10.3	24.6	0.51	N.D.
12.09.2022	68.1	29.1	13.0	24.2	0.84	N.D.
15.09.2022	59.1	24.3	15.7	23.3	0.65	N.D.
19.09.2022	57.0	25.6	9.6	29.9	0.75	N.D.
22.09.2022	69.1	28.2	13.6	25.6	0.59	N.D.
26.09.2022	73.9	29.5	15.3	28.4	0.80	N.D.
29.09.2022	77.5	31.7	15.5	28.6	0.64	N.D.

Parameter	Ammonia	Ozone	Benzene	Benzo(a)pyrene	Pb	Pb	As
Method Reference	ISC Part-II (M-401)	IS 5182 (Part 09)	IS 5182 (Part 11)	IS 5182 (Part 12)	EPA Method IO-5		
NAAQM Standard	400	100	5	1	20	1	6
Date of Sampling	**REPORT**						
01.09.2022	20.9	14.0	N.D.	N.D.	N.D.	N.D.	N.D.
05.09.2022	19.0	18.0	N.D.	N.D.	N.D.	N.D.	N.D.
08.09.2022	30.4	15.7	N.D.	N.D.	N.D.	N.D.	N.D.
12.09.2022	24.7	14.5	N.D.	N.D.	N.D.	N.D.	N.D.
15.09.2022	31.3	15.5	N.D.	N.D.	N.D.	N.D.	N.D.
19.09.2022	24.9	16.6	N.D.	N.D.	N.D.	N.D.	N.D.
22.09.2022	25.7	14.2	N.D.	N.D.	N.D.	N.D.	N.D.
26.09.2022	32.0	16.2	N.D.	N.D.	N.D.	N.D.	N.D.
29.09.2022	22.4	15.9	N.D.	N.D.	N.D.	N.D.	N.D.

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale New Mumbai 400 701

Netel (India) Limited

TEST REPORT

REF	: NIL/DBPL/AAQ/BZ/08-02		
Customer Name	: M/s. DB Power Limited		
Customer Address	: 2 X 600MW, Village - Badadhara, District: Janjgir–Champa (C.G.) 495695		
Sample Type	: **Ambient Air**	**Sampling done by**	: Netel India Limited
Date of Sampling	: 01.09.2022 - 29.09.2022	**Analysis Date**	: 02.09.2022 - 30.09.2022
Sample Received	: 02.09.2022 - 30.09.2022	**Date of Reporting**	: 01.10.2022
Sampling Location	: **BAISPALI VILLAGE**		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	PM_{10}	$PM_{2.5}$	SO_2	NO_2	CO	Hg
	µg/m³	µg/m³	µg/m³	µg/m³	mg/m³	ng/m³
Method Reference	IS 5182 (Part 23)	IS 5182 (Part 24)	IS 5182 (Part 02)	IS 5182 (Part 06)	IS 5182 (Part 10)	EPA Method IO-5
NAAQM Standard	100 µg/m³	60 µg/m³	80 µg/m³	80 µg/m³	2 mg/m³	---
Date of Sampling	**REPORT**					
01.09.2022	56.6	26.5	15.2	26.8	0.62	N.D.
05.09.2022	64.4	30.4	14.6	21.5	0.62	N.D.
08.09.2022	64.2	30.8	15.1	27.0	0.54	N.D.
12.09.2022	56.5	27.8	15.1	21.3	0.60	N.D.
15.09.2022	62.9	31.3	16.4	28.3	0.63	N.D.
19.09.2022	61.8	27.3	15.7	22.5	0.52	N.D.
22.09.2022	67.4	29.1	14.9	28.7	0.54	N.D.
26.09.2022	59.8	24.3	16.0	29.8	0.58	N.D.
29.09.2022	60.7	26.9	18.3	20.8	0.47	N.D.

Parameter	Ammonia	Ozone	Benzene	Benzo(a)pyrene	Pb	Pb	As
Method Reference	ISC Part-II (M-401)	IS 5182 (Part 09)	IS 5182 (Part 11)	IS 5182 (Part 12)	EPA Method IO-5		
NAAQM Standard	400	100	5	1	20	1	6
Date of Sampling	**REPORT**						
01.09.2022	29.8	12.0	N.D.	N.D.	N.D.	N.D.	N.D.
05.09.2022	24.4	11.9	N.D.	N.D.	N.D.	N.D.	N.D.
08.09.2022	24.1	12.6	N.D.	N.D.	N.D.	N.D.	N.D.
12.09.2022	22.3	13.0	N.D.	N.D.	N.D.	N.D.	N.D.
15.09.2022	26.5	14.0	N.D.	N.D.	N.D.	N.D.	N.D.
19.09.2022	20.9	13.9	N.D.	N.D.	N.D.	N.D.	N.D.
22.09.2022	29.3	12.0	N.D.	N.D.	N.D.	N.D.	N.D.
26.09.2022	29.3	12.6	N.D.	N.D.	N.D.	N.D.	N.D.
29.09.2022	21.0	11.8	N.D.	N.D.	N.D.	N.D.	N.D.

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

Netel (India) Limited

TEST REPORT

REF	: NIL/DBPL/AAQ/BZ/08-03		
Customer Name	: M/s. DB Power Limited		
Customer Address	: 2 X 600MW, Village - Badadhara, District: Janjgir–Champa (C.G.) 495695		
Sample Type	: **Ambient Air**	**Sampling done by**	: Netel India Limited
Date of Sampling	: 01.09.2022 - 29.09.2022	**Analysis Date**	: 02.09.2022 - 30.09.2022
Sample Received	: 02.09.2022 - 30.09.2022	**Date of Reporting**	: 01.10.2022
Sampling Location	: **TUNDRI VILLAGE**		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	PM_{10}	$PM_{2.5}$	SO_2	NO_2	CO	Hg
	µg/m³	µg/m³	µg/m³	µg/m³	mg/m³	ng/m³
Method Reference	IS 5182 (Part 23)	IS 5182 (Part 24)	IS 5182 (Part 02)	IS 5182 (Part 06)	IS 5182 (Part 10)	EPA Method IO-5
NAAQM Standard	100 µg/m³	60 µg/m³	80 µg/m³	80 µg/m³	2 mg/m³	---
Date of Sampling	**REPORT**					
01.09.2022	58.9	28.6	17.2	26.7	0.60	N.D.
05.09.2022	64.0	26.0	17.2	28.8	0.62	N.D.
08.09.2022	62.2	29.1	15.6	20.5	0.46	N.D.
12.09.2022	65.0	32.6	18.6	21.6	0.48	N.D.
15.09.2022	57.1	25.6	17.9	27.1	0.55	N.D.
19.09.2022	65.7	28.2	16.7	27.3	0.60	N.D.
22.09.2022	62.1	27.3	16.8	27.5	0.57	N.D.
26.09.2022	63.2	25.2	17.2	29.7	0.48	N.D.
29.09.2022	65.5	30.8	18.4	24.0	0.54	N.D.

Parameter	Ammonia	Ozone	Benzene	Benzo(a)pyrene	Pb	Pb	As
Method Reference	ISC Part-II (M-401)	IS 5182 (Part 09)	IS 5182 (Part 11)	IS 5182 (Part 12)	EPA Method IO-5		
NAAQM Standard	400	100	5	1	20	1	6
Date of Sampling	**REPORT**						
01.09.2022	20.6	12.4	N.D.	N.D.	N.D.	N.D.	N.D.
05.09.2022	21.9	12.6	N.D.	N.D.	N.D.	N.D.	N.D.
08.09.2022	26.2	13.9	N.D.	N.D.	N.D.	N.D.	N.D.
12.09.2022	25.5	13.9	N.D.	N.D.	N.D.	N.D.	N.D.
15.09.2022	26.2	12.9	N.D.	N.D.	N.D.	N.D.	N.D.
19.09.2022	27.8	12.7	N.D.	N.D.	N.D.	N.D.	N.D.
22.09.2022	23.3	13.4	N.D.	N.D.	N.D.	N.D.	N.D.
26.09.2022	28.0	12.7	N.D.	N.D.	N.D.	N.D.	N.D.
29.09.2022	26.3	12.3	N.D.	N.D.	N.D.	N.D.	N.D.

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

TEST REPORT

REF	: NIL/DBPL/AAQ/BZ/08-04		
Customer Name	: M/s. DB Power Limited		
Customer Address	: 2 X 600MW, Village - Badadhara, District: Janjgir–Champa (C.G.) 495695		
Sample Type	: **Ambient Air**	**Sampling done by**	: Netel India Limited
Date of Sampling	: 01.09.2022 - 29.09.2022	**Analysis Date**	: 02.09.2022 - 30.09.2022
Sample Received	: 02.09.2022 - 30.09.2022	**Date of Reporting**	: 01.10.2022
Sampling Location	: **KANWALI VILLAGE**		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	PM_{10}	$PM_{2.5}$	SO_2	NO_2	CO	Hg
	µg/m³	µg/m³	µg/m³	µg/m³	mg/m³	ng/m³
Method Reference	IS 5182 (Part 23)	IS 5182 (Part 24)	IS 5182 (Part 02)	IS 5182 (Part 06)	IS 5182 (Part 10)	EPA Method IO-5
NAAQM Standard	100 µg/m³	60 µg/m³	80 µg/m³	80 µg/m³	2 mg/m³	---
Date of Sampling	**REPORT**					
01.09.2022	65.1	31.3	18.5	29.6	0.61	N.D.
05.09.2022	63.6	27.8	18.1	27.6	0.61	N.D.
08.09.2022	64.8	29.1	18.7	29.1	0.64	N.D.
12.09.2022	71.8	35.2	18.9	24.1	0.49	N.D.
15.09.2022	64.3	27.8	18.0	28.5	0.45	N.D.
19.09.2022	64.9	32.6	17.3	25.4	0.54	N.D.
22.09.2022	71.2	31.3	18.4	22.2	0.64	N.D.
26.09.2022	70.2	28.6	17.1	22.7	0.54	N.D.
29.09.2022	64.0	27.3	18.7	23.9	0.53	N.D.

Parameter	Ammonia	Ozone	Benzene	Benzo(a)pyrene	Pb	Pb	As
Method Reference	ISC Part-II (M-401)	IS 5182 (Part 09)	IS 5182 (Part 11)	IS 5182 (Part 12)	EPA Method IO-5		
NAAQM Standard	400	100	5	1	20	1	6
Date of Sampling	**REPORT**						
01.09.2022	24.9	13.1	N.D.	N.D.	N.D.	N.D.	N.D.
05.09.2022	20.3	12.1	N.D.	N.D.	N.D.	N.D.	N.D.
08.09.2022	22.7	12.0	N.D.	N.D.	N.D.	N.D.	N.D.
12.09.2022	20.4	12.0	N.D.	N.D.	N.D.	N.D.	N.D.
15.09.2022	19.6	12.0	N.D.	N.D.	N.D.	N.D.	N.D.
19.09.2022	25.0	13.7	N.D.	N.D.	N.D.	N.D.	N.D.
22.09.2022	22.4	12.5	N.D.	N.D.	N.D.	N.D.	N.D.
26.09.2022	20.8	12.7	N.D.	N.D.	N.D.	N.D.	N.D.
29.09.2022	23.3	12.6	N.D.	N.D.	N.D.	N.D.	N.D.

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

TEST REPORT

REF	: NIL/DBPL/AAQ/CZ/08-01		
Customer Name	: M/s. DB Power Limited		
Customer Address	: 2 X 600MW, Village - Badadhara, District: Janjgir–Champa (C.G.) 495695		
Sample Type	: **Ambient Air**	**Sampling done by**	: Netel India Limited
Date of Sampling	: 02.09.2022 - 30.09.2022	**Analysis Date**	: 03.09.2022 - 01.10.2022
Sample Received	: 03.09.2022 - 01.10.2022	**Date of Reporting**	: 01.10.2022
Sampling Location	: **AAQM STATION NO. I**		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	PM_{10}	$PM_{2.5}$	SO_2	NO_2	CO	Hg
	µg/m³	µg/m³	µg/m³	µg/m³	mg/m³	ng/m³
Method Reference	IS 5182 (Part 23)	IS 5182 (Part 24)	IS 5182 (Part 02)	IS 5182 (Part 06)	IS 5182 (Part 10)	EPA Method IO-5
NAAQM Standard	100 µg/m³	60 µg/m³	80 µg/m³	80 µg/m³	2 mg/m³	---
Date of Sampling	**REPORT**					
02.09.2022	76.6	33.9	15.0	19.6	0.53	N.D.
06.09.2022	66.5	29.1	8.9	23.9	0.62	N.D.
09.09.2022	78.5	37.8	12.2	19.8	0.54	N.D.
13.09.2022	63.0	26.0	14.1	23.8	0.62	N.D.
16.09.2022	54.1	23.9	14.2	28.1	0.65	N.D.
20.09.2022	79.1	33.4	13.0	26.8	0.52	N.D.
23.09.2022	57.0	23.0	8.8	20.7	0.56	N.D.
27.09.2022	76.8	33.9	13.8	22.0	0.57	N.D.
30.09.2022	51.8	24.3	11.1	22.6	0.57	N.D.

Parameter	Ammonia	Ozone	Benzene	Benzo(a)pyrene	Pb	Pb	As
Method Reference	ISC Part-II (M-401)	IS 5182 (Part 09)	IS 5182 (Part 11)	IS 5182 (Part 12)	EPA Method IO-5		
NAAQM Standard	400	100	5	1	20	1	6
Date of Sampling	**REPORT**						
02.09.2022	27.0	12.4	N.D.	N.D.	N.D.	N.D.	N.D.
06.09.2022	23.4	12.7	N.D.	N.D.	N.D.	N.D.	N.D.
09.09.2022	21.8	12.8	N.D.	N.D.	N.D.	N.D.	N.D.
13.09.2022	21.0	12.9	N.D.	N.D.	N.D.	N.D.	N.D.
16.09.2022	21.7	12.5	N.D.	N.D.	N.D.	N.D.	N.D.
20.09.2022	25.7	13.5	N.D.	N.D.	N.D.	N.D.	N.D.
23.09.2022	22.6	12.4	N.D.	N.D.	N.D.	N.D.	N.D.
27.09.2022	25.4	13.0	N.D.	N.D.	N.D.	N.D.	N.D.
30.09.2022	25.6	11.8	N.D.	N.D.	N.D.	N.D.	N.D.

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale New Mumbai 400 701

TEST REPORT

REF	: NIL/DBPL/AAQ/CZ/08-02		
Customer Name	: M/s. DB Power Limited		
Customer Address	: 2 X 600MW, Village - Badadhara, District: Janjgir–Champa (C.G.) 495695		
Sample Type	: **Ambient Air**	**Sampling done by**	: Netel India Limited
Date of Sampling	: 02.09.2022 - 30.09.2022	**Analysis Date**	: 03.09.2022 - 01.10.2022
Sample Received	: 03.09.2022 - 01.10.2022	**Date of Reporting**	: 01.10.2022
Sampling Location	: **URJA AAQM STATION NO.- II**		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	PM_{10}	$PM_{2.5}$	SO_2	NO_2	CO	Hg
	µg/m³	µg/m³	µg/m³	µg/m³	mg/m³	ng/m³
Method Reference	IS 5182 (Part 23)	IS 5182 (Part 24)	IS 5182 (Part 02)	IS 5182 (Part 06)	IS 5182 (Part 10)	EPA Method IO-5
NAAQM Standard	100 µg/m³	60 µg/m³	80 µg/m³	80 µg/m³	2 mg/m³	---
Date of Sampling	**REPORT**					
02.09.2022	68.5	31.7	16.6	28.2	0.65	N.D.
06.09.2022	56.1	24.3	18.4	27.3	0.54	N.D.
09.09.2022	63.3	25.2	16.1	20.6	0.55	N.D.
13.09.2022	56.0	22.6	16.1	21.4	0.64	N.D.
16.09.2022	56.1	22.6	16.6	26.8	0.68	N.D.
20.09.2022	57.7	26.0	18.3	30.0	0.45	N.D.
23.09.2022	65.4	26.9	17.9	25.5	0.60	N.D.
27.09.2022	63.7	28.2	16.3	29.1	0.56	N.D.
30.09.2022	61.3	29.5	17.5	22.6	0.61	N.D.

