



# ODISHA POWER GENERATION CORPORATION LTD.

(A Government Company of the State of Odisha)

CIN: U40104OR1984SGC001429

2X660MW Thermal Power Project Office: Resource Centre,  
Ib Thermal Power Station, PS.: Banharpali, Dist.: Jharsuguda – 768234, Odisha,  
Ph.:06645-222212 Web: www.opgc.co.in

LTR No: OPGC II -SEIAA – 2019- 0312

Date: 22.05.2019

To  
The Member Secretary,  
State Environment Impact Assessment Authority, Odisha,  
Q.No.-5RF 2/1, Unit-IX, Bhubaneswar 751022

Reference: Your office letter no: 243/SEIAA dated 21.01.2014

Sub: Submission of Half Yearly Environment Clearance Compliance Status report-  
Modernization of existing township along with new construction at IB Thermal Power Station.

Dear Sir,

We are herewith enclosing the compliance status report of the Environmental Clearance accorded for our Modernization of existing township along with new construction at IB Thermal Power Station of Odisha Power Generation Corporation Ltd. Po- Banharpali, District- Jharsuguda, and Odisha.

This is for your kind information and perusal.

Thanking You,

Yours Faithfully,

For Odisha Power Generation Corporation Ltd.

*H. Chhapra*  
22/05/2019

GM (Civil).

Copy to: Member Secretary, State Pollution Control Board, Odisha  
Regional Office, Jharsuguda, State Pollution Control Board, Odisha

**HALF YEARLY COMPLIANCE REPORT TO THE  
CONDITIONS OF ENVIRONMENT CLEARANCE  
(MODERNISATION OF EXISTING TOWNSHIP ALONGWITH  
NEW CONSTRUCTION)**

**ODISHA POWER GENERATION CORPORATION LIMITED  
BANA HARAPALI, JHARSUGUDA, ODISHA**



SUBMITTED TO

**STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY  
(SEIAA)**

**Qr. No- 5RF-2/1**

**Bhubaneswar-751022,**

**Odisha**

*H. Chhapar*  
22/05/2019


# HALF YEARLY EC COMPLIANCE STATUS REPORT (OCT 18-MAR 19)

Sl. No.	ENVIRONMENT CLEARANCE CONDITIONS	STATUS REPORT
1	<b>General Conditions</b>	<b>Compliance Status</b>
1.1	The applicant (project proponent) will take necessary measure for prevention control and mitigation of Air Pollution, Water Pollution, Noise Pollution and Land Pollution including solid waste management as mentioned by them in Form 1, Form 1A and Environment Management Plan (EMP) in compliance with the prescribed statutory norms and standards.	<p><b><u>Air pollution control measures:</u></b></p> <ul style="list-style-type: none"> <li>• Approach roads of the township are black topped.</li> <li>• No major air pollution source in the Township</li> <li>• One 100 KVA D G set has been installed for the Guest House building and it will be used during emergency only.</li> </ul> <p><b><u>Water Pollution Control Measures:</u></b></p> <ul style="list-style-type: none"> <li>• Sewerage channels of all Township buildings are connected with existing 1 MLD STP.</li> <li>• Now the STP is operating at a load of around less than 50 % of its capacity. With the occupancy of the new buildings additional 24 % load will be increased, and it can be accommodated in the existing capacity.</li> </ul> <p><b><u>Land Pollution Control:</u></b></p> <ul style="list-style-type: none"> <li>• Existing Bio gas generation plant will be used to process the Bio-degradable waste generated from the renovated and new constructed buildings of the Township and the Non-biodegradable waste shall be disposed in an environmental friendly manner to avoid environmental pollution.</li> <li>• Now the existing Bio gas plant is being operated at around 40% load and after occupancy of all the new buildings, Kitchen Solid waste @ 0.6 Ton/Day will be generated from the township and the generated waste can be conveniently accommodated in the existing 1 Ton/Day capacity Bio gas plant.</li> </ul>
1.2	The applicant will take statutory clearance/approval/permissions from the concerned authorities in respect of the project as per the prevailing norms of respective authorities.	It is being complied.
1.3	The applicant will submit half yearly compliance report on post environmental monitoring in respect of the stipulated terms and conditions in the Environmental Clearance to the State Environmental Impact Assessment Authority (SEIAA), Odisha, on 1st June and 1st December of each calendar year.	Half yearly compliance progress status report of the conditions mentioned in the Environmental Clearance is being submitted to SEIAA, Odisha.

