

1b Thermal Power Station
Banharpali, Dist. : Jharsuguda, Odisha - 768 234, India
Plant Manager : (+916645) 222253, Fax : 222230
Factory Manager : (+916645) 222214, Fax : 222225
Finance : (+916645) 289-214/312
P&A : (+916645) 289-223/225
Purchase : (+916645) 289-354/355/356, Tele Fax : 289355
Contract Cell : Tele Fax : (+916645) 289317
Warehouse : (+916645) 289-701, Fax : 222204
LTR No: ITPS/477(A)/WE
November 28, 2020

The Additional Director (S)
Ministry of Environment Forests & Climate Change
Eastern Regional Office
A/3, Chandrasekharpur
Bhubaneswar - 751023

Sub: Submission of half yearly compliance report to the conditions mentioned in the Environment Clearance granted to Expansion of existing coal based thermal power plant of OPGC by addition of 2 X 660 MW (unit 3 & 4) at Banharpali in Jharsuguda district of Odisha for the period from April 2020 to September 2020.

Your Ref.: MoEF Letter No J-13011/59/2008-1A.II (T) dated 04.02.2010
MoEF Letter No J-13011/59/2008-1A.II (T) dated 22.01.2014
MoEF Letter No J-13011/59/2008-1A.II (T) dated 16.01.2015
MoEF & CC Regional Office File No.106-12, dated 11.05.2020

Dear Sir,

Kindly find the attached Compliance report to the conditions mentioned in Environment Clearance granted to Expansion of existing coal based thermal power plant of OPGC by addition of 2 X 660 MW (unit 3 & 4) for the period from April 2020 to September 2020.

We have also uploaded the half yearly compliance status for the mentioned period in OPGC website- www.opgc.co.in. for your ready reference and kind perusal.

Thanking you,

Yours Faithfully,


Sukanta Mohapatra
GM(O&M)/IC
OPGC Ltd.

Enclosure: Environment Clearance Compliance Report with annexures

ODISHA POWER GENERATION CORPORATION LTD.
(A Joint Venture of Govt. of Odisha & AES Corp. USA)



1b Thermal Power Station

Banharipali, Dist. : Jharsuguda, Odisha - 768 234, India

Plant Manager : (+916645) 222253. Fax : 222230

Factory Manager : (+916645) 222214. Fax : 222225

Finance : (+916645) 289-214/312

P&A : (+916645) 289-223/225

Purchase : (+916645) 289-354/355/356, Tele Fax : 289355

Contract Cell : Tele Fax : (+916645) 289317

Warehouse : (+916645) 289-701. Fax : 222204

CC:

1. The Director Thermal, MoEF&CC, Indira Paryavaran Bhawan, Jor Road, New Delhi-110003
2. Member Secretary, State Pollution Control Board, Odisha, Paribesh Bhawan, Nilakantha Nagar, A/118, Unit -8, Bhubaneswar-751012
3. Regional Office, State Pollution Control Board, Odisha, Plot No- 370/5971, At- Babubagicha, (Cox Colony) St. Merry Hospital Road, Po- Industrial Estate, Dist- Jharsuguda-768203
4. The In charge, Eastern Zonal Office, Central Pollution Control Board, Southern Conclave, Block 502, 5th & 6th Floors, 1582 Rajdanga Main Road, Kolkata - 700 107 (W. B.)