Parameter	Ammonia	Ozone	Benzene	Benzo(a)pyrene	Pb	Pb	As
Method Reference	ISC Part-II (M-401)	IS 5182 (Part 09)	IS 5182 (Part 11)	IS 5182 (Part 12)	EPA Method IO-5		
NAAQM Standard	400	100	5	1	20	1	6
Date of Sampling	**REPORT**						
02.09.2022	23.0	14.0	N.D.	N.D.	N.D.	N.D.	N.D.
06.09.2022	28.0	13.8	N.D.	N.D.	N.D.	N.D.	N.D.
09.09.2022	23.3	14.2	N.D.	N.D.	N.D.	N.D.	N.D.
13.09.2022	27.4	14.5	N.D.	N.D.	N.D.	N.D.	N.D.
16.09.2022	27.7	14.0	N.D.	N.D.	N.D.	N.D.	N.D.
20.09.2022	22.5	12.3	N.D.	N.D.	N.D.	N.D.	N.D.
23.09.2022	26.7	13.0	N.D.	N.D.	N.D.	N.D.	N.D.
27.09.2022	24.9	14.0	N.D.	N.D.	N.D.	N.D.	N.D.
30.09.2022	27.2	12.2	N.D.	N.D.	N.D.	N.D.	N.D.

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

TEST REPORT

REF	: NIL/DBPL/AAQ/CZ/08-03		
Customer Name	: M/s. DB Power Limited		
Customer Address	: 2 X 600MW, Village - Badadhara, District: Janjgir–Champa (C.G.) 495695		
Sample Type	: **Ambient Air**	**Sampling done by**	: Netel India Limited
Date of Sampling	: 02.09.2022 - 30.09.2022	**Analysis Date**	: 03.09.2022 - 01.10.2022
Sample Received	: 03.09.2022 - 01.10.2022	**Date of Reporting**	: 01.10.2022
Sampling Location	: **RAW WATER AREA AAQM STATION NO. III**		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	PM_{10}	$PM_{2.5}$	SO_2	NO_2	CO	Hg
	µg/m³	µg/m³	µg/m³	µg/m³	mg/m³	ng/m³
Method Reference	IS 5182 (Part 23)	IS 5182 (Part 24)	IS 5182 (Part 02)	IS 5182 (Part 06)	IS 5182 (Part 10)	EPA Method IO-5
NAAQM Standard	100 µg/m³	60 µg/m³	80 µg/m³	80 µg/m³	2 mg/m³	---
Date of Sampling	**REPORT**					
02.09.2022	66.0	33.0	18.1	24.2	0.46	N.D.
06.09.2022	57.1	23.0	17.9	22.0	0.48	N.D.
09.09.2022	68.7	33.9	18.1	20.6	0.50	N.D.
13.09.2022	62.6	26.9	18.7	24.3	0.60	N.D.
16.09.2022	63.9	29.9	18.6	21.5	0.48	N.D.
20.09.2022	65.3	32.1	18.0	21.3	0.58	N.D.
23.09.2022	57.3	23.9	18.2	26.6	0.49	N.D.
27.09.2022	67.5	31.7	18.4	22.8	0.55	N.D.
30.09.2022	66.1	29.9	17.9	29.1	0.51	N.D.

Parameter	Ammonia	Ozone	Benzene	Benzo(a)pyrene	Pb	Pb	As
Method Reference	ISC Part-II (M-401)	IS 5182 (Part 09)	IS 5182 (Part 11)	IS 5182 (Part 12)	EPA Method IO-5		
NAAQM Standard	400	100	5	1	20	1	6
Date of Sampling	**REPORT**						
02.09.2022	28.0	14.7	N.D.	N.D.	N.D.	N.D.	N.D.
06.09.2022	25.9	12.3	N.D.	N.D.	N.D.	N.D.	N.D.
09.09.2022	26.2	14.6	N.D.	N.D.	N.D.	N.D.	N.D.
13.09.2022	26.6	13.7	N.D.	N.D.	N.D.	N.D.	N.D.
16.09.2022	27.3	14.5	N.D.	N.D.	N.D.	N.D.	N.D.
20.09.2022	20.5	13.4	N.D.	N.D.	N.D.	N.D.	N.D.
23.09.2022	27.9	14.3	N.D.	N.D.	N.D.	N.D.	N.D.
27.09.2022	24.4	11.9	N.D.	N.D.	N.D.	N.D.	N.D.
30.09.2022	27.9	12.0	N.D.	N.D.	N.D.	N.D.	N.D.

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

TEST REPORT

REF	: NIL/DBPL/AAQ/CZ/08-04		
Customer Name	: M/s. DB Power Limited		
Customer Address	: 2 X 600MW, Village - Badadhara, District: Janjgir–Champa (C.G.) 495695		
Sample Type	: **Ambient Air**	**Sampling done by**	: Netel India Limited
Date of Sampling	: 02.09.2022 - 30.09.2022	**Analysis Date**	: 03.09.2022 - 01.10.2022
Sample Received	: 03.09.2022 - 01.10.2022	**Date of Reporting**	: 01.10.2022
Sampling Location	: **AAQM STATION NO. IV**		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	PM_{10}	$PM_{2.5}$	SO_2	NO_2	CO	Hg
	µg/m³	µg/m³	µg/m³	µg/m³	mg/m³	ng/m³
Method Reference	IS 5182 (Part 23)	IS 5182 (Part 24)	IS 5182 (Part 02)	IS 5182 (Part 06)	IS 5182 (Part 10)	EPA Method IO-5
NAAQM Standard	100 µg/m³	60 µg/m³	80 µg/m³	80 µg/m³	2 mg/m³	---
Date of Sampling	**REPORT**					
02.09.2022	67.1	33.4	18.6	25.0	0.57	N.D.
06.09.2022	62.2	25.6	16.9	28.7	0.52	N.D.
09.09.2022	64.6	30.8	18.9	25.8	0.63	N.D.
13.09.2022	58.9	26.5	18.2	24.6	0.54	N.D.
16.09.2022	62.9	25.2	16.7	22.9	0.56	N.D.
20.09.2022	60.9	24.3	16.5	19.5	0.61	N.D.
23.09.2022	69.0	31.7	18.2	21.9	0.53	N.D.
27.09.2022	58.4	23.4	18.3	23.0	0.53	N.D.
30.09.2022	61.3	29.5	18.4	21.5	0.52	N.D.

Parameter	Ammonia	Ozone	Benzene	Benzo(a)pyrene	Pb	Pb	As
Method Reference	ISC Part-II (M-401)	IS 5182 (Part 09)	IS 5182 (Part 11)	IS 5182 (Part 12)	EPA Method IO-5		
NAAQM Standard	400	100	5	1	20	1	6
Date of Sampling	**REPORT**						
02.09.2022	19.7	11.1	N.D.	N.D.	N.D.	N.D.	N.D.
06.09.2022	21.5	11.1	N.D.	N.D.	N.D.	N.D.	N.D.
09.09.2022	23.4	12.0	N.D.	N.D.	N.D.	N.D.	N.D.
13.09.2022	22.8	11.3	N.D.	N.D.	N.D.	N.D.	N.D.
16.09.2022	22.7	11.3	N.D.	N.D.	N.D.	N.D.	N.D.
20.09.2022	21.1	11.5	N.D.	N.D.	N.D.	N.D.	N.D.
23.09.2022	23.3	12.1	N.D.	N.D.	N.D.	N.D.	N.D.
27.09.2022	23.7	11.9	N.D.	N.D.	N.D.	N.D.	N.D.
30.09.2022	21.9	12.3	N.D.	N.D.	N.D.	N.D.	N.D.

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

STACK MONITORING REPORT

Report No	: NIL/DBPL/stack/08-1/2022	**Date of Report**	: 14.09.2022
Company Name	: **M/s. DB Power Ltd.**	**Sample Description**	: Stack Monitoring
Address	: 2X600MW, Village - Badadhara, District – Janjgir–Champa , (C.G.) 495695		
Sample Collected by	: Netel (India) Limited	**Date of Sampling**	: 09.09.2022

Page : **1** of **1**

Sr. No.	STACK DETAILS	Unit - 1
	Load (MW)	**365**
1	Height of the Stack (m)	275
2	Dia of Stack (m)	7.3
3	Flue gas Temperature (°C)	130
4	Exit Velocity of flue gases (m/sec)	26.0
5	Flue gas flow rate (Nm^3/hr)	2598677
6	Pollution Control Equipment	ESP
7	Type of fuel	Coal

Pollutant Concentration (mg/Nm^3)

Sr. No.	Parameter(s)	Result	PCB Stipulated limits
1	Particulate Matter (PM)	38.5	50
2	Sulphur Dioxide (SO_2)	1085	200
3	Oxide of Nitrogen (NO_x)	275	450
4	Mercury (Hg)	BDL	0.03
5	Carbon Monoxide (CO)	<0.2	--
Test Method		**IS:11255 & USEPA**	

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale Mumbai 400 701

STACK MONITORING REPORT

Report No	: NIL/DBPL/stack/08-2/2022	**Date of Report**	: 14.09.2022
Company Name	: **M/s. DB Power Ltd.**	**Sample Description**	: Stack Monitoring
Address	: 2X600MW, Village - Badadhara, District – Janjgir–Champa , (C.G.) 495695		
Sample Collected by	: Netel (India) Limited	**Date of Sampling**	: 09.09.2022

Page : **1** of **1**

Sr. No.	STACK DETAILS	Unit - 2
	Load (MW)	**410**
1	Height of the Stack (m)	275
2	Dia of Stack (m)	7.3
3	Flue gas Temperature (°C)	125
4	Exit Velocity of flue gases (m/sec)	25.2
5	Flue gas flow rate (Nm^3/hr)	2635865
6	Pollution Control Equipment	ESP
7	Type of fuel	Coal

Pollutant Concentration (mg/Nm^3)

Sr. No.	Parameter(s)	Result	PCB Stipulated limits
1	Particulate Matter (PM)	39.9	50
2	Sulphur Dioxide (SO_2)	1110	200
3	Oxide of Nitrogen (NO_x)	284	450
4	Mercury (Hg)	BDL	0.03
5	Carbon Monoxide (CO)	<0.2	--
Test Method		**IS:11255 & USEPA**	

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale New Mumbai 400 701

NOISE REPORT

Customer Name	: M/s. DB Power Limited		
Customer Address	: 2 X 600MW, Village - Badadhara, District: Janjgir–Champa (C.G.) 495695		
Report No.	: NIL/DBPL/Noise/08-01/1/2022		
Sample Type	: **Noise Level Monitoring**	**Sampling done by**	: Netel India Limited
Instrument Make	: Lutron.	**Instrument Model**	: SL 4033SD
Date of Sampling	: 06.09.2022	**Date of Reporting**	: 01.10.2022

Workplace Noise Level

Sr. No.	Location	Unit	Noise Level	Limit
1	TG – I	dB(A)	76.0	**85 dB** (As per Factories Act 1948, maximum exposure for 8 hrs work shift.)
2	TG - II	dB(A)	81.1	
3	BFP-I	dB(A)	73.2	
4	BFP – II	dB(A)	73.1	
5	Compressor House	dB(A)	79.2	
6	TAC Building	dB(A)	74.6	
7	DM Plant	dB(A)	72.4	
8	MUH – CHP	dB(A)	74.7	
9	Crusher – CHP	dB(A)	78.1	
10	Near Silo	dB(A)	78.3	

Sr. No.	Location	Unit	Noise Level		Limit	
			Day Time	Night Time	Day	Night
Inside Plant						
1	AAQM Station No.-I	dB(A)	63.7	58.9	75	70
2	Urja AAQMS – II	dB(A)	62.8	59.2		
3	Raw Water AAQMS- III	dB(A)	63.6	60.1		
4	Near Coal Yard (AAQMS-IV)	dB(A)	68.3	64.3		
Outside Plant						
1	Tundri Village	dB(A)	53.7	43.3	55	45
2	Kanwali Village	dB(A)	53.3	43.0		
3	Badadhara Village	dB(A)	54.8	44.1		
4	Baispali Village	dB(A)	54.6	44.5		

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale NAVI Mumbai 400 701

Netel (India) Limited

Name & Address of the Customer : 2X600MW, Village - Badadhara, District: Janjgir–Champa, (C.G.) 495695 **Sample Particulars:** STP Inlet Effluent	**Test Report No.** : NIL/22-23/EW/08-1 **Issue Date** : 12.09.2022	
Quantity : 1 No. × 1 Litre **Test Method** : IS:3025 & APHA 23rd Edition **Packing** : Plastic Bottle **Test Required** : As given below	**Date of Registration**	**09.09.2022**
	Date of commencement of testing	**09.09.2022**
	Date of completion of testing	**12.09.2022**
	Sample condition at receipt	Found ok
	Sample tested as received	
Sampling Method: Sample collected by our representative on 08.09.2022		**Page 1 of 1**

Test Results

Sr. No.	Parameter	Unit	Result
1	pH	--	5.8
2	Total Suspended Solids	mg/L	152
3	Chemical Oxygen Demand (COD)	mg/L	168
4	Bio-chemical Oxygen Demand (3 days @ 27°C)	mg/L	67
5	Oil & Grease	mg/L	N.D.
6	Fecal Coliform	MPN/100ml	1111

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

Netel (India) Limited

Name & Address of the Customer : 2X600MW, Village - Badadhara, District: Janjgir–Champa, (C.G.) 495695 **Sample Particulars:** STP Outlet Effluent	**Test Report No.** : NIL/22-23/EW/08-2 **Issue Date** : 12.09.2022	
Quantity : 1 No. × 1 Litre **Test Method** : IS:3025 & APHA 23rd Edition **Packing** : Plastic Bottle **Test Required** : As given below	**Date of Registration**	**09.09.2022**
	Date of commencement of testing	**09.09.2022**
	Date of completion of testing	**12.09.2022**
	Sample condition at receipt	Found ok
	Sample tested as received	
Sampling Method: Sample collected by our representative on 08.09.2022		**Page 1 of 1**

Test Results

Parameter Location↓	pH	Total Suspended Solids	Chemical Oxygen Demand (COD)	Bio-chemical Oxygen Demand (3 days @ 27°C)	Oil & Grease	Fecal Coliform
Unit	--	mg/L	mg/L	mg/L	mg/L	MPN/100ml
STP-1	7.01	15	65	17	N.D.	56
STP-2	7.73	18	69	19	N.D.	58
STP-3	7.34	20	63	16	N.D.	74
STP-4	7.24	15	69	21	N.D.	59
STP-5	6.99	20	69	20	N.D.	65
STP-6	7.21	20	65	18	N.D.	52
STP-7	6.85	18	68	20	N.D.	53
STP-8	6.73	19	69	19	N.D.	69
STP-9	7.30	17	74	18	N.D.	80
STP-10	6.64	18	74	15	N.D.	45
STP-11	8.15	19	72	16	N.D.	68
STP-12	6.70	16	70	17	N.D.	72
STP-13	7.30	17	70	17	N.D.	76
STP-14	7.35	19	71	19	N.D.	70
STP-15	7.83	16	69	21	N.D.	72
Limit	**5.5 – 9.0**	**100**	**250**	**30**	**10**	**<1000**