*Debabrata*  
22/05/2019

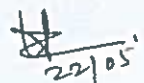
# HALF YEARLY EC COMPLIANCE STATUS REPORT (OCT 18-MAR 19)

Sl. No.	ENVIRONMENT CLEARANCE CONDITIONS	STATUS REPORT
1.4	The project proponent will provide adequate passage all around the building blocks for movement of fire tenders as per provisions of National Building Code (NBC)- 2005	Adequate passage and access has been provided for the movement of fire tenders around the building blocks .
1.5	The project proponent shall comply to all the conditions stipulated by the Fire Prevention Officer, Odisha	It is being complied.
1.6	The applicant will adopt the prescribed norms, and standards provided in the National Building Code of India, 2005, Specially relating to:	
1.6.a	Fire protection and life safety of the occupants of the building.	Requirements for Fire protection and life safety of the occupants has been incorporated in the building construction (i) For fire detection alarm system has been installed in the community buildings (ii) For fire protection, adequate capacity water tank and terrace pump has been provided (iii) Fire extinguisher and Hose reel has been provided in the required places (iv) OPGC has its own Fire tender and it is residing within the township. That will be used in case of any fire. (v) Suitable exit arrangements (Stair case having suitable width) from the building has been made.
1.6.b	Safety of the personal during construction, operation and demolition of the buildings.	All required safety measures are being adopted at site.
1.6.c	Day lightings and the natural ventilation of the buildings	Glass windows and walls are installed to facilitate day lighting.  Windows and door placing in the building will help cross ventilation.
1.6.d	Safety from the electrical fire, shock and lightning of the buildings.	These requirements are provided in the building .
1.6.e	Air- conditioning, heating and mechanical ventilation of the buildings.	Air conditioning system is provided at the required places.
1.6.f	Acoustic and noise control of the buildings	It is installed at the required places of the building.
1.6.g	Maintenance and functioning with emission from generators supplying power to common space/ residential areas in case of power failure along with fuel handling / storage.	During power failure, Power will be imported from WESCO.  One 100 KVA D G set has been installed for the Guest House building to use during emergency. The maintenance will be done regularly .
1.6.h	Installation of lifts and escalators in the buildings.	Lifts and elevators have been put up in required places .

  
22/05


# HALF YEARLY EC COMPLIANCE STATUS REPORT (OCT 18-MAR 19)

Sl. No.	ENVIRONMENT CLEARANCE CONDITIONS	STATUS REPORT
1.6.i	Water supply, drainage and sanitation including solid waste management.	<p>Water supply and drainage arrangements have been made.</p> <p><b>Sanitation including solid waste management:</b> Generated Sewage will be sent to OPGC'S existing 1 MLD STP for treatment and further reuse in Green belt development/Garden development/Landscaping purpose. Now the STP is operating at a load of around less than 50 % of its capacity. With the occupancy of the new buildings additional 24 % load will be increased, and it can be accommodated in the existing capacity.</p> <p>Existing Bio gas generation plant will be used to process the Bio-degradable waste generated from the renovated and new constructed buildings of the Township. Now, the existing Bio gas plant is being operated at around 40% load and after occupancy of all the new buildings, Kitchen Solid waste @ 0.6 Ton/Day will be generated from the township and the generated waste can be conveniently accommodated in the existing 1 Ton/Day capacity Bio gas plant.</p> <p>The Non-biodegradable waste shall be disposed in an environmental friendly manner to avoid environmental pollution.</p>
1.6.j	Landscaping of the surrounding areas of the buildings.	Partly existing and further to augment the landscaping, an agency has been engaged for developing the landscape at number of places in the Township.
	<b>SPECIAL CONDITIONS</b>	
<b>A</b>	<b>CONSTRUCTION PHASE</b>	
1	No ground water shall be extracted for the project work at any stage of during construction phase.	<p>No ground water is being extracted.</p> <p>OPGC has obtained water drawl permission from Water Resource Dept., Odisha for drawl of water from Hirakud Reservoir.</p>
2	Provision shall be made for the housing of construction labourers within the site with all the necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical healthcare, crèche etc. The housing may be the form of temporary structures to be removed after the completion of the project.	Housing facilities with necessary infrastructure and facilities such as fuel for cooking. Toilets with Soak pit and septic tank, Safe drinking water, Medical health care etc. was made for construction worker and will be removed.