ODISHA POWER GENERATION CORPORATION LIMITED

2x660 MW 1b Thermal Power Station

Environment Clearance No-J-13011/59/2008 & Subsequent Amendments

Period April 2020- September 2020

Cl. No.	EC Conditions	Compliance Status
4. (i)	It shall be ensured that natural drainage in the area is not disturbed due to any activity associated with operation or development of the power plant.	The original natural drainage status has been maintained in the project area. The same will not be disturbed in future.
4. (ii)	The height of the existing ash pond shall not be increased to accommodate fresh disposal of ash slurry.	<ul style="list-style-type: none"> The height of the existing ash pond (Ash Pond- A & Ash Pond-B) will not be increased to accommodate fresh disposal of ash slurry from the expansion (Unit 3 & 4) Ash from Units 3 & 4 shall not be disposed in that time existing ash ponds i.e. (Ash Pond A & B).
4.(iii)	Wildlife conservation plan prepared in consultation with the office of the concerned Chief Wildlife Warden shall be implemented before any expansion activity is undertaken. The status of implementation shall be submitted to the Regional Office of the Ministry within six months and from time to time.	<ul style="list-style-type: none"> The Site-Specific Wild Life Conservation Plan (SSWLCP) for the power plant has been prepared and got approved from Chief Wildlife Warden, Odisha on dtd 12th June 2014. The payment of amount Rs 6, 62, 92,000 for execution of SSWLCP was made on 18.07.2014 to Odisha CAMPA account. This payment was communicated to Forest Dept; Odisha vide our letter no 2161/WE on Dtd 19.07.2014. Besides the above, OPGC has already spend Rs 66 lakh towards plantation activities against the plantation requirement mentioned in approved wild life management plan & is in process of planting additional 000 saplings of forest and indigenous species in the FY 2021-22.
4. (iv)	Hydro-geological study of the area shall be reviewed annually, and results submitted to the Ministry and concerned agency in the State Govt. In case adverse impact on ground water quantity and quality is observed, immediate mitigating steps to contain any adverse impact on ground water shall be undertaken.	<ul style="list-style-type: none"> First hydrogeological study was carried out in the year 2014-15. In the study, no such adverse impact was observed. The report was submitted to the Ministry & OSPCB. Thereafter yearly review study has been conducted with no observance of adverse impact so far. Now, a comprehensive detailed Hydrogeological study covering the plant and ash pond area was carried out during 2018-19 & 2019-20. No adverse impact was observed from the study. The report is enclosed as Annexure-1. Piezometers have been installed in existing ash pond and periodic monitoring is being carried out. Six nos of Bore wells have been constructed in the identified locations covering all directions of the plant and ash pond for collection of water samples.

ODISHA POWER GENERATION CORPORATION LIMITED

2x660 MW Ib Thermal Power Station
 Environment Clearance No-J-13011/59/2008 & Subsequent Amendments
 Period April 2020- September 2020

Cl. No.	EC Conditions	Compliance Status
	4th year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.	<ul style="list-style-type: none"> • Shall be complied. • Ash utilization status for the FY 2019-20 has been reported to MoEF & CC vide OPGC Letter No 2480/WE, dated 20.04.2020(Enclosed as Annexure - 2).
4. (ix)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed of in the ash pond in the form of slurry form. Mercury and other heavy metals (As, Hg, Cr, and 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 of in low lying area.	<ul style="list-style-type: none"> • Pneumatic conveyer system with 3 nos of dry ash storage silos have been constructed for storage of ash and for its further utilisation and disposal. • Unutilised fly ash is being disposed in the ash pond through HCSD system and Bottom ash is being disposed through LCSD system. • Effluent emanating from the existing ash pond is being recycled and reused for fresh slurry making. No ash pond effluent is being discharged outside. The heavy metal in ash and nearby ground water is being monitored periodically, test reports are enclosed as Annexure for kind reference. • No ash shall be disposed in low lying area without taking consent from OSPCB.
4. (x)	Ash pond shall be lined with HDP/LDP lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	HDPE lining has been provided in the ash pond. Dyke safety measures has been addressed during design and construction of ash pond to protect the ash dykes from getting breached. During operation of ash pond, adequate safety measure will also be implemented to avoid breaching of ash dykes.
4. (xi)	For disposal of Bottom Ash in abandoned Manoharpur mines it shall be ensured that the bottom and sides of the mined-out areas are adequately lined with clay before Bottom Ash is filled up. The project proponent	The requirement will be implemented, and approval/ clearances will be taken from State Pollution Control Board before undertaking filling of mine void using ash.

ODISHA POWER GENERATION CORPORATION LIMITED

2x660 MW Ib Thermal Power Station
Environment Clearance No-J-13011/59/2008 & Subsequent Amendments
Period April 2020- September 2020