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

Netel (India) Limited

Name & Address of the Customer : 2X600MW, Village - Badadhara, District: Janjgir–Champa, (C.G.) 495695 **Sample Particulars:** Boiler Blow Down water (UNIT-II)	**Test Report No.** : NIL/22-23/EW/08-3 **Issue Date** : 17.09.2022	
Quantity : 1 No. × 1 Litre **Test Method** : IS:3025 & APHA 23rd Edition **Packing** : Plastic Bottle **Test Required** : As given below	**Date of Registration**	**14.09.2022**
	Date of commencement of testing	**14.09.2022**
	Date of completion of testing	**17.09.2022**
	Sample condition at receipt	Found ok
	Sample tested as received	
Sampling Method: Sample collected by our representative on 13.09.2022		**Page 1 of 1**

Test Results

Sr. No.	Parameter	Unit	Result	Limit
1	Suspended Solids	--	6.4	100
2	Copper Total (as Cu)	mg/L	N.D.	1
3	Total Iron (as Fe)	mg/L	N.D.	1
4	Oil & Grease	mg/L	N.D.	20

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale New Mumbai 400 701

Netel (India) Limited

Name & Address of the Customer : 2X600MW, Village - Badadhara, District: Janjgir–Champa, (C.G.) 495695 **Sample Particulars:** Condenser cooling water (UNIT-II)	**Test Report No.** : NIL/22-23/EW/08-4 **Issue Date** : 17.09.2022	
Quantity : 1 No. × 1 Litre **Test Method** : IS:3025 & APHA 23rd Edition **Packing** : Plastic Bottle **Test Required** : As given below	**Date of Registration**	**14.09.2022**
	Date of commencement of testing	**14.09.2022**
	Date of completion of testing	**17.09.2022**
	Sample condition at receipt	Found ok
	Sample tested as received	
Sampling Method: Sample collected by our representative on 13.09.2022		**Page 1 of 1**

Test Results

Sr. No.	Parameter	Unit	Result	Limit
1	pH	--	7.9	6.5 – 8.5
2	Temperature	°C	31	Note 1*
3	Free Available Chlorine	mg/L	0.2	0.5

Note : ***1 -** Not more than 5°C higher than the intake water temperature

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

Name & Address of the Customer : 2X600MW, Village - Badadhara, District: Janjgir–Champa, (C.G.) 495695 **Sample Particulars:** Treated water of AWRS	**Test Report No.** : NIL/22-23/EW/08-5 **Issue Date** : 17.09.2022	
Quantity : 1 No. × 1 Litre **Test Method** : IS:3025 & APHA 23rd Edition **Packing** : Plastic Bottle **Test Required** : As given below	**Date of Registration**	**14.09.2022**
	Date of commencement of testing	**14.09.2022**
	Date of completion of testing	**17.09.2022**
	Sample condition at receipt	Found ok
	Sample tested as received	
Sampling Method: Sample collected by our representative on 13.09.2022		**Page 1 of 1**

Test Results

Sr. No.	Parameter	Unit	Result	Limit
1	pH	--	7.24	5.5 – 9.0
2	Temperature	°C	26.0	Note 1*
3	Total Suspended Solid	mg/L	29	100
4	Chemical Oxygen Demand (COD)	mg/L	23	250
5	Biochemical Oxygen Demand (BOD 3 Days 27°C)	mg/L	12	30
6	Oil & Grease	mg/L	2.3	10
7	Phosphate (as PO_4)	mg/L	N.D.	5

Note : *1 - Not more than 5°C higher than the intake water temperature

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

Netel (India) Limited

Name & Address of the Customer : 2X600MW, Village - Badadhara, District: Janjgir–Champa, (C.G.) 495695 **Sample Particulars:** ETP Inlet & Outlet Effluent	**Test Report No.** : NIL/22-23/EW/08-6 **Issue Date** : 17.09.2022	
Quantity : 1 No. × 1 Litre **Test Method** : IS:3025 & APHA 23rd Edition **Packing** : Plastic Bottle **Test Required** : As given below	**Date of Registration**	**14.09.2022**
	Date of commencement of testing	**14.09.2022**
	Date of completion of testing	**17.09.2022**
	Sample condition at receipt	Found ok
	Sample tested as received	
Sampling Method: Sample collected by our representative on 13.09.2022		**Page 1 of 1**

Test Results

Sr. No.	Parameter	Unit	Inlet	Outlet	Limit (Outlet)
1	pH	--	8.34	7.57	5.5 – 9.0
2	Temperature	°C	29.7	28.9	Note 1*
3	Total Suspended Solid	mg/L	128	41	100
4	Chemical Oxygen Demand (COD)	mg/L	158	37	250
5	Biochemical Oxygen Demand (BOD 3 Days 27°C)	mg/L	52	11	30
6	Oil & Grease	mg/L	1.9	<1.0	10
7	Chloride	mg/L	42.0	27.1	--

Note : ***1 -** Not more than 5°C higher than the intake water temperature

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

Netel (India) Limited

Name & Address of the Customer : 2X600MW, Village - Badadhara, District: Janjgir–Champa, (C.G.) 495695 **Sample Particulars:** Ash Pond Recovery water	**Test Report No.** : NIL/22-23/EW/08-7 **Issue Date** : 17.09.2022	
Quantity : 1 No. × 1 Litre **Test Method** : IS:3025 & APHA 23rd Edition **Packing** : Plastic Bottle **Test Required** : As given below	**Date of Registration**	**14.09.2022**
	Date of commencement of testing	**14.09.2022**
	Date of completion of testing	**17.09.2022**
	Sample condition at receipt	Found ok
	Sample tested as received	
Sampling Method: Sample collected by our representative on 13.09.2022		**Page 1 of 1**

Test Results

Sr. No.	Parameter	Unit	Result	Limit (Outlet)
1	pH	--	7.21	5.5 – 9.0
2	Temperature	°C	32.4	--
3	Total Suspended Solid	mg/L	31	100
4	Chemical Oxygen Demand (COD)	mg/L	43	250
5	Biochemical Oxygen Demand (BOD 3 Days 27°C)	mg/L	13	30
6	Oil & Grease	mg/L	<1.0	10

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale New Mumbai 400 701

Netel (India) Limited

Name & Address of the Customer : 2X600MW, Village - Badadhara, District: Janjgir–Champa, (C.G.) 495695 **Sample Particulars:** Coal Settling Pond Water	**Test Report No.** : NIL/22-23/EW/08-8 **Issue Date** : 17.09.2022	
Quantity : 1 No. × 1 Litre **Test Method** : IS:3025 & APHA 23rd Edition **Packing** : Plastic Bottle **Test Required** : As given below	**Date of Registration**	**14.09.2022**
	Date of commencement of testing	**14.09.2022**
	Date of completion of testing	**17.09.2022**
	Sample condition at receipt	Found ok
	Sample tested as received	
Sampling Method: Sample collected by our representative on 13.09.2022		**Page 1 of 1**

Test Results

Sr. No.	Parameter	Unit	Result	Limit
1	pH	--	7.27	5.5 – 9.0
2	Temperature	°C	33.0	--
3	Total Suspended Solid	mg/L	85	100
4	Chemical Oxygen Demand (COD)	mg/L	46	250
5	Biochemical Oxygen Demand (BOD 3 Days 27°C)	mg/L	16	30
6	Oil & Grease	mg/L	<1.0	10

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale New Mumbai 400 701

Netel (India) Limited

Name & Address of the Customer : 2X600MW, Village - Badadhara, District: Janjgir–Champa, (C.G.) 495695 **Sample Particulars:** Cooling Tower Blow-down	**Test Report No.** : NIL/22-23/EW/08-9 **Issue Date** : 17.09.2022	
Quantity : 1 No. × 1 Litre **Test Method** : IS:3025 & APHA 23rd Edition **Packing** : Plastic Bottle **Test Required** : As given below	**Date of Registration**	**14.09.2022**
	Date of commencement of testing	**14.09.2022**
	Date of completion of testing	**17.09.2022**
	Sample condition at receipt	Found ok
	Sample tested as received	
Sampling Method: Sample collected by our representative on 13.09.2022		**Page 1 of 1**

Test Results

Sr. No.	Parameter	Unit	Result	Limit
1	pH	--	7.51	5.5 – 9.0
2	Temperature	°C	22.6	--
3	Total Suspended Solid	mg/L	41	100
4	Chemical Oxygen Demand (COD)	mg/L	31	250
5	Biochemical Oxygen Demand (BOD 3 Days 27°C)	mg/L	10	30
6	Oil & Grease	mg/L	<1.0	10

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale New Mumbai 400 701

Netel (India) Limited

Name & Address of the Customer : 2X600MW, Village - Badadhara, District: Janjgir–Champa, (C.G.) 495695	**Test Report No.** : NIL/2022/DW-08/1 **Issue Date** : 27.09.2022 **Your Ref** : NIL
Sample Particulars: Drinking Water	
SAMPLE-1 : **DRINKING WATER SERVICE BUILDING** **SAMPLE-2** : **DRINKING WATER WAGON TIPPER**	**SAMPLE-3** : **DRINKING WATER DM PLANT** **SAMPLE-4** : **DRINKING WATER ADITYA CANTEEN**

Quantity	: 1 No. × 1 Litre	**Date of Registration**	**24.09.2022**
Test Method	: IS:3025 & APHA 23rd Edition	**Date of commencement of testing**	**24.09.2022**
Packing	: Plastic Bottle	**Date of completion of testing**	**27.09.2022**
Test Required	: As given below	**Sample condition at receipt**	Found ok
		Sample tested as received	

Sampling Method: Sample collected by our representative on 23.09.2022 **Page 1 of 3**

Test Results

Sr. No.	Parameter	Unit	Sample-1	Sample-2	Sample-3	Sample-4	Limit*
1	Colour	Hazen	<1	<1	<1	<1	**5 (max)**
2	Turbidity	NTU	<0.1	<0.1	<0.1	<0.1	**1.0 (max)**
3	pH	-	7.08	7.44	7.15	7.33	**6.5 To 8.5**
4	Residual Chlorine	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.2 (max)**
5	Total Dissolved Solids	mg/Lit	118	133	139	183	**500 (max)**
6	Alkalinity Total (As $CaCO_3$)	mg/Lit	58	40	50	69	**200 (max)**
7	Total Hardness (as $CaCO_3$)	mg/Lit	99	104	93	86	**200 (max)**
8	Calcium (as Ca)	mg/Lit	20.7	21.6	19.9	17.5	**75 (max)**
9	Magnesium (as Mg)	mg/Lit	5.2	6.9	6.7	7.0	**30 (max)**
10	Chloride (as Cl)	mg/Lit	28.1	22.9	20.1	22.4	**250 (max)**
11	Sulphate (as SO_4)	mg/Lit	14.5	14.7	11.1	10.9	**200 (max)**
12	Nitrate (NO_3)	mg/Lit	2.7	4.1	2.9	3.8	**45 (max)**
13	Boron (as B)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.5 (max)**
14	Iron (as Fe)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.3 (max)**
15	Fluoride (as F)	mg/Lit	0.08	0.08	0.09	0.08	**1.0 (max)**
16	Manganese (as Mn)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.1 (max)**
17	Lead (as Pb)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.01 (max)**
18	Zinc (as Zn)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**5.0 (max)**
19	Copper (as Cu)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.05 (max)**
20	Aluminium (as Al)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.03 (max)**
21	Mercury (as Hg)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.001 (max)**
22	Arsenic (as As)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.01 (max)**
23	Selenium (as Se)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.1 (max)**
24	Chromium (as Cr)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.001 (max)**
25	Sulphide (as S)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.01 (max)**
26	Cyanide (as CN)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.05 (max)**
27	Anionic Detergent (as MBAS)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.02 (max)**
28	Phenolic Compound (as C_5H_6OH)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.001 (max)**
29	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	N.D.	N.D.	N.D.	N.D.	**0.0001 (max)**
30	Mineral Oil	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.05 (max)**
31	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	**Absent**
32	EColi	MPN/100ml	Absent	Absent	Absent	Absent	**Absent**

Note : * Limits as per IS 10500:2012

For **Netel (India) Limited**

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

D.Srinivasa Rao

Netel (India) Limited

Name & Address of the Customer : 2X600MW, Village - Badadhara, District: Janjgir–Champa, (C.G.) 495695	**Test Report No.** : NIL/2022/DW-08/2 **Issue Date** : 27.09.2022 **Your Ref** : NIL
Sample Particulars: Drinking Water	
SAMPLE-5 : HAND PUMP WATER TUNDRI VILLAGE **SAMPLE-6 : HAND PUMP WATER BADADARHA VILLAGE**	**SAMPLE-7 : GROUND WATER KANWLI VILLAGE** **SAMPLE-8 : GROUND WATER BAISPALI VILLAGE**

Quantity	: 1 No. × 1 Litre	**Date of Registration**	**24.09.2022**
Test Method	: IS:3025 & APHA 23rd Edition	**Date of commencement of testing**	**24.09.2022**
Packing	: Plastic Bottle	**Date of completion of testing**	**27.09.2022**
Test Required	: As given below	**Sample condition at receipt**	Found ok
		Sample tested as received	

Sampling Method: Sample collected by our representative on 23.09.2022 **Page 2 of 3**

Test Results

Sr. No.	Parameter	Unit	Sample-5	Sample-6	Sample-7	Sample-8	Limit*
1	Colour	Hazen	<1	<1	<1	<1	**5 (max)**
2	Turbidity	NTU	<0.1	<0.1	<0.1	<0.1	**1.0 (max)**
3	pH	-	7.44	7.33	7.40	7.37	**6.5 To 8.5**
4	Residual Chlorine	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.2 (max)**
5	Total Dissolved Solids	mg/Lit	292	279	290	199	**500 (max)**
6	Alkalinity Total (As $CaCO_3$)	mg/Lit	121	118	116	70	**200 (max)**
7	Total Hardness (as $CaCO_3$)	mg/Lit	112	125	134	90	**200 (max)**
8	Calcium (as Ca)	mg/Lit	43.6	39.2	42.7	21.7	**75 (max)**
9	Magnesium (as Mg)	mg/Lit	13.7	13.6	13.8	8.4	**30 (max)**
10	Chloride (as Cl)	mg/Lit	31.3	28.5	31.1	20.6	**250 (max)**
11	Sulphate (as SO_4)	mg/Lit	15.2	18.1	18.3	12.7	**200 (max)**
12	Nitrate (NO_3)	mg/Lit	8.4	7.2	6.9	3.7	**45 (max)**
13	Boron (as B)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.5 (max)**
14	Iron (as Fe)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.3 (max)**
15	Fluoride (as F)	mg/Lit	0.14	0.14	0.12	0.06	**1.0 (max)**
16	Manganese (as Mn)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.1 (max)**
17	Lead (as Pb)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.01 (max)**
18	Zinc (as Zn)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**5.0 (max)**
19	Copper (as Cu)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.05 (max)**
20	Aluminium (as Al)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.03 (max)**
21	Mercury (as Hg)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.001 (max)**
22	Arsenic (as As)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.01 (max)**
23	Selenium (as Se)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.1 (max)**
24	Chromium (as Cr)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.001 (max)**
25	Sulphide (as S)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.01 (max)**
26	Cyanide (as CN)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.05 (max)**
27	Anionic Detergent (as MBAS)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.02 (max)**
28	Phenolic Compound (as C_5H_6OH)	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.001 (max)**
29	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	N.D.	N.D.	N.D.	N.D.	**0.0001 (max)**
30	Mineral Oil	mg/Lit	N.D.	N.D.	N.D.	N.D.	**0.05 (max)**
31	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	**Absent**
32	EColi	MPN/100ml	Absent	Absent	Absent	Absent	**Absent**