  
22/05


# HALF YEARLY EC COMPLIANCE STATUS REPORT (OCT 18-MAR 19)

Sl. No.	ENVIRONMENT CLEARANCE CONDITIONS	STATUS REPORT
3	A First- Aid room will be provided in the project site both during construction and operation of the project.	Well-equipped first aid/sanitation facility has been provided at the site. OPGC'S own full-fledged hospital is available inside Township campus for providing necessary medical treatment .
4	All the top soil excavated during the construction activities should be stored separately for use in filling, horticulture / land scape development within the project site.	The excavated soil has been used for backfilling and landscaping.
5	Some of the existing buildings/houses/structures within the project site are proposed to be demolished. Re-use of the debris at the existing site as far as practicable is recommended with a special care for handling and disposal of asbestos waste, if any. Rest of the waste is to be disposed at landfill disposal site.	Debris generated from the construction and demolition activities has been used for backfilling, levelling.  No asbestos waste has been generated.
6	Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and will be disposed of taking the necessary precautions for general safety and health aspects of the people only in approved site with the approval of competent authority.	The muck (i.e.; excavated soil) generated from the construction activities has been used in backfilling and ground levelling work inside the plant premises with adaptation of proper environmental protection measures .
7	Soil and ground water samples will be tested periodically to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.	Ground water sampling is being carried out. The test results show there is no threat to ground water quality due to construction activity.
8	Construction spoils including bituminous material and other hazardous materials should not be allowed to contaminate water courses, ground water and dump sites by following safe dumping/disposal practice as per statutory rules and norms with necessary approval of Odisha State Pollution Control Board.	Adequate measures were taken. There is no impact on water course and ground water due to project activity.
9	The fuel for the diesel generator sets to be used during construction phase use low sulphur diesel fuel and should conform to the Environment (Protection) Rules 1986 prescribed for air emission and noise standards.	Commercially available fuel oil was used .
10	The diesel required for operating DG sets shall be stored in underground tanks and, if required, clearances from Chief Controller of Explosive shall be taken.	Diesel storage facility already exists in the plant. The facility is licensed from CCOE.