Sl. No.	EC Conditions	Compliance Status
	date of clearance and details shall be furnished.	on dated 07.12.2017. After getting the approval of the technology, the rain harvesting pond design and construction activity is in process. It is planned to complete the harvesting pond by 31 st March 2021
4. (xvii)	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.	<ul style="list-style-type: none"> • Details of fire protection arrangement at coal yard with lay out map has been submitted to Regional Office, MoEF & CC • Adequate fire hydrant system has been installed in the Coal stock yard and Track hopper site to control spontaneous fire.
4. (xviii)	Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.	<ul style="list-style-type: none"> • Storage facilities for auxiliary liquid fuel has been made in consultation with Dept. of Explosive, Nagpur. Further, the facilities have been brought into operation after getting valid license from Dept. of Explosive, Nagpur • As regards to Sulphur content, EAC (Thermal) in its monthly meeting held on 18th/19th November 2013 has accorded its consent for the use of commercially available fuel oil. • Emergency response plan has been prepared to handle any emergency
4. (xix)	Regular monitoring of ground water (especially around ash pond and plant areas) shall be carried out by establishing a	<ul style="list-style-type: none"> • Piezometers have been installed in existing ash pond and 6 nos of Bore wells have been constructed in the identified locations covering all directions of the plant and ash pond for collection of water sample

ODISHA POWER GENERATION CORPORATION LIMITED

2x660 MW Ib Thermal Power Station

Environment Clearance No-J-13011/59/2008 & Subsequent Amendments

Period April 2020- September 2020

Cl. No.	EC Conditions	Compliance Status
	per ha with survival rate not less than 70 %.	<ul style="list-style-type: none"> • The District Plantation committee report mentioning 34.6% green cover is enclosed as Annexure-4 for reference. • Further to augment the existing greenbelt, 8000 Nos of saplings had been planted in 2016-17, 1880 in 2017-18, 10725 nos of saplings have been planted in 2018-19 financial year & 265 Nos of saplings have been planted in 2019-20 & 300 Nos of saplings have been planted in 2020-21 (Till Nov'20). Year wise plantation details till 2019-20 is enclosed as Annexure-5.
4. (xxii)	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Construction phase has been completed, however fully equipped 18 bedded Hospital has been established inside the campus for health care of workers Annual Health check-up of all labours is also being carried out in the same Hospital.
4. (xxiii)	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like earplugs/ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/less noisy areas.	<ul style="list-style-type: none"> • Arrangements for control of noise in the working areas have been taken in the plant by provision of acoustic enclosures, silencers etc. Sufficient ear protection PPE will be provided for all personnel exposed to work in noisy area. • Periodic/ Annual health check will also be carried out for all employees & contractor partners.
4. (xxiv)	Regular monitoring of ground level concentration of SO ₂ , NO _x , RSPM (PM _{2.5} & PM ₁₀) and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed	The project is located inside the existing plant premises Four online AAQ monitoring stations to monitor PM ₁₀ , PM _{2.5} , SO ₂ , NO _x & CO has been installed within impacted zone. Results are transmitted to SPCB & CPCB server on real time basis. Other than this, Ambient Air Quality is also being monitored through five permanent offline ambient air quality stations and the location of the stations are decided

ODISHA POWER GENERATION CORPORATION LIMITED

2x660 MW 1b Thermal Power Station

Environment Clearance No-J-13011/59/2008 & Subsequent Amendments

Period April 2020- September 2020

Cl. No.	EC Conditions	Compliance Status
	<p>Income generating projects consistent with the traditional skills of the people besides development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. This will be in addition to vocational training for individuals imparted to take up self-employment and jobs.</p>	
4. (xxviii)	<p>The project proponent shall also adequately contribute in the development of the neighbouring villages. Special package with implementation schedule for providing fluoride free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.</p>	<p>This remains high on OPGC'S agenda. The approved project list sheds adequate light on how OPGC has planned elaborately to provide lasting and sustainable water solutions to people of nearby villages. A scientific Hydrology study was conducted to guide the process of project implementation. OPGC has also started mobilising people's opinion and support for sustainable water solutions in collaboration with experts and Jharsuguda district authority.</p>
4. (xxix)	<p>Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.</p>	<p>Construction phase has been completed.</p>

ODISHA POWER GENERATION CORPORATION LIMITED

2x660 MW 1b Thermal Power Station

Environment Clearance No-J-13011/59/2008 & Subsequent Amendments

Period April 2020- September 2020

Cl. No.	EC Conditions	Compliance Status
4. (xxxiii)	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely, RSPM, SO ₂ , NO _x (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.	<ul style="list-style-type: none">• The status of compliance is being uploaded in Website and reports are also being sent to the said offices.• 2 Nos of LED display boards are installed at the Plant main gate for display of environmental information <p>Website path http://www.opgc.co.in/env/half_comp_powerplant.asp</p>
4. (xxxiv)	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well by e-mail) to the respective Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB.	This is being complied since October 2010.
4. (xxxv)	The environment statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall	Annual Environment Statement (Form-V) of 2X660 MW for the FY 2019-20 had been submitted to OSPCB & MoEF & CC regional office vide ITPS Letter No. 5224/WE, dated 28.09.2020 and web-hosting of Environment Statement has also been done.