Note : * Limits as per IS 10500:2012

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

Name & Address of the Customer : 2X600MW, Village - Badadhara, District: Janjgir–Champa, (C.G.) 495695		**Test Report No.** : NIL/2022/DW-08/3 **Issue Date** : 03.10.2022 **Your Ref** : NIL	
Sample Particulars: Water **SAMPLE-9 : BORE WELL WATER TMANNA CRUSHER GUDELI** **SAMPLE-10 : BORE WELL WATER VINAYAK CRUSHER GUDELI**			
Quantity : 1 No. × 1 Litre **Test Method** : IS:3025 & APHA 23rd Edition **Packing** : Plastic Bottle **Test Required** : As given below		**Date of Registration**	**30.09.2022**
		Date of commencement of testing	**30.09.2022**
		Date of completion of testing	**03.10.2022**
		Sample condition at receipt	Found ok
		Sample tested as received	
Sampling Method: Sample collected by our representative on 29.09.2022			**Page 3 of 3**

Test Results

Sr. No.	Parameter	Unit	Sample-9	Sample-10	Limit*
1	Colour	Hazen	<1	<1	**5 (max)**
2	Turbidity	NTU	<0.1	<0.1	**1.0 (max)**
3	pH	-	6.92	7.44	**6.5 To 8.5**
4	Residual Chlorine	mg/Lit	N.D.	N.D.	**0.2 (max)**
5	Total Dissolved Solids	mg/Lit	373	352	**500 (max)**
6	Alkalinity Total (As $CaCO_3$)	mg/Lit	192	194	**200 (max)**
7	Total Hardness (as $CaCO_3$)	mg/Lit	155	153	**200 (max)**
8	Calcium (as Ca)	mg/Lit	50.2	51.7	**75 (max)**
9	Magnesium (as Mg)	mg/Lit	17.5	17.5	**30 (max)**
10	Chloride (as Cl)	mg/Lit	41.5	37.0	**250 (max)**
11	Sulphate (as SO_4)	mg/Lit	15.2	21.6	**200 (max)**
12	Nitrate (NO_3)	mg/Lit	10.3	10.9	**45 (max)**
13	Boron (as B)	mg/Lit	N.D.	N.D.	**0.5 (max)**
14	Iron (as Fe)	mg/Lit	N.D.	N.D.	**0.3 (max)**
15	Fluoride (as F)	mg/Lit	0.34	0.32	**1.0 (max)**
16	Manganese (as Mn)	mg/Lit	N.D.	N.D.	**0.1 (max)**
17	Lead (as Pb)	mg/Lit	N.D.	N.D.	**0.01 (max)**
18	Zinc (as Zn)	mg/Lit	N.D.	N.D.	**5.0 (max)**
19	Copper (as Cu)	mg/Lit	N.D.	N.D.	**0.05 (max)**
20	Aluminium (as Al)	mg/Lit	N.D.	N.D.	**0.03 (max)**
21	Mercury (as Hg)	mg/Lit	N.D.	N.D.	**0.001 (max)**
22	Arsenic (as As)	mg/Lit	N.D.	N.D.	**0.01 (max)**
23	Selenium (as Se)	mg/Lit	N.D.	N.D.	**0.1 (max)**
24	Chromium (as Cr)	mg/Lit	N.D.	N.D.	**0.001 (max)**
25	Sulphide (as S)	mg/Lit	N.D.	N.D.	**0.01 (max)**
26	Cyanide (as CN)	mg/Lit	N.D.	N.D.	**0.05 (max)**
27	Anionic Detergent (as MBAS)	mg/Lit	N.D.	N.D.	**0.02 (max)**
28	Phenolic Compound (as C_5H_6OH)	mg/Lit	N.D.	N.D.	**0.001 (max)**
29	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	N.D.	N.D.	**0.0001 (max)**
30	Mineral Oil	mg/Lit	N.D.	N.D.	**0.05 (max)**
31	Total Coliforms	MPN/100ml	Absent	Absent	**Absent**
32	EColi	MPN/100ml	Absent	Absent	**Absent**

Note : * Limits as per IS 10500:2012

For **Netel (India) Limited**

NETEL (INDIA) LIMITED Rabale Mumbai 400 701

D.Srinivasa Rao

Name & Address of the Customer : 2X600MW, Village - Badadhara, District: Janjgir–Champa, (C.G.) 495695	**Test Report No.** : NIL/2022/DW-08/4 **Issue Date** : 03.10.2022 **Your Ref** : NIL

Sample Particulars: Surface Water

SAMPLE-1 : KURRA POND, GUDELI
SAMPLE-2 : TONHI POND, GUDELI
SAMPLE-3 : MINE WATER, GUDELI
SAMPLE-4 : BORE WELL WATER, SHYAM LAL GUDELI

Quantity	: 1 No. × 1 Litre	**Date of Registration**	**30.09.2022**
Test Method	: IS:3025 & APHA 23rd Edition	**Date of commencement of testing**	**30.09.2022**
Packing	: Plastic Bottle	**Date of completion of testing**	**03.10.2022**
Test Required	: As given below	**Sample condition at receipt**	Found ok
		Sample tested as received	

Sampling Method: Sample collected by our representative on 29.09.2022 **Page 1 of 1**

Test Results

Sr. No.	Parameter	Unit	Sample-1	Sample-2	Sample-3	Sample-4	Limit*
1	pH	-	7.5	7.7	7.9	7.6	**6.5 to 8.5**
2	Dissolved Oxygen	mg/L	6.7	6.4	6.7	6.5	**4.0(min)**
3	BOD (3 days at 27°C)	mg/L	2.0	2.6	2.3	2.5	**3.0(max)**
4	Total Coli forms	MPN/100ml	497	518	535	495	**5000(max)**
5	Colour	Hazen	<5	<5	<5	<5	**300(max)**
6	Fluoride as F	mg/L	0.14	0.11	0.13	0.09	**1.5(max)**
7	Cadmium as Cd	mg/L	<0.01	<0.01	<0.01	<0.01	**0.01(max)**
8	Chlorides as Cl	mg/L	51.8	63.8	68.6	56.1	**600(max)**
9	Chromium as	mg/L	<0.01	<0.01	<0.01	<0.01	**0.05(max)**
10	Cyanides as CN	mg/L	<0.02	<0.02	<0.02	<0.02	**0.05(max)**
11	TDS	mg/L	225	335	368	242	**1500(max)**
12	Selenium as Se	mg/L	<0.01	<0.01	<0.01	<0.01	**0.05(max)**
13	Sulphates as	mg/L	13.5	18.5	22.7	17.6	**400(max)**
14	Lead as Pb	mg/L	<0.01	<0.01	<0.01	<0.01	**0.1(max)**
15	Copper a Cu	mg/L	<0.01	<0.01	<0.01	<0.01	**1.5(max)**
16	Arsenic as As	mg/L	<0.01	<0.01	<0.01	<0.01	**0.2(max)**
17	Iron as Fe	mg/L	0.14	0.18	0.17	0.18	**50(max)**
18	Phenolic compounds	mg/L	<0.005	<0.005	<0.005	<0.005	**0.005(max)**
19	Zinc as Zn	mg/L	0.32	0.47	0.41	0.44	**15(max)**
20	Anionic	mg/L	<0.1	<0.1	<0.1	<0.1	**1.0(max)**
21	Oil & Grease	mg/L	<1.0	<1.0	<1.0	<1.0	**0.1(max)**
22	Nitrates as NO3	mg/L	6.4	7.2	6.9	5.6	**50(max)**

Note : * Limits as per IS 10500:2012

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

Netel (India) Limited

25

Name & Address of the Customer : M/s. Lanco Amarkantak Power Limited, Village: Pathadi, P.O.Tilkeja District: Korba (C.G) **Sample Particulars:** Coal	**Test Report No. : NIL** /22-23/Coal/01 **Issue Date : 28**-08-2022 **Your Ref : NIL**	
Qty: ~ 1 Kg. **Test Method :**IS:1350 **Packing :**Plastic Bag **Test Required:**As given below	**Date of Registration**	17-08-2022
	Date of commencement of testing	18-08-2022
	Date of completion of testing	28-08-2022
	Sample condition at receipt	Found ok
Sampling Method: Sample collected by our Representative on 17-08-2022		**Page:** 1 of 2

Sl.No	Test Parameter	UOM	Results
1	Ash	% by mass	44.36
2	GCV	K cal/Kg	3692
3	Sulphur content	% by mass	0.41

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale New Mumbai 400 701

Netel (India) Limited

Name & Address of the Customer : DB POWER Limited 2 X 600MW, Village - Badadhara, District: Janjgir–Champa (C.G.) 495695 **Sample Particulars:**Coal	**Test Report No. : NIL** /22-23/Coal/01 **Issue Date : 28**.08.2022 **Your Ref : NIL**	
Qty: ~1 Kg. **Test Method :**IS:1350 **Packing :**Plastic Bag **Test Required:**As given below(Ash composition)	**Date of Registration**	17-08-2022
	Date of commencement of testing	18-08-2022
	Date of completion of testing	28-08-2022
	Sample condition at receipt	Found ok
Sampling Method: Sample collected by our Representative on 17-08-2022		**Page:** 2 of 2

Sl. No	Test Parameter	Result(% by mass)
1	Silica as SiO_2	59.69
2	Alumina as Al_2O_3	27.58
3	Iron as Fe_2O_3	5.28
4	Calcium as CaO	4.65
5	Magnesium as MgO	1.58
6	Lead as PbO	<0.01
7	Titanium as TiO_2	0.01
8	Vanadium as V_2O_5	0.01
8	Arsenic as As_2O_3	<0.01
9	Mercury as HgO	<0.01
10	Sodium as Na_2O	0.32
11	Potassium as K_2O	0.14

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale New Mumbai 400 701

Netel (India) Limited

27

Name & Address of the Customer : DB POWER Limited 2 X 600MW, Village - Badadhara, District: Janjgir–Champa (C.G.) 495695 **Sample Particulars:**Fly Ash	**Test Report No. : NIL** /22-23/FA/02 **Issue Date : 28**-08-2022 **Your Ref : NIL**

Qty: 1 Kg. **Test Method :**IS:1727 **Packing :**Plastic Bag **Test Required:**As given below	**Date of Registration**	17-08-2022
	Date of commencement of testing	18-08-2022
	Date of completion of testing	28-08-2022
	Sample condition at receipt	Found ok
	Sample tested as received	
Sampling Method: Sample collected by our Representative on 17-08-2022		

Sl.No.	Test Parameters	UOM	Result	
			Unit-I	Unit-II
1	Aluminium as Al_2O_3	% by mass	27.62	28.24
2	Iron as Fe_2O_3	% by mass	6.52	5.97
3	Silica as SiO_2	% by mass	59.41	59.63
4	Calcium as CaO	% by mass	2.42	2.48
5	Magnesium as MgO	% by mass	1.94	1.79
6	Sulphur as SO_3	% by mass	0.93	0.78
7	Sodium as Na_2O	% by mass	0.38	0.42
8	Potassium as K_2O	% by mass	0.27	0.29

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale New Mumbai 400 701

Name & Address of the Customer : DB POWER Limited 2 X 600MW, Village - Badadhara, District: Janjgir–Champa (C.G.) 495695 **Sample Particulars:** Soil	**Test Report No. : NIL** /22-23/Soil/01 **Issue Date : 28**-08-2022 **Your Ref : NIL**	
Qty: ~1 Kg. **Test Method :**Soil analysis by T.C.Baruah **Packing :**Plastic Bag **Test Required:** As given below	**Date of Registration**	17-08-2022
	Date of commencement of testing	18-08-2022
	Date of completion of testing	28-08-2022
	Sample condition at receipt	Found ok
	Sample tested as received	

Sampling Method: Sample collected by our Representative on 17-08-2022

S. No.	Parameter	Unit	Result	
			Crop suitable Field	Crop Unsuitable field
1.	Particle size distribution			
	Sand	%	69.58	82.63
	Silt	%	24.59	12.36
	Clay	%	5.40	5.01
2.	Texture	-	Loamy	Loamy
3.	pH	-	7.5	3.6
4.	Permeability	cm/sec	0.017	0.011
5.	Porosity	%	22.69	13.59
6.	Bulk density	g/cm3	1.22	0.98
7.	Electrical Conductivity	mS/cm	0.04	0.02
8.	Nitrite	mg/kg	0.03	0.01
9.	Nitrate	mg/kg	0.34	0.21
10.	Phosphate	mg/kg	<0.2	<0.2
11.	Sodium (Na)	mg/kg	422.0	132.0
12.	Potassium (K)	mg/kg	734.0	326.0
13.	Iron (Fe)	mg/kg	532.0	259.0
14.	Lead (Pb)	mg/kg	16.6	19.5
15.	Manganese (Mn)	mg/kg	435.5	485.2
16.	Nickle (Ni)	mg/kg	26.5	29.3
17.	Barium (Ba)	mg/kg	<0.01	<0.01
18.	Zinc (Zn)	mg/kg	24.0	12.3
19.	Copper (Cu)	mg/kg	22.6	22.1
20.	Cadmium (Cd)	mg/kg	0.85	0.71
21.	Chromium (Cr)	mg/kg	6.78	6.52
22.	Arsenic (Ar)	mg/kg	<0.001	<0.001
23.	Mercury (Hg)	mg/kg	<0.001	<0.001

For **Netel (India) Limited**

D.Srinivasa Rao

NETEL (INDIA) LIMITED Rabale Navi Mumbai 400 701

सीएसआईआर - खनिज एवं पदार्थ प्रौद्योगिकी संस्थान
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
भुवनेश्वर-751013, ओडिशा, भारत
CSIR - INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY
(Council of Scientific & Industrial Research)
Bhubaneswar - 751013, Odisha, INDIA

TEST REPORT

Ref. No. : LT02-CCD/22/59 **Date: 31.10.2022**

Name & Address of the Party of:	**M/s. DB Power Limited** **Distt: Janjgir-Champa,** **CHHATTISGARH - 495695**
Sample Details:	1. Fly ash 2. Bottom ash (one each)
Date of Receiving:	08.10.2022
Date(s) of Conducting Test:	12.10.2022
Date of Completion of Test:	21.10.2022
Method Adopted/ Standard:	**(a) Compositional chemical analysis** by ICP-OES and AAS. **b) Leaching study 1**- Toxicity Characteristic Leaching Procedure (TCLP) study as per US-EPA method 1311. **Leaching study 2**- Waste Extraction Test (WET) Procedure given in Appendix II of section 66261 of Title 22 of California Code Regulations (CCR) to compare with Soluble Threshold Limit Concentration (STLC). Analysis of leaching solutions by AAS, ICP-OES & Ionometry.

Detail Report:

Following data tables are enclosed:

Table-1.Compositional chemical analysis of Ash samples.

Table-2. Experimental variables for Toxicity Characteristic Leaching Procedure (TCLP) study of Ash samples conducted as per US-EPA method 1311.

Table-3.Trace element analysis of TCLP or WET Procedure solutions of Ash samples: Leaching studies conducted as per US-EPA method 1311 and Appendix II of section 66261 of Title 22 of California Code Regulations (CCR).

31/10/2022
(Dr. J. Das)
Pr. Technical Officer
Central Characterization Dept.

02/11/22
(Dr. B. Nayak)
Chief Scientist
& Head, CCD

N.B.:- The samples are not drawn by CSIR-IMMT. Liability, if any, for the institute arising in connection with the testing shall be subject to ceiling of amount received by the institute from the client. The report should not be interpreted in part.

सीएसआईआर - खनिज एवं पदार्थ प्रौद्योगिकी संस्थान
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
भुवनेश्वर-751013, ओडिशा, भारत
CSIR - INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY
(Council of Scientific & Industrial Research)
Bhubaneswar - 751013, Odisha, INDIA

TEST REPORT

Ref. No. : LT02-CCD/22/59 **Date: 31.10.2022**

Table-1. Compositional chemical analysis of ash samples.