  
22/05

# HALF YEARLY EC COMPLIANCE STATUS REPORT (OCT 18-MAR 19)

Sl. No.	ENVIRONMENT CLEARANCE CONDITIONS	STATUS REPORT
11	Vehicles used for bringing construction material to the site should be in good condition and should have a pollution check certificate, covered and confirms to the statutory air and noise emission standards and should be operated only during non-peak hours of the day.	It was taken care of .
12	Ambient noise level should confirm to residential both during day and night. Incremental pollution on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be taken to reduce ambient air and noise during construction phase, so as to confirm to the stipulated standards by CPCB/OPCB	The township is within the existing premises of OPGC and AAQ and noise monitoring are being carried out as per the statutory guidelines. The AAQ & Noise level is well within the prescribed limit.
13	Fly ash brick should be used as building material in the construction as per the provisions of Fly ash Notification of September, 1999 and as amended thereafter.	Fly ash bricks are used for construction activity. Total 55,04,840 nos of bricks have been used.
14	Ready mixed concrete would be used in building construction.	It was being used.
15	Rain water harvesting and its re-use should be as per CGWB and BIS standards for these applications.	Rain water recharge pits based on CGWB guidelines has been constructed for new buildings. Settling and Recharge pits is located all around the buildings for easy collection and recharge of roof rain water through down comer pipes
16	Water demand during construction should be optimized by adopting best practices without compromising quality. Separation of treated waste water and Fresh water should be done by the use of dual plumbing line.	It was in compliance.  During operation phase/occupancy, 1 MLD existing STP will be used to treat the waste water generated from the colony and subsequently, will be utilised for plantation & gardening.
17	Fixture of showers, toilet flushing and drinking water should be of low flow type and restricted to requirements by the use of aerators, avoiding wastage of pressure reducing devices of sensor based controls.	Urinal & WC flushing system has been installed with sensor based control in public buildings.
18	Use of glass may be maximum up to 40% of total outer wall area to reduce the energy consumptions and load air-conditioning. If necessary, high quality double glass with special reflective coating may be used in the windows.	Design has been made keeping the glass area is within 20 to 25% of outer wall area. Construction work has been made in line with the design .
19	Roof should meet the prescribed requirement as per Energy Conservation Building Code .	Prescribed requirements of roof have been taken care for construction phase as per Energy conservation building code.
20	Opaque wall should meet prescriptive requirements as per Energy Conservation Building Code.	Opaque wall is designed to meet the requirements of energy conservation.

  
22/05

# HALF YEARLY EC COMPLIANCE STATUS REPORT (OCT 18-MAR 19)

Sl. No.	ENVIRONMENT CLEARANCE CONDITIONS	STATUS REPORT
21	The approval of the competent authority shall be obtained for structural safety of the building due to earthquake, adequacy of firefighting equipments etc. as per National Building Code of India, 2005 including protection measures from lighting etc.	All parameters are incorporated in the design for implementation .
22	Regular supervision of the above and other measures for monitoring should be in place all through the construction phase to avoid disturbances and pollution of the surrounding.	It was taken care of .
<b>B</b>	<b>OPERATION PHASE</b>	
1	The proponent shall treat the effluents in the existing Sewage Treatment Plant of capacity 1 MLD. Treated effluents from STP shall be recycled/ reused to the maximum extent possible after scientific treatment. Treatment of 100% grey water by decentralised treatment should be done. Discharge of unused treated effluent (not exceeding 20% of the water during monsoon season only) shall conform to the norms and standards of Odisha State Pollution Control Board. Necessary measures should be taken to mitigate the odour problem from STP.	OPGC has installed 1 MLD capacity STP.  The 1 MLD sewage treatment plant is operating at a load of around less than 50 % of its capacity. With the occupancy of the new buildings additional 24 % load will be increased, and it can be accommodated in the existing capacity.  The treated effluent will be used for green belt development / Plantation.
2	In no case, the treated waste water shall be allowed to accumulate inside the project boundary or outside the project area creating water logging situation in the area.	Shall be complied.  Treated sewage water will be used for raising greenbelt/plantation.
3	In no case the waste water shall be allowed to pollute the surrounding area.	Shall be complied.
4	The STP sludge should not be dried off nor incinerated within the project site and should be disposed off as per the norms of SPCB, Odisha.	Shall be complied.
5	The STP must be technically sound to treat all kinds of pollutants present in the sewage and its capacity should taken into account the entire load of sewage generated by inhabitants.	OPGC has existing 1 MLD STP.  The 1 MLD sewage treatment plant is operating at a load of around less than 50 % of its capacity. With the occupancy of the new buildings additional 24 % load will be increased, and it can be accommodated in the existing capacity.
6	The project proponent will ensure that under no circumstance, the environment is polluted due to non-functioning / under performance of the STP and the sewerage disposal system of the project.	Shall be complied.

*[Signature]*  
22/05



# HALF YEARLY EC COMPLIANCE STATUS REPORT (OCT 18-MAR 19)

Sl. No.	ENVIRONMENT CLEARANCE CONDITIONS	STATUS REPORT
7	<p>The Solid waste generated should be properly collected and segregated. Wet garbage should be disposed off to be composted and dry/inert solid waste should be disposed through a certified agency for safe disposal. Necessary approval/permission may be obtained from the concerned authorities. In no case it should be left in the premises untreated.</p>	<p>Colour coded bins has been provided at strategic locations for collection and segregation of solid waste generated from the households of township.</p> <p>Existing Bio gas generation plant will be used to process the Bio-degradable waste generated from the renovated and new constructed buildings of the Township.</p> <p>Now the existing Bio gas plant is being operated at around 40% load and after occupancy of all the new buildings, Kitchen Solid waste @ 0.6 Ton/Day will be generated from the township and the generated waste can be conveniently accommodated in the existing 1 Ton/Day capacity Bio gas plant.</p> <p>The Non-biodegradable waste shall be disposed in an environmental friendly manner to avoid environmental pollution.</p>
8	<p>Diesel power generation sets proposed as source of back-up power for lifts elevators and common area illumination during operation phase should be enclosed type and conforms to Environment Protection (EP) rule 1986. The height of the stack of DG sets should be equal to the height needed for the capacity of all proposed sets should be equal to the height needed for the combined capacity of all proposed DG sets put together and should be more than the highest building height. Low sulphur diesel should be used. The location of the DG sets may be decided in consultation with Odisha State Pollution Control Board. Care may be taken to avoid disposal of smoke/Pollutants from DG sets in the residential area. Low sulphur diesel oil (LDO or HSD) will be used in DG sets.</p>	<p>Shall be complied.</p> <p>Auto Rescue Device has been installed in all the lifts elevators of the building. During power failure, Power will be imported from WESCO for common area illumination.</p>
9	<p>Noise should be controlled to ensure that it does not exceed the prescribed standards. During night time, the noise level measured at the boundary of the site shall be restricted to the permissible level to comply with the prevalent regulations.</p>	<p>Shall be complied.</p>

  
22/05

# HALF YEARLY EC COMPLIANCE STATUS REPORT (OCT 18-MAR 19)

Sl. No.	ENVIRONMENT CLEARANCE CONDITIONS	STATUS REPORT
10	As substantial area included in the project site is still legally Reserved Forest, necessary permission from the competent authority (the local DFO) should be obtained for felling of trees and the forest growth whenever required.	It is being complied.
11	Since substantial forest cover exists within the project boundary i.e. Both Reserve forest and Revenue land with fresh re-growth and the forest cover has improved in density and quality, a proper plan may be prepared in consultation with the local DFO and regular forest cleaning/brush wood cutting need to be carried out to prevent occurrence of fire and maintain forest hygiene.	Noted for compliance.
12	It is suggested that a dedicated forestry trained official may be positioned for maintenance of the existing forest and creation of new forest area to compensate the loss of forest cover.	Existing officials have been specifically assigned this job. However, the suggestion will be considered positively. 10142 nos of saplings have been planted in this financial year (2018-19). Proposal have been moved to plant 5000 nos of saplings in this financial year .
13	Lay out of the proposed township and roads etc. shall be made in such a way that it shall cause minimum disturbance to the existing flora and fauna. Appropriate green belt shall be developed to compensate the habitat loss of trees for clearing. The greening program shall include plantation of indigenous species only.	<p>The point has been considered during the design.</p> <ul style="list-style-type: none"> <li>• To augment the existing greenbelt, in this financial year (2018-19), 10142 nos of saplings have been planted excluding distribution of sapling to local villagers.</li> <li>• District Plantation monitoring committee lead by Ex. Vice Chancellor Sambalpur University &amp; Wild Life Warden along with Additional Chief Conservator of Forest, Asst. Director Horticulture, Asst. Environment Engineer OSPCB &amp; Chief Co-ordinator Eco Club of Jharsuguda has verified the plantation/green belt status through site visits which comes to be 34.6%.</li> <li>• Further, planned to plant 5000 nos of sapling inside the plant premises during 2019-20 financial year.</li> </ul>
14	Professional landscape architect should be engaged to design the green layout to provide for multitier plantation and green fencing all around, mitigating various environmental pollutants like dust, noise emission etc. Plantation raised should be well maintained	<p>34.6 % green cover exists within OPGC boundary.</p> <p>Further, an agency has been engaged to augment the green cover .</p>