Sl. No.	Component	Concentration in Ash Test Samples, %	
		Fly ash	Bottom Ash
1	SiO_2	59.80	62.57
2	Al_2O_3	27.69	21.28
3	Fe_2O_3	3.15	8.32
4	TiO_2	1.67	1.27
5	CaO	0.68	1.06
6	MgO	0.22	0.45
7	Na_2O	0.28	0.21
8	K_2O	1.16	1.07
9	Cr	0.027	0.021
10	Mn	0.016	0.058
11	Ni	0.008	0.004
12	Co	0.002	0.002
13	Zn	0.021	0.006
14	Pb	0.011	0.001
15	P_2O_5	0.39	0.32
16	S as SO_3	0.02	0.04
17	LOI	0.68	0.75

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(Dr. J. Das)
Pr. Technical Officer
Central Characterization Dept.

02/11/22
(Dr. B. Nayak)
Chief Scientist
& Head, CCD

सीएसआईआर - खनिज एवं पदार्थ प्रौद्योगिकी संस्थान
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
भुवनेश्वर-751013, ओडिशा, भारत
CSIR - INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY
(Council of Scientific & Industrial Research)
Bhubaneswar - 751013, Odisha, INDIA

TEST REPORT

Ref. No. : LT02-CCD/22/59 **Date: 31.10.2022**

Table-2. Experimental variables for Toxicity Characteristic Leaching Procedure (TCLP) study of Ash samples conducted as per US-EPA method 1311.

Sl. No.	TCLP study Variables	Variable Data	
		Fly Ash	Bottom Ash
1	TCLP study method	US-EPA Method-1311	US-EPA Method-1311
2	Sample type	Dust, Particle size < 100 µm	Dust and Gravels, Particle size- < 8 mm
3	Sample particle size taken for leaching	Original sample	Original sample
4	Initial pH of samples	5.2	9.4
5	pH after HCl + heat	1.3	1.4
6	Extraction fluid used	Extraction fluid -1	Extraction fluid -1
7	pH of Extraction fluids	4.93	4.93
8	Sample taken for leaching, gm	50	50
9	Volume of extraction fluid used, ml	1000	1000
10	Liquid/solid ratio	20:1	20:1
11	Head space	10%	10%
12	Extraction Temperature °C	28	28
13	Extraction Time, hour	18	18
14	Filter	Glass micro fiber, Whatman GF/C	Glass micro fiber, Whatman GF/C
15	Washing of filters	With dil. HNO_3 and distilled water	With dil. HNO_3 and distilled water
16	pH of recovered extraction fluid	4.9	5.0

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Ref. No. : LT02-CCD/22/59 **Date: 31.10.2022**

Table-3. Trace element analysis of TCLP or WET Procedure solutions of Ash samples; leaching studies conducted as per US-EPA method 1311 and Appendix II of section 66261 of Title 22 of California Code Regulations (CCR).

Sl. No.	Component	Concentrations in TCLP or WET* leaching solutions of Ash test samples (mg/L)		Waste constituents concentration limits of TCLP or STLC. US-EPA and California Code of Regulations (mg/L)
		Fly Ash	Bottom Ash	
1	As	0.058	0.019	5.0
2	Ba	0.35	0.21	100.0
3	Cd	BDL	BDL	1.0
4	Co*	0.051	0.035	80.0
5	Cr	0.010	0.015	5.0
6	Cu*	0.391	0.019	25.0
7	F^-	1.38	0.34	180.0
8	Fe	0.062	0.008	-
9	Hg	0.002	0.001	0.2
10	Mn	0.234	0.112	10.0
11	Ni*	0.167	0.063	20.0
12	Pb	BDL	BDL	5.0
13	Zn*	0.57	0.096	250

Remark: The TCLP and WET leaching solution analyses of fly ash and bed ash samples reveal that trace element concentrations are much below the Waste constituent concentration limits. Therefore, the ash samples are non-hazardous materials and their use as land filling or mine void dumping will not have any adverse effect on the ground water quality in respect of the analyzed parameters.

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SOCIAL AUDIT REPORT

APRIL 2021 –MARCH 2022

Of

DB Power Limited

Village: Badadarha

Block & Tehsil: Dabhra

Distt: Janjgir-Champa

Chhattisgarh - 495695

Prepared By: Dr Vikram Singh

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Department of Social Work

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S.NO	CONTENTS	PAGE NOS
	LIST OF TABLES	

1.0. Introduction (DB Power Ltd):

DB Power Limited ("DBPL"), a special purpose vehicle (SPV), incorporated on October 12, 2006, is a subsidiary of Diligent Power Private Limited (DPPL), an associate company of the Dainik Bhaskar group, a diversified Indian conglomerate. DBPL has set up a coal-based Super Thermal Power Plant (TPP) of capacity 1200 MW (2 X 600 MW) at the village Badadarha District Janjgir -Champa in the state of Chhattisgarh. The major components of the project include Boiler, Turbine, and Generator. The other components include a coal handling system, a switch yard, and an ash handling system. It also includes wagon tipplers, railway siding, and transmission lines beside a water pipeline between the intake well at Mahanadi River, Chandrapur and the plant site. The plant is accessible by a major district road between Raigarh and Bilaspur. The site is also approachable from Kharsia via Kharsia Dabhra road. The nearest urban area is Raigarh, located at a distance of about 25 km towards the East of the plant. The nearest railway station is at Robertson, 15 km away while the nearest commercial airport is at a distance of 250 km away at Raipur.

2.0. Social Audit:

In the wake of rapid globalization and pressing ecological issues, the perception of corporations' role in the broader social paradigm is undergoing a sea change. In recent years, society and the state have put forward an expectation before public sector corporate to integrate the social responsibility aspects in their business persuasion. This scenario not only affects large-scale public-sector undertakings but also includes firms of small scale. The underlying assumption is that Corporate Social Responsibility (CSR) is one way through which companies can demonstrate their commitment to ally responsible. CSR as an integral aspect of a corporate has double edge effect in terms of creating goodwill for the company and acting as a social and economic intervention to bring about large-scale change in the life of people from different walks of a social audit is an independent evaluation of the performance of an organization as it relates to the attainment of its social goals. It is an instrument of social accountability of an organization.

In other words, a social audit may be defined as in-depth scrutiny and analysis of the working of any public utility vis-à-vis its social relevance. Social auditing is a process that enables an organization to assess and demonstrates its social, economic and environmental benefits. Social Audit gained significance after the 73rd amendment of the constitution relating to the Panchayati raj institutions. It demonstrates its social, economic and environmental benefits. Social Audit gained significance after the 73rd amendment of the constitution relating to the Panchayati raj institutions.

Social audit is based on the principle that democratic local governance should be carried out, as far as possible, with the consent and understanding of all concerned to demonstrate its social, economic and environmental benefits. Social Audit gained significance after the 73rd amendment of the constitution relating to the Panchayati raj institutions. It is thus a process and not an event. A social audit is a way of measuring, understanding, reporting and ultimately improving an organization's social and ethical performance. A social audit helps to narrow gaps between vision/goal and reality, between efficiency and effectiveness. It is a technique to understand, measure, verify, report on and improve the social performance of the organization.

Social auditing creates an impact on governance. It values the voice of stakeholders, including marginalized/poor groups whose voices are rarely heard. Social auditing is taken up to enhance local governance, particularly for strengthening accountability and transparency in local bodies. The key difference between a development and a social audit is that a social audit focuses on the neglected issue of social impacts, while a development audit has a broader focus including environmental and economic issues, such as the efficiency of a project or programme. The Social Audit has been carried out of CSR for FY:2020-2021. There are 08 villages where CSR activities have been carried out details are as follows;

Table 1 Number of Households in Affected Villages

S. No	Name of Village	Numbers of Household
1.	Badadarha	356
2.	Tundri	956

Table 02 Population of Villages beneficiaries under CSR Activities in Affected Villages

S.No.	Villages	Population
A.	**Project-Affected Villages**	
1.	Badadarha	**1634**
2.	Tundri	**3810**

3.0. Objectives of Social Audit:

1. Assessing the actual needs of village development and resources provided by DB power for village development.
2. Provide suggestions for Increasing the efficacy and effectiveness of village development programmes carried out by DB Power Ltd.
3. Analysis of work carried out keeping in view stakeholder interests and priorities, particularly of villagers.
4. To assess infrastructural development and its impact on the quality of lives (well-being) of the residents
5. Assessing the physical and financial gaps between needs and resources available for local development.
6. Creating awareness among beneficiaries and providers of local social and productive services.
7. Increasing efficacy and effectiveness of local development programmes.
8. Scrutiny of various policy decisions, keeping in view stakeholder interests and priorities, particularly of rural poor at the community level.
9. Estimation of the opportunity cost for stakeholders of not getting timely access to public services.

4.0. Methods Used for Social Audit:

Preliminary surveys of two category villages' i.e., Project Affected and Railway Corridor have been conducted from personal field observations, personal interviews, and obtaining information through schedules from various beneficiary groups.

A Series of meetings has been conducted with various SHGs Groups and Sewing Centre beneficiaries.

5.0. Sources of Data for Social Audit:

The sources of data to prepare the social audit were primary data collected by the auditor and secondary data provided by DB power Ltd such as Stock, meeting registers, and Quarterly and Monthly reports published by the CSR of DB Power.

6.0. Major Thrust Areas of CSR at DB Power Ltd:

Corporate social responsibility (CSR) refers to strategies corporations or firms conduct their business in a way that is ethical, society friendly and beneficial to the community in terms of development. The present-day CSR (also called corporate responsibility, corporate citizenship, responsible business and corporate social opportunity) is a concept whereby business organizations consider the interest of society by taking responsibility for the impact of their activities on communities and other stakeholders as well as their environment.

This obligation shows that the organizations must comply with legislation and voluntarily take initiatives to improve the well-being of the affected local community and society at large. CSR simply refers to strategies corporations or firms conduct their business in a way that is ethical and society friendly. The focus of the corporate social responsibility unit of DB Power Plant Janjgir-Champa is the holistic development and improvement in the quality of life of habitations and affected communities, particularly of the disadvantaged groups, in and around the neighbourhoods of power station project sites. DB power plant under its CSR

policy has implemented various projects in the financial year from 2020-21 based on the needs of the neighbouring affected villages and above-mentioned communities with the participation of the villagers, district, and local administrations. Based on the CSR guidelines issued by the department of public enterprises, the Government of India, DB Power Ltd must carry out CSR activities in affected villages every financial year. All activities undertaken by DB Power under CSR in the 8 Project Affected Villages will be covered in the Social Audit. The activities about various developmental fields are as follows:

A. Rural Infrastructure Programme

B. Education and Skill Development

C. Health, Hygiene & Sanitation

D. Women Empowerment

E. Social Welfare and Development Programme

7.0. The Profile of Dabhra Block

Dabhra is a Tehsil / Block (CD) in the Janjgir Champa District of Chhattisgarh. The total area of Dabhra is 437 km^2 including 419.48 km^2 rural area and 17.19 km^2 urban area. Dabhra has a population of 1,64,863 people. There are 43,160 houses in the sub-district. There are about 121 villages in the Dabhra block. 8 Villages are selected for CSR Activities and rural development.

8.0. Expenses of Budget Allocated in Financial Year 2021-2022 for CSR Activities

Financial Year	Rural Infrastructure Development	Health & Sanitation	Education & Skill Development	Women Empowerment	Rehabilitation & Compensation	Social & Cultural Programmes	Operating
2021-2022	13365403	7066449	241000	86419	24928052	2688761	359619

The above details are given about the expenditure done by the CSR Unit of DB Power Ltd in different thrust areas in affected villages in the financial year 2021-2022. After calculating the sub-heads, the total expenditure is Rs. 48,735,703/-, The expense details have been cross-checked through maintained records.

9.0. Detail description of Activities Carried Out in different thrust areas

9.1. Rural Infrastructure Program: Rural infrastructure is generally defined as the physical framework of facilities in rural areas through which, facilities and services are provided to the public. Rural infrastructure assumes great importance in India because of the country's predominant rural nature, and the crucial linkage of infrastructure to economic growth, poverty alleviation, and human development. Rural infrastructure covers a wide spectrum of services such as transportation, power generation, transmission and distribution, telecommunication, port handling facilities, water supply, sewage disposal, irrigation, medical, education and other primary services. Rural areas would have a high concentration of poverty given the existence of disguised unemployment in a big way in agriculture. Access to land and ownership of land is the key to income differences since land is the major productive asset in rural areas. Rural areas may be more usefully viewed as the concentration of poo resulting in little value for economic demand for infrastructural services.

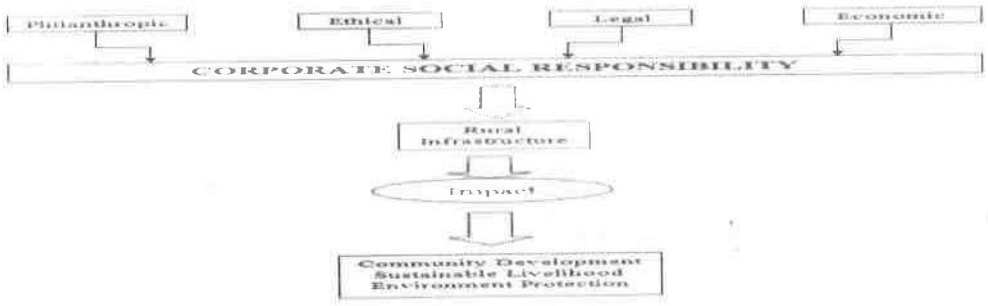

Figure: 01 Conceptual Framework of DB Power Ltd CSR Unit in Rural Infrastructure

This section covered the details of CSR intervention in rural infrastructure, public relations, and activities based on preserving the environment like pollution prevention programs, and awareness programs in the community. It also analyzed how CSR activities have provided significant employment to the local community people and production of crops and enhancement in services Infrastructure assets such as rural roads, tracks, bridges, irrigation schemes, water supplies, schools, health Centre and markets are needed in rural areas for the local population to fulfil their basic needs and live a social and economic productive life.

9.1.1. Overview of Badadarha: According to Census 2011 information the location code or village code of Badadarha village is 437104. Badadarha village is in Dabhra Tehsil of Janjgir Champa district in Chhattisgarh, India. It is situated 30km away from sub-district headquarters Dabhra and 85km away from district headquarter Janjgir. As per the 2009 status, Badadarha is the gram panchayat of Badadarha village. The total geographical area of the village is 458.82 hectares. Badadarha has a total population of 1,634 people. There are about 436 houses in Badadarha village. Kharsia is the nearest town to Badadarha which is approximately 15km away. In Badadarha village population of children with age 0-6 is 218 which makes up 13.34 % of the total population of the village. The average Sex Ratio of Badadarha village is 907 which is lower than the Chhattisgarh state average of 991. The child Sex Ratio for Badadarha as per census is 1057, higher than Chhattisgarh's average of 969. Badadarha village has a higher literacy rate compared to Chhattisgarh. In 2011, the literacy rate of Badadarha village was 75.07 % compared to 70.28 % in Chhattisgarh. In Badadarha Male literacy stands at 86.28 % while the female literacy rate was 62.41 %. Schedule Tribe (ST) constitutes 16.89 % while Schedule Caste (SC) was 11.44 % of the total population in Badadarha village. In Badadarha village out of the total population, 1076 were engaged in work activities. 47.12 % of workers describe their work as Main Work (Employment or Earning more than 6 Months) while 52.88 % were involved in Marginal activity providing a livelihood for less than 6 months. Of 1076 workers engaged

in Main Work, 85 were cultivators (owner or co-owner) while 206 were Agricultural labourers.[i]

Badadarha is a medium size village located in Dabhra Tehsil of Janjgir Champa district, Chhattisgarh with a total of 436 families residing. The Badadarha village has a population of 1634 of which 857 are males while 777 are females as per Population Census 2011. In Badadarha village population of children with age 0-6 is 218 which makes up 13.34 % of the total population of the village. The average Sex Ratio of Badadarha village is 907 which is lower than the Chhattisgarh state average of 991. The child Sex Ratio for Badadarha as per census is 1057, higher than Chhattisgarh's average of 969. Badadarha village has a higher literacy rate compared to Chhattisgarh. In 2011, the literacy rate of Badadarha village was 75.07 % compared to 70.28 % in Chhattisgarh. In Badadarha Male literacy stands at 86.28 % while the female literacy rate was 62.41 %. As per the constitution of India and the Panchayati Raj Act, Badadarha village is administrated by the Sarpanch (Head of Village) who is elected representative of the village. Our website doesn't have information about schools and hospitals in Badadarha village. Schedule Tribe (ST) constitutes 16.89 % while Schedule Caste (SC) was 11.44 % of the total population in Badadarha village. In Badadarha village out of the total population, 1076 were engaged in work activities. 47.12 % of workers describe their work as Main Work (Employment or Earning more than 6 Months) while 52.88 % were involved in Marginal activity providing a livelihood for less than 6 months. Of 1076 workers engaged in Main Work, 85 were cultivators (owner or co-owner) while 206 were Agricultural labourers.

Table: 03 Population Profile of Badadarha (in Percentage)

Particulars	Total	Male	Female
Total No. of Houses	436	-	-
Population	1,634	857	777
Child (0-6)	218	106	112
Schedule Caste	187	96	91
Schedule Tribe	276	137	139
Literacy	75.07 %	86.28 %	62.41 %
Total Workers	1,076	594	482
Main Worker	507	-	-
Marginal Worker	569	169	400

Table 04: Badadarha Village Profile

Particulars	Total	Male	Female
Total No. of Houses	**436**	-	-
Population	**1,634**	857	777
Child (0-6)	**218**	106	112
Schedule Caste	**187**	96	91
Schedule Tribe	**276**	137	139
Literacy	**75.07 %**	86.28 %	62.41 %
Total Workers	**1,076**	594	482
Main Worker	**507**	-	-
Marginal Worker	**569**	169	400

Source: Census 2011

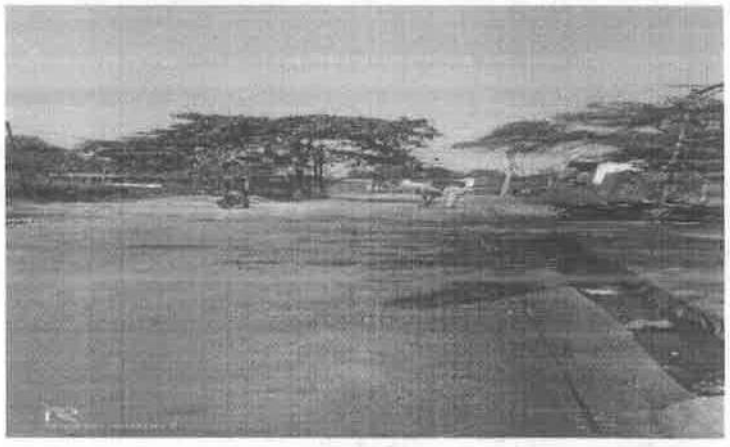

Photo 1: Construction of 300-meter CC road in village Badadarha

Photo 2: Cleaning of Kachcha Canal at Badadarha

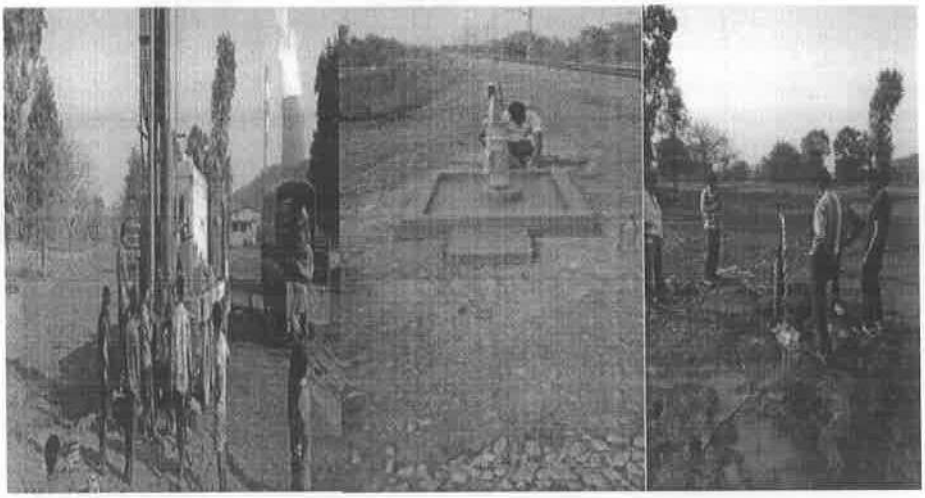

Photo 3: Drilling of bore well & Installation of Submersible pump & Hand pump at Labour colony, Badadarha

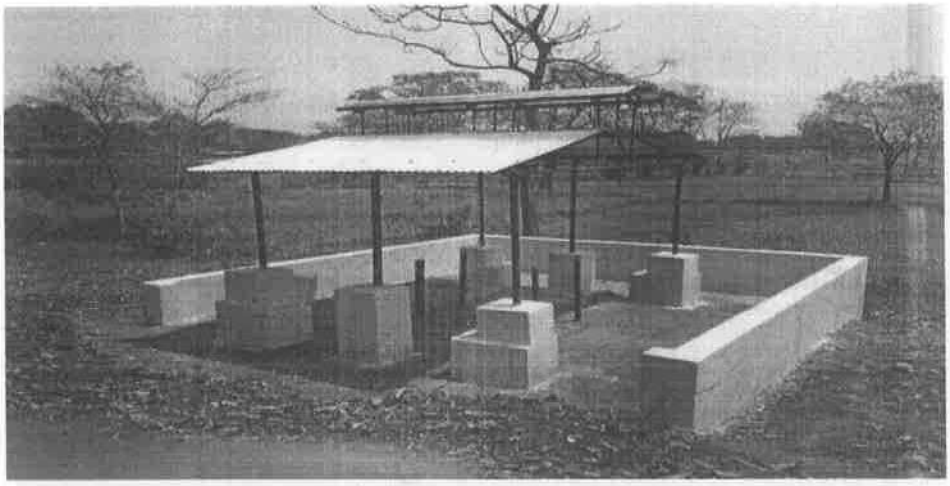

Photo 4: Constructed Cremation shed (2 nos.) Ghanatarai & Kalmidipa at Tundri

In village Tundari with the assistance of DB Power Pvt. Ltd. constructed the Cremation shed place by murram near the main road. Such initiatives are expected to improve the durability of the area of Cremation place within the Tundri village **(See Photo 4)**. The construction of steps nearby to the ponds of the three mentioned villages with Bricks and Cement has enhanced the accessibility of villagers to use the water resources for different purposes. Moreover, it also reduced the accidental cases of slipping and drowning in the villages as discussed with the respondents. This initiative of DB Power also helped villagers to develop these ponds for fish farming which emerged as an alternative source of livelihood among them **(See Photo 5)**.

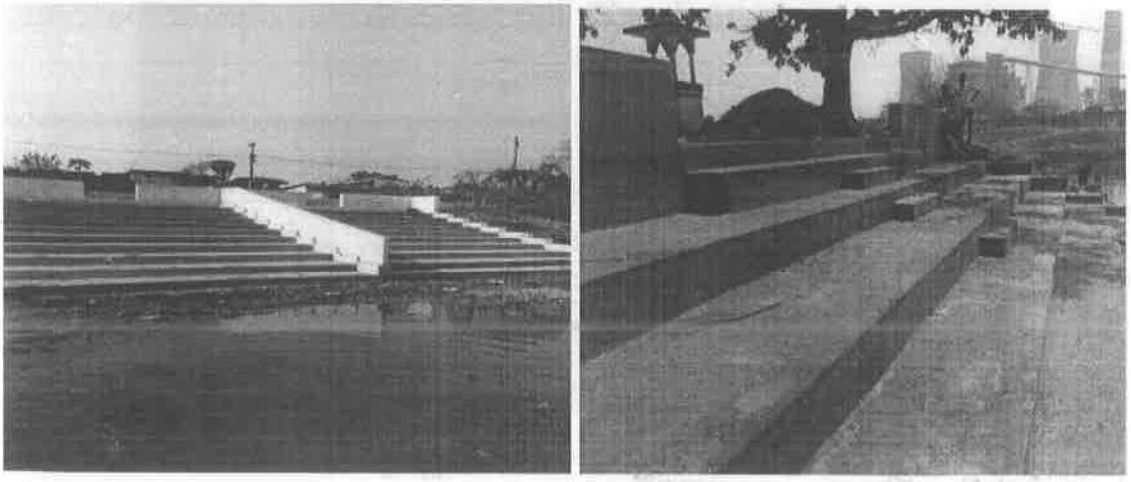

Photo 5: Construction of Stairs near Dadu pond, Patadi Nala, Darri Pond and Nimohi pond at Badadarha, Rampur & Baispali

Photo 6: Fencing has done at the outer periphery of Government Hospital Tundri village

Installing fences around Government Hospital at tundari village with barbed wire fencing done by DB Power to keep government property safe from intruders and thieves. It is one of the most used methods to install security measures in places like this. The use of steel-reinforced barbed wires creates a perimeter boundary to increase the level of security. However, installing barbed wire fencing is an initiative to protect Government property from burglars, stray animals, and intruders **(See Photo 7).**

Photo 7: Culvert formation near Bandhwa Pond at Tundri

Culverts function primarily as hydraulic conduits, conveying water from one side of a roadway or similar traffic embankment to the other; therefore, culverts serve the dual purposes of functioning as hydraulic structures as well as acting as traffic load-

bearing structures. Culvert is defined as a tunnel structure constructed under roadways or railways to provide cross drainage or to take electrical or other cables from one side to another. It is enclosed by soil or ground. The design of the culvert is based on hydraulic, water surface elevation, roadway height and other conditions. The Culvert at Bandhwa pond, Tundari helps the pond-water conduits, conveying water from one side of a roadway situated in the village, especially in the rainy season

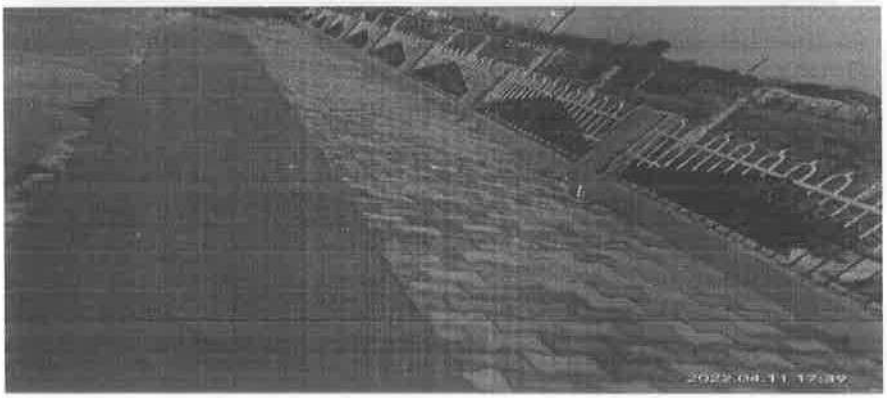

Photo 8: Renovation work on the premises of the Collector office at Janjgir-Champa.

Renovation (also called remodelling) is the process of improving a broken, damaged, or outdated structure. Renovations are typically either commercial or residential. Additionally, renovation can refer to making something new, or bringing something back to life and can apply in social contexts. The purpose behind this renovation was to create a bridge for the smooth functioning of the Administration, hence the road of the collector office connected to villages with metal roads for better reach for primary and secondary stakeholders **(See Photo: 8).**

Photo 9: Construction of shed near the farm pond at Adbhar.

"Farm ponds recognized as a drought-proofing measure have received a great push from the central government recently. Most of the farm ponds are instead being used as storage tanks for pumped-out groundwater exposing this underground resource to losses through evaporation, etc. In the process, they are accelerating the rate of groundwater exploitation multifold. The utility of such ponds for the farmers is quite apparent. *"Farm ponds are of great help. Now we can save at least half the crop with protective irrigation in summer and drought situations. And since protective irrigation is assured, the quality of the fruits.* Equally important as these tangible benefits of the farm ponds is the psychological relief of farmers seeing the stored water"[ii]. However, the focus is to develop a shed by DB Power near the farm pond because it harvests rainwater and ensures groundwater recharge.

9.1.2. Impact on Community People:

The construction of CC road has been constructed by DB Power Ltd under CSR which is to improve transportation within the village **(See Photograph 1: CC Road in Badadarha Village).** "Interest in concrete roads exists for many reasons, especially in developing countries. Concrete roads offer several advantages to other solutions from both technical and economic points of view."[iii] A good load distribution, which eliminates the need for thick and expensive bases; A great resistance to deformation

and wear at any temperature; and an insensitivity to stagnant oil, clay, or faecal matter. The estimated service life of more than 30 yrs. Now Villagers are connected to urban pockets. In the rural set-up, Canal is the main source of irrigation in crop fields. Cleaning of Kachcha Canal has been done for irrigation purposes at Badadarha by DB Power Pvt. Ltd. Canals can be an effective source of irrigation in areas of low-level relief, deep fertile soils, perennial sources of water and extensive command area.[iv] In India, 22 million hectares by irrigated canals and about two third of cultivation in India are still dependent on the monsoon. [v]**(See Photograph 2).** Groundwater is an important source of irrigation in large tracks of India. This source has been considered infinite and used indiscriminately without any disregard to recharge prospects[vi]. In India, about 45% of the rural poor do not have access to safe Drinking water. The drinking water crisis in Indian Cities has reached explosive proportions. In rural areas, inadequate drinking water supplies are forced to use any water that is available even if it is highly contaminated. Consequently, it is this section of the population that is most often hit by waterborne epidemics of Jaundice, Cholera, or gastroenteritis.[vii] "In the rural area being an agrarian, farmers are dependent mainly on groundwater for irrigation. With increasing population, lesser land holdings and urbanisation, deeper borewells are dug for groundwater abstraction. Borewells & tube wells are remarkably similar. Both are vertically drilled wells, bored into an underground aquifer in the earth's surface, to extract water for various purposes."[viii] Drilling of Bore well & Installation of Hand pump near Labour Colony through the assistance of DB Power Pvt. Ltd which can help the villagers to safe and drinking water (Photo 4 Drilling of bore well & Installation of Submersible pump & Hand pump at Labour colony, Badadarha).