*[Signature]*  
20/05

# HALF YEARLY EC COMPLIANCE STATUS REPORT (OCT 18-MAR 19)

Sl. No.	ENVIRONMENT CLEARANCE CONDITIONS	STATUS REPORT
	under supervision of experienced personnel.	
15	Rain water harvesting for the roof runoff and surface runoff should be implemented as per submitted plan. Every building of the township shall have rain water harvesting facilities. Before recharging the run-off, pre-treatment must be done to remove suspended matter, oil, grease and other soluble components as per norms. Rainwater recharge should be through specific recharge of required numbers. The surface runoff water should be stored suitably treated and reused for landscaping. The bore well for rainwater recharging should be kept at least 5 mts. above the highest ground water table. The technology may be preferably be adopted from a registered commercial firm with performance guarantee.	It is being complied. Rain water recharge pits based on CGWB guidelines is being constructed for new buildings. Settling and Recharge pits is located all around the buildings for easy collection and recharge of roof rain water through down comer pipes
16	Weep holes in the compound wall shall be provided to ensure natural drainage of excessive rain water in the project area during monsoon period after the harvesting season operation. Care must be taken so that there is no water logging in the territory and drainage is 100 %.	Drainage channel exist to ensure natural drainage of excessive rain water.
17	The ground water level and its quality should be monitored regularly in consultation with Central/State Ground water Authority.	Noted for compliance .
18	Traffic congestion near the entry and the exit point from the road adjoining the proposed project site must be avoided. Traffic congestion shall be avoided inside the project site. The area ear- marked for parking shall not be used for any other purpose. Alternate entry and exit must be provided to handle excess traffic and emergency situation.	To avoid traffic congestion adequate measures have been taken at site.
19	A report on Energy conservation measures confirming to energy conservation norms finalised by Bureau of Energy Efficiency should be prepared incorporating details about building materials and technology, R and U factors etc. and submitted to SEIAA, Odisha in three months time before operation/habitation.	Noted for compliance.

# HALF YEARLY EC COMPLIANCE STATUS REPORT (OCT 18-MAR 19)

Sl. No.	ENVIRONMENT CLEARANCE CONDITIONS	STATUS REPORT
20	Provisions of solar hot water storage/supplies at the roof top may be made as per statutory norms of CPCB/MoEF/SPCB, Odisha.	Solar heating water storage facility has been provided at buildings. Also, building common area lighting facility has been constructed with Solar lighting facility.
21	Energy Conservation Measures like installation of CFLs/TFLs for lighting the areas outside the building should be integral part of the project before commissioning. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid toxic contamination. Use of solar panels be adopted to the maximum extent possible, especially for street lights.	It is being implemented at site.  LED/CFL lights have been installed. Building common area lighting facility has been constructed with Solar lighting facility.
22	The building blocks should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation.	Building blocks are being constructed by keeping adequate distance between them.
23	The funds earmarked for the environmental protection measures shall be judiciously utilized. Under no circumstance this fund shall be diverted for the other purposes like Annual Allocation and maintenance/monitoring etc. and expenditure for this fund should be reported to the SEIAA, Odisha on regular basis.	Noted for compliance.

*H. K. Mahapatra*  
24/5/2019