9.2. Education and Skill Development:

This section covered the details intervention of CSR in Education and Skill Development. Education features very highly in both the UN Millennium Development Goals and the Sustainable Development Goals. Whilst progress is being made, there are still huge gaps in terms of educational outcomes in developed vs. developing countries. India's organized sector has only 34 million people which forms

a small stratum of the total population. This statement itself says a lot about the Indian literacy rate and the education system.[ix] The system of education in rural areas has been undergoing many changes and transformations. In the present existence, there have been developments and progressions taking place in the system of education in rural areas. The role of education in assisting social and economic progress is well accepted. Access to education is critical to access emerging opportunities that supplement economic growth. Taking into consideration this accepted fact, there has been the main thrust on education, since the country achieved its independence. But as far as guaranteeing quality education in rural India is concerned, it has been one of the major challenges for the government.[x] Every village is not provided with a school which means that students must go to other villages to get an education. Owing to this parent usually do not send their daughters to school, leading to a failure in achieving rural education in India. Poverty is another setback; Government schools are not as good and private schools are expensive. The dropout -rate of the secondary level is extremely high in Villages.[xi] In English, the term "Education" has been derived from two Latin words Educare (Educere) and **Educatum.** "Educare" means to train or mould. It again means to bring up or to lead out or to draw out, propulsion from inward to outward. The term "Educatum" denotes the act of teaching. It throws light on the principles and practices of teaching. The term Educare or Educere mainly indicates the development of the latent faculties of the child. But the child does not know these possibilities. It is the educator or the teacher who can know these and take appropriate methods to develop those powers. In Hindi, the term "Shiksha" has come from the Sanskrit word "Shash." "Shash" means to discipline, control, order, direct, to rule etc. Education in the traditional sense means controlling or disciplining the behaviour of an individual. In Sanskrit "Shiksha" is a particular branch of the Sutra literature, which has six branches: Shiksha, Chhanda, Byakarana, Nirukta, Jyotisha and Kalpa. The Sutra literature was designed to learn the Vedas. Siksha denotes the rules of pronunciation. In India, skill development occurs through two broad institutional structures - formal and non-informal. The formal structure includes higher technical education in colleges, vocational education in post-secondary schools, technical skills in specialized institutions and apprenticeship training. As part

of the Government's social development agenda, there are several schemes which provide basic employable skill development. India is an Agrarian Society; here more than 70 per cent population lives in rural areas. They depend on agriculture and associated sectors of agriculture for their livelihood. The ability of the individuals in any society is necessity to vest them for social alteration, economic growth, contribution in development process. Therefore, a Nation seeking towards development requires institutions, entrepreneurship, and skill development, to initiate, engross and achieve the course of change and the changing societal structure and livelihood profiles. In 40's after independence India was a developing nation because of the burden of imperialism. It is understood that restraints and possibilities towards the development of the rural area are embedded in the agrarian society. In the 20th century Industrial Revolution fetched fundamental alterations in agrarian societal structures that were entrenched in the agriculture sector. 'The Industrial Revolution took away this responsibility from women's, brought about a rural-urban dichotomy, particularly in agrarian societies and created a demand for some other educational agent outside homes. The educational agent, the school, was assigned two basic goals: (1) development of human resources (particularly men) with skills for the manufacturing sector; (2) undertaking partial responsibility of the home, namely value addition and moral education (India, 2006). It gave rise to separation in all sectors, and the bulk of deficient Rural Youth in productive and technical skills. Hence, youth living in rural areas must struggle to get earnings or voluntarily/forcibly migrated to urban areas in search of jobs. The migration arrangement varies with the region, prospects, and socio-economic status of the families. The poorest families, particularly the landless and marginal holders have poor-quality land inclined to migrate. Such migrations severely affected the quality of life, because of poor health, lack of education, skill development and social pressures leading to the erosion of moral values. 'In the '50s, almost national governments in Asia formulated 'community development programmes to achieve self-reliance and development through local institutions and participation of the rural communities for their development (CIRDP, 1987). The core elements of community development were (i) People's participation in local community development projects, (ii) democratic

decentralization, (iii) transfer of technology, and (iv) self-help efforts. 'The rural development pursued in the 1950s and 1960s was largely centred around 'growth first' models. Despite robust growth in the 1960s, economic benefits did not 'trickle down and most of the population was languishing in abject poverty, rising unemployment and increased inequalities' (India, 2006).

9.2.1. Different Work carried out under Education and Skill Development section are:

9.2.2. Training Centre for Skill Development among Rural women at Tundri Village

Destitute women as well as women who were affected by bigamy were sent back to their parents for additional dowry or lack of children, aged deserted by children, not married due to disability or due to poor financial position of their parents and women deceived in the name of love will be covered under this project. They were unable to raise their children properly due to financial problems and were forced to send them for work at a tender age as child labour. The CSR unit has conducted a survey and identified such women in Tundri village. They are almost invariably dependent on others – typically male members of their family because they are unable to secure an independent means of livelihood for themselves. In many instances, being separated or divorced or even abandoned women do not get recognition as a separate household and become reliant on their father or brother. The livelihoods have been affected badly. There are important implications here for the empowerment of women, especially in difficult family relationships as access to a separate income would provide them with a viable source of livelihood, giving women the opportunity to live with dignity and independence. This is possible if their skills are developed and provided work in a production center for sustainable livelihoods. The centre is designed to provide financial stability as well as employment/working opportunities to destitute women and adolescent girls who are the vulnerable group of social neglect and exploitation. After the training, with in a period of six months, forward and backward linkages will be provided for the establishment of Training-cum-Production centre & self-employment units of their own for all the women. They will also be provided with marketing assistance. They will be provided all the necessary

assistance for the economic empowerment. DB power CSR unit will facilitate for the establishment of the production center. The said centre will be managed and run by themselves through a managing committee. The trained women will work at the center and earn wages. All necessary facilitation will be done by DB Power Ltd. Raw material supply will be ensured. Marketing assistance will be provided by DB power ltd.

Photo10: Training-cum-Production Centre for Skill Development

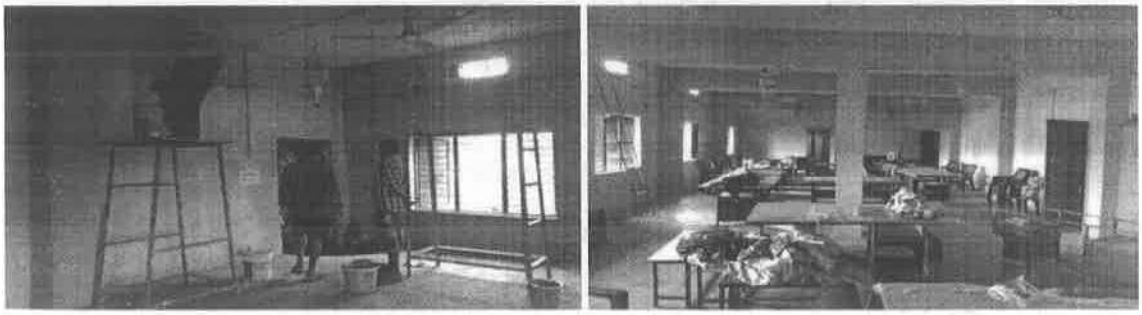

Photo11: Painting work has been done in the common classroom, Government Higher Secondary School, Tundri.

9.2.3. Set-up of smart class govt. Higher Secondary School Tundri to inaugurate by Mr. Ramkumar Kumar Yadav (Local MLA, Chandrapur) to impart Training on basic knowledge of computers among students at govt. Higher Secondary School, Sondka

DB Power Ltd. provides free computer training to underprivileged students. They are trained by experts in the field who also provide them

with practical training for hands-on experience. Expert trainers and volunteers make sure the students receive the best knowledge of computers. DB Power CSR unit manages and runs computer learning training from time to time to help these deprived students realize their dream of learning computers and securing a bright career. Hence initiative to set up a smart classroom has been done.

Photo 12: Set-up of Smart Classroom & Inauguration

9.3. Health, Hygiene & Sanitation

Sanitation, hygiene, and cleanliness are the symbols of a cultured society. Sanitation is critical for health and sustainable socio-economic development. Sanitation plays a vital role in human health. "Sanitation is more important than independence," this quotation said by Mahatma Gandhi in 1923 reveals the importance of sanitation in a civilized society. India is a country whose majority of the population lives in a rural area where the rural population has high tendency to use vicinities area for defecation. The challenge for the healthcare sector, the government, medical profession, health care provider, as well as for healthcare business manager, is to continually explore ways to ensure that the welfares of individual patients remain the utmost primacy and promote health care equity via corporate socially responsible activities. The main issue of health care sector and sanitation is lack of resources and awareness related to the rights and availability of services. There is an essential need to truly embrace corporate social responsibility (CSR) and ethical principles that would promote equal distribution of healthcare resources.

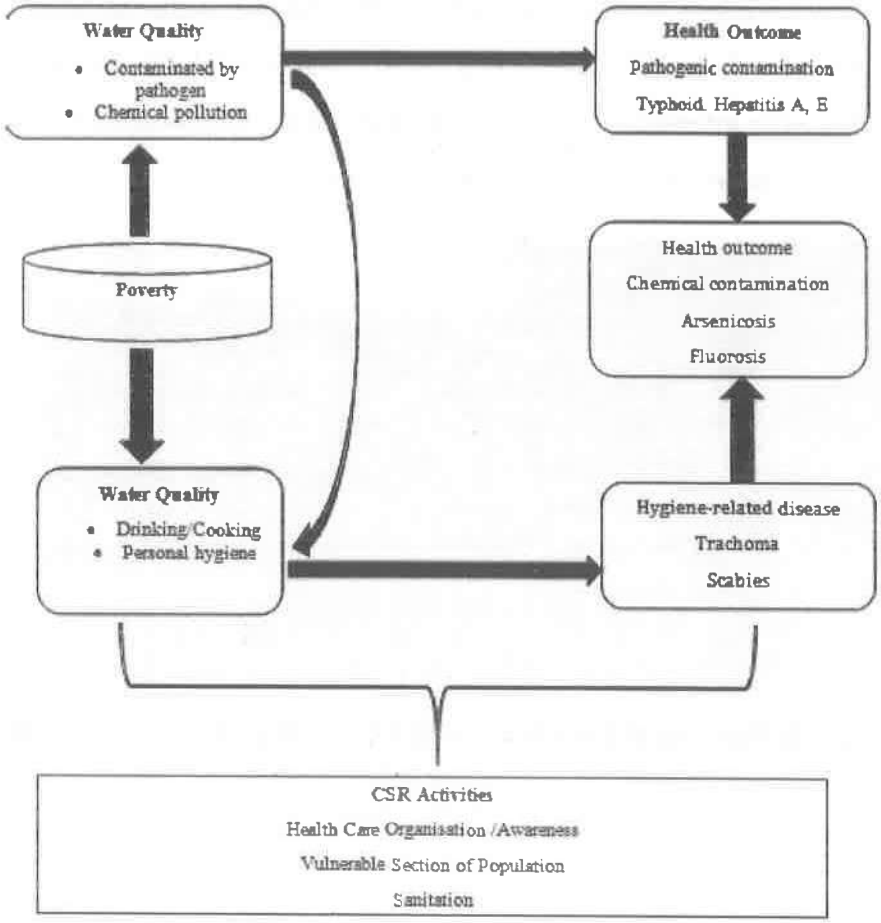

Figure: 02 Conceptual frameworks depicting the Role of CSR in Health and Sanitation

This section covered the details of CSR intervention in Health & Sanitation. It also discusses how Health is increasingly becoming a focal point of Corporate Social Responsibility (CSR), largely due to the recognition that a healthy workforce and community are fundamental to the longevity of a business and the success of an economy. The following work has been carried out under Health and Sanitation.

9.3.1. Community Health Centre at Tundri-Badadarha

Community Health Centre is functioning in the temporary shed as shown in the above photo because the connectivity of CHC with the road is not completed; hence the construction of the Road is in Progress. This CHC constitute of 06 staff, (03 Male & 01 female Attendants, 01 BAMS & 01 MBBS Doctor. The time is 9:30 am to 5:00 pm. In this CHC after diagnosis Doctor provides medicines to the patients

and in case of emergency patients has referred to Raigarh with the help of the Ambulance Service of the CSR unit. The facility and availability of ambulance service are 24X7. The attendants also maintain Patient Registration and Medicine, Stock Register. A total number of 1142 cases attended.

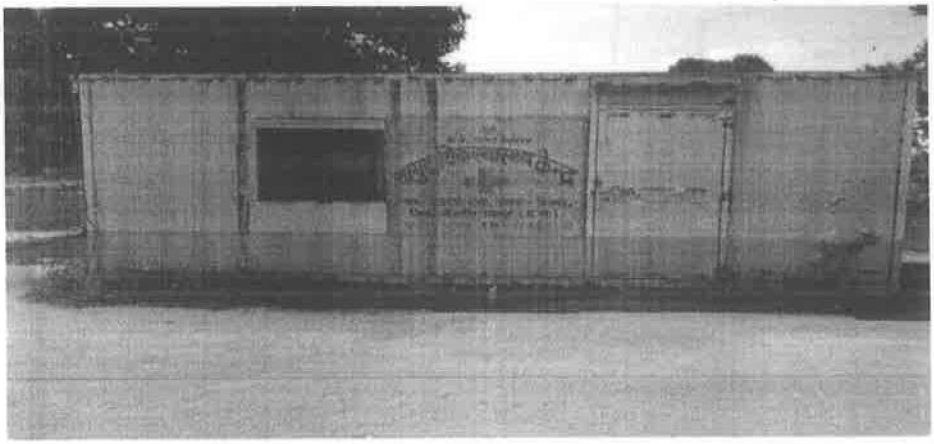

Photo 13: Health Services at Community Health Centre of DB Power Ltd.

Photo 14: Cases attended in CHC

Photo15: 24X7 Ambulance Service referral Service attended 162 cases

The facility and availability of ambulance service are 24X7. The attendants also maintain Patient Registration and Medicine, Stock Register. **Good Health** is the greatest blessing in life. Life is a weary burden to a person of broken health. In rural places in backward States like Chhattisgarh, health is considered the major issues and economically backward populations are unable to access better health services, other than the availability of health centres is the major problem. Despite significant growth in the healthcare units many villages in backwards States like Chhattisgarh India continue to face serious challenges of unavailability of Institutional Health Care. Hence DB Power has made significant efforts towards Institutional Health Care.

9.3.2. Sprinkling of Water:

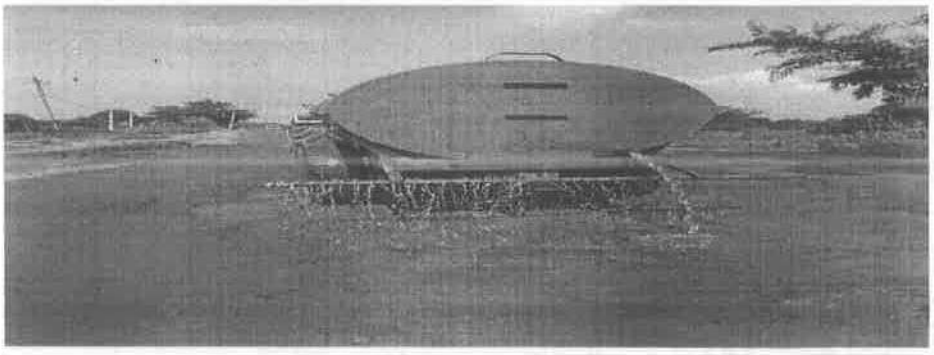

Photo 16: Sprinkling of water on main road Tundri to Kanwali, Saraipali to Odekera & Tundri to Bypass Road Badadarha and ash dyke to L&T gate.

In the wake of severe air pollution emergence in the Power Plant Area, DB Power Pvt. Ltd. will use 'dust suppressants and water sprinkling to control road dust. As per the officials, the plain water sprinkling controls dust for only 15 to 30 minutes but the additional dust suppressants last for five to six hours. Among various dust control measures, the use of dust suppressants in water can be more effective than plain water sprinkling as it shows more efficiency in reducing particulate matter emissions.

Also, it requires the water requirement for sprinkling as hygroscopic liquid compounds with bid additives help to reduce dust for five to six hours as compared to plain water which lasts for 15 to 30 minutes," said a DB Power official. DB Power is trying its best by taking various steps within its jurisdiction to control air dust such as a regular sprinkling of water on roads, footpaths and in the constructions. The water sparkling using dust suppressants will be carried out at an appropriate time before the AQI attains its peak around 9.00 am 6.00 am.

9.3.3. Financial Aid

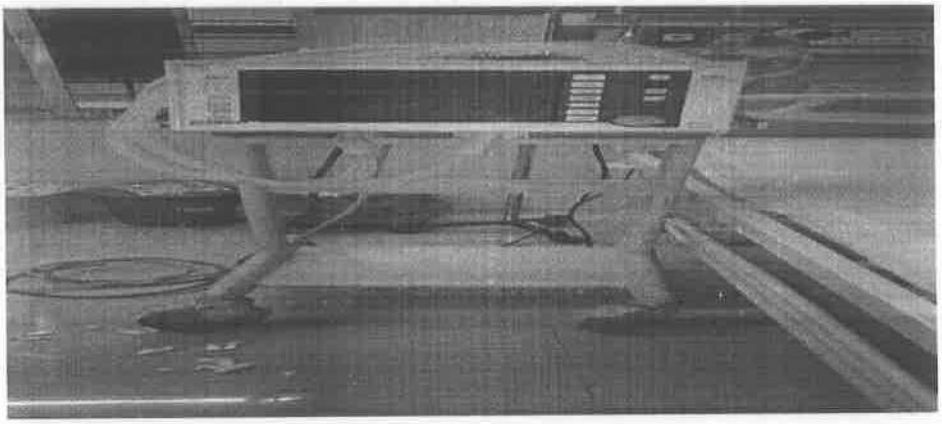

Photo 17: financial help provided to District Administration Janjgir-Champa for procurement of 02 Ventilator in Janjgir District Hospital and Oxygen concentrator 03 nos. (10 litres per nos.) to Covid Health Center, Dabhra & 1 no. to CHC, Chaple.

Undoubtedly, the COVID-19 pandemic has disparate impacts on society, generally hurting lower-income individuals playing as the ostensibly 'essential' workers more, which has further widened the inequality spectrum. For example, frontline workers in healthcare, food service, delivery, and public transportation have been widely recognized as critical for delivering healthcare and keeping the economy going during the pandemic. Despite being

widely applauded, such workers have also often been exposed to infection because of a lack of necessary protection and remain poorly paid and economically vulnerable. During the pandemic, DB Power Pvt. Ltd. has engaged in a wide range of philanthropic CSR actions, likely motivated by both utilitarianism and deontological factors in response to the needs of internal and external stakeholders. As they have provided financial help provided to the District Administration Janjgir-Champa for the procurement of 02 Ventilator in Janjgir District Hospital and Oxygen concentrator 03 nos.

Photo 18: Facilitated with ambulance facility for two months to BMO Dabhra for carrying COVID patients

Photo 19: Provided 1 nos. Refrigerator & 1 nos. Air Cooler at PHC Tundri.

9.4. Social Welfare programmes

Hence the basic objective of the social welfare programme is to support and improve the standard of living of the above-mentioned people and provide them with equal opportunities. Social welfare for the poor and deprived to receive direct benefits for example Women's issues, people living with HIV/AIDS, tribals living in geographically distant areas, people from disadvantaged castes and the economically vulnerable category, who do not have substantial source of income.

Photo 20: On the occasion of the marriage of girls of the plant-affected village (Badadarha & Tundri) 28 sewing machines & 28 dinner sets for each bride were gifted by DB Power Ltd. In, Tundari & Badadarha village DB Power Pvt Ltd, On the occasion of the marriage of girls of the plant-affected village 28 sewing machines & 28 dinner sets for each bride was gifted by DB Power Ltd.

Photo 21: Rs.5000/- financial help to two families for purchasing the refrigerator by President DB Power Limited

Financial help of Rs. 5000-/- each to two families for purchasing the refrigerator by President DB Power Limited.

Photo 22: Meeting organized by DBPL Management with Representative villagers of Badadarha to discuss the needs for Village Development activities for the next Financial Year

Representatives of Villagers and voluntary organizations invited to the meetings have continuously delivered their opinions on village matters. To mitigate problems at the community level.

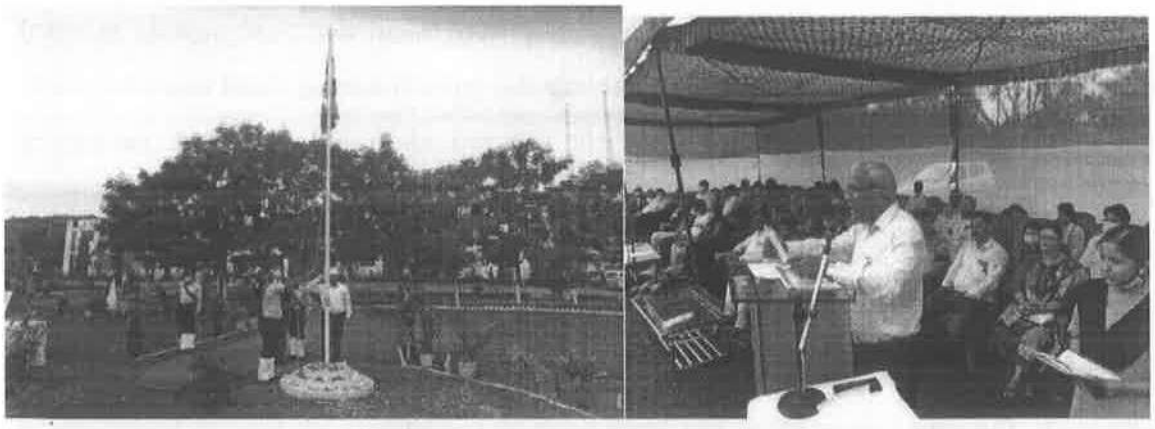

Photo 23: On the Occasion of Independence Day Students of Adopted Villages are felicitated for their academic & other extracurricular achievements

Organizing cultural programs and activities is the desire to progress and motivation for them. And also organize Rangoli, Mehndi, Painting, Essay Writing, and Quiz competitions from time to time at the government schools around the railway corridor

village. Moreover, Students of Adopted Villages are felicitated for their academic & other extracurricular achievements to motivate them.

10.0. Conclusion

Indian companies are now expected to discharge their stakeholder responsibilities and societal obligations, along with their shareholder-wealth maximisation goal. Nearly all leading corporate in India is involved in corporate social responsibility (CSR) programmes in areas like education, health, livelihood creation, skill development, and empowerment of weaker sections of society.[xii]

While we speak a lot about inclusive growth, our negligence toward 70 per cent of Indians who live in rural areas won't help us to achieve the talk. That's why, of late, most of the bodies including the government started focusing on rural development not just because of helping the rural masses but most importantly for helping themselves in sustenance. Dreaming of improving the fate of rural masses without creating necessary infrastructure is just a day- dreaming that will never happen in reality. Thus, in the backdrop of rural development what lies most sternly is rural infrastructure like rural roads, rural water supply, rural housing, rural electrification, irrigation, etc. Government in India is not affluent enough to cater all necessary infrastructures to rural areas for their development. That's why the concepts of public-private partnership (PPP) and corporate social responsibility (CSR) have gained popularity in recent times. Keeping this in background, the DB Power Ltd has started CSR activities with the aim of improving the fate of the masses of nearby areas. Although, the said Power Plant has been serving the society by way of launching a good number of CSR initiatives, the rural infrastructures given by the Power Generation Unit is key to change the lifestyle of the villagers.

This report has attempted to unfold whether the infrastructures provided have impacted the lives of rural masses in a positive way. As analyzed and discussed in previously in report, it is inferred that there is a seeable improvement in the life-style of the villagers due to the village infrastructure facilities provided in the villages of

the DB Power Ltd.

Education, Skill Development and Health have been the prime concern of Indian economy owing to their importance in social sector. Although updated facilities and offerings in these two sectors are being availed of by the affluent society, meeting the hefty expenses required, people living in rural areas are deprived of basic facilities necessary in these two sectors. While the government of India along with the governments of different states has been initiating various schemes to cater the basic needs in education and health, owing to constraints in terms fiscal deficit and administration, the core objective is yet to be materialized. Considering this, potential business houses have been taking up some responsibility in this direction. The power plant in Raigarh of Chhattisgarh (India) has been initiating multiple facilities in these three social sectors. However, facilities offered in the villages affected by DB Power Ltd in the Health sector have been proved to be essential and of paramount importance.

Hence this report has empirically unfolded that the Education, Skill Development and health-related facilities initiated by DB power plant have impacted the health condition of the targeted villagers positively.

The Socio-economic dimension of development paradigm is inadequate without developing the human, financial and social capital because through these three components promotion of well-being is possible. Above mentioned evidence shows that process of Engendering Rights is the key component used by DB power Ltd through SHGs formation in villages. Because if wellbeing indicators like health, education, housing, infrastructure and sustainable livelihood have not taken into consideration formation of SHGs will not be worthy. Hence the process of integrating women for the sustenance of livelihood needs facilitation in social connection, between both members of the SHGs with other community member's.

After analyzing the documents it is evident that by participating in SHGs, women members are able to secure and enhance all three kinds of Capitals namely human, financial because through bonding solidarity arise among SHGs members and they will be able to bridge gaps through savings and credit.

The beginning of 21st century in India has seen the term CSR coming to the forefront of development of discussion. In recent times, the Corporate Social Responsibility is emerging as a significant feature of business philosophy, reflecting the impact of business on society in the context of sustainable development. CSR is a concept whereby companies decide voluntarily to contribute to a better society and a cleaner environment. It is represented by the contributions undertaken by companies to society through their business activities and their social investment. CSR has been making an increasingly prominent impact on the Indian social system by supplementing development projects

CSR can play a valuable role in ensuring that the invisible hand acts, as intended, to produce the social good. In addition, it seems clear that a CSR program can be a profitable element of corporate strategy, contributing to risk management and to the maintenance of relationships that are important to long-term profitability. In India, many companies or industries have modified their policies, and activities and are engaged in Corporate Social Responsibility (CSR), especially in rural development beyond their financial aspects.

11.0. OVERALL IMPACT ON COMMUNITY OF CSR ACTIVITIES

Chhattisgarh state is situated in Central India and Raipur is the capital of Chhattisgarh. Chhattisgarh is the 10th largest state of India, with an area of 135,190 km2 and ranked as the 16th most-populated state of the country. Chhattisgarh is an agriculturally based state and 80% population stay in rural area. Cooperation is a dynamic movement for socio-economic and rural development. The cooperatives have strong local linkage in the rural area. The cooperatives covered 80% of the rural households and almost 95% of the villages in the state. The cooperatives are the lifeblood of the state's economy and the mechanism for any development programs.

11.1. Rural Infrastructure Programme

In FY 2021-22 DB power Pvt Limited has been started a rural infrastructure programme The funds released under CSR activities by DB power Pvt ltd. The main objective of the fund is to provide rural development and enabling environment. CSR enable them to complete ongoing rural infrastructure projects.

The importance of infrastructure for economic growth and development in rural area can hardly be overemphasized in a developing economy like India. With poor rural infrastructure, even a marginal improvement in its quantity and quality could significantly improve economic development and human well-being. Improving basic infrastructures, such as roads, transport, electricity, telecommunications, housing, health, water and sanitation, is essential for the development and well-being of the rural population. The development of rural infrastructure could promote economic growth, improve the standard of living of the population and reduce the incidence of poverty by generating both farm and non-farm employment and earning opportunities, increasing productivity, providing access to basic goods and services and improving the health and physical condition of people.[xiii] In spite of several public initiatives for infrastructure development in a rural area.

Under the supervision of DB power Pvt ltd, various rural infrastructure has been done. Due to all these works villagers are able to get access to drinking water and transportation has been developed at the village level.

11.2. Educational and Skill Developmental Activities

This result emphasises that the majority of the respondents benefited from vocational training programs under DB Pvt ltd at the village level.

The Sustainable Development Goals (SDGs), launched by the United Nations in 2016 with a mission to carry forward the global development agenda till 2030 and beyond,

emphasize actions for and involvement of younger generations. Because these groups will see through and can suitably contribute to the envisaged sustainable prospects.

This set of 17 interconnected goals with their 169 targets is designed in such a way that youths remain their main stakeholder groups. The fact being young people create the biggest part of the global demography. Now, 43% of the world's population is of people under the age of twenty-five. And, around 90% of them live in poor and developing countries that are stuffed with threats to sustainable development.

This part of population will obviously live longer, that too with the impact of the decisions and actions taken at present. Participating in the development agenda is the "right" of the young generation as they have greater stake in long-term sustainability. Ignoring the issues and role of the youth in the process of dealing with the issues of sustainability can be a risk. Rather, it should be turned into an opportunity by making them serious partners in the Sustainable Development Goals. And, to realize this opportunity youths should be equipped with skills the modern day requires.

Putting this in the context of India, it is one of the youngest nations of the world as 54% of its population is below 25 years of age, and more than 62% of its population is in the working age group (15-59 years). The average age of population in India is around 29 years, much lower in comparison to developed countries like the US, Japan and European nations. In next 15 years, the labour force in industrialized countries will decline by 4% whereas in India it will increase by more than 30%. This can be seen as a challenge as a burden as well as an opportunity as "demographic dividend". In order to avoid that this "demographic dividend" turns a "demographic disaster", the workforce should be imparted with employable skills and knowledge, as a skilled workforce is vital for socio-economic development. Without exaggeration it can be said that India has the potential to be the skill capital of the globe.

For last several decades India is reeling under the crisis of huge skill gap. Disparity between demand and supply of skilled manpower is a major impediment for national economic growth. Every year more than one crore people are joining the country's

workforce whereas less than 25% of them possess relevant skill set needed for jobs across sectors.

According to a survey, 90% of employment opportunities entail vocational skills, but 90% of youths who come out of school or college hold only bookish knowledge. They are qualified, but not rightly skilled for the job. For a growing economy like India, this skill deficit does not augur well. The dream of India becoming a 5 trillion-dollar economy in near future will not be possible if human capital is not properly taken care of. On the brighter side, DB Power Pvt. Ltd. has commenced several skilling initiatives under its Social Responsibility.

11.3. Health, Hygiene & Sanitation

The development of healthcare infrastructure in rural is poor and needs fundamental reforms in order to deal with emerging challenges. The development of infrastructure and healthcare facilities, the position of the workforce, and the quality-of-service delivery are important challenges that are confronting healthcare centres in rural. Some crucial works under DB Power Pvt. Ltd. under health, hygiene and sanitation in which Organized health camp at Project affected & Railway Corridor villages, providing referral ambulance service to nearby villages of the plant to improve health status and reduce morbidity levels in a rural area. Open Community health centre. Organized Sanitation awareness programme and attended to create awareness among villagers. The only way which could lead to the goal of health inclusion is by incorporating impoverished needy rural populations through community participation.

11.4. Social & Welfare Programme

A social welfare system provides assistance to individuals and families in need. Under the supervision of DB Power Pvt ltd, a different program was done for social welfare at the village. However, DB power Pvt ltd did and leads to different work for rural development and improvement of their situation.

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Annexure- VI

As per Ministry of Environment, Forest & Climate Change has issued notification No. G.S.R. 571 (E) Dated 12th August, 2021 vide which manufacture, import, stocking, distribution, sale and use of identified single use plastic (SUP) items prohibited with effect from the Jul 01, 2022. In this regard DBPL has conducted various awareness campaign towards ban of single use plastic, please find the below some glimpses of awareness programmes.

Use of single use plastic (SUP) ban display board at Silo Gate (Gate#1)

Use of single use plastic (SUP) ban display board at material gate (Gate#2)

Awareness Programme at Plant Premises

Awareness Programme for children at nearby schools


शासकीय पूर्व माध्यमिक विद्यालय-बाँड़ादर
राष्ट्रीय ध्वज
राष्ट्रीय पशु