ODISHA POWER GENERATION CORPORATION LIMITED

2x660 MW Ib Thermal Power Station

Environment Clearance No-J-13011/59/2008 & Subsequent Amendments

Period April 2020- September 2020

Cl. No.	EC Conditions	Compliance Status
	during monitoring. Project proponent will up-load the compliance status in their website and up-date the same from time to time at least six-monthly bases. Criteria pollutants levels including NOx (from stack & ambient air) shall be displayed at the main gate of the power plant.	
4. (xxxviii)	Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These costs 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.	The project cost includes the provision for implementation of environmental protection measures as required. It is made strictly for environment protection measure
4. (xxxix)	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.	The financial closure of the project was done on 23rd November 2012. NTP was issued to BHEL and BGRE on 26th March 2014.
4.(xxxx)	Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Bangalore / CPCB/ SPCB who would be monitoring	It is being done.

ODISHA POWER GENERATION CORPORATION LIMITED

2x660 MW Ib Thermal Power Station

Environment Clearance No-J-13011/59/2008 & Subsequent Amendments

Period April 2020- September 2020

Cl. No.	EC Conditions	Compliance Status
e	No ground water shall be extracted for use in operation of the power plant even in lean season.	Ground water is not being used. All requirement of water is met from Hirakud reservoir.
f	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.	Minimum required environmental flow is being maintained as per the water agreement with Water Resource Department.
g	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.	No water bodies have been disturbed due to project and will not be disturbed in future due to operation.
h	Fly ash shall not be used for agricultural purpose. No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close co-ordination with the State Pollution Control Board.	For mine void filling of ash, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained in close co-ordination with the State Pollution Control Board.

ODISHA POWER GENERATION CORPORATION LIMITED

2x660 MW Ib Thermal Power Station

Environment Clearance No-J-13011/59/2008 & Subsequent Amendments

Period April 2020- September 2020

Sl. No.	EC Conditions	Compliance Status
	officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.	letter and other applicable environmental laws and regulations. (EHS Policy Enclosed as Annexure-9)



Sukanta Mohapatra
GM (O&M) I/C



**HYDROGEOLOGICAL STUDIES AT ASH POND A, B AND
C, IB THERMAL POWER STATION, JHARSUGUDA
DISTRICT, ODISHA**

CLIENT NAME:

**IB THERMAL POWER STATION, JHARSUGUDA
DISTRICT, ODISHA**

PREPARED BY:

**SGS India Private Limited
226, Udyog Vihar Phase-1
Gurgaon - 122 016, Haryana, India**

**Tel: +91 124 6776300
Fax: +91 124 6776403/04**

PROJECT REFERENCE NUMBER:

**IN/ES-HG/2013-02
(VERSION 1.2)**

<http://www.sgsgroup.in/>

SGS

WHEN YOU NEED TO BE SURE

ANNEXURE-1 (B)
ODISHA POWER GENERATION CORPORATION LTD

18 THERMAL POWER STATION

ENVIRONMENTAL MONITORING REPORTS

Period-April 2020 to September 2020

A. STACK EMISSION

PARAMETER	INTERNAL MONITORING						THIRD PARTY MONITORING			STACK 4		
	NORM	STACK 3		STACK 4		MAX.	MIN.	AVE.	STACK 3		STACK 4	
		MAX.	MIN.	MAX.	MIN.				MAX.	MIN.	AVE.	MAX.
SPM(mg/Nm ³)	100	47	40	45	49	35	41	39.2	36.9	38.05	46.4	44.6
SOX	NA	1907	1784	1832	1873	1682	1796	1532.3	1155.8	1401.8	1575.8	1461.3
NOX	NA	403	381	390	399	371	387	331.5	319	325.1	344.5	335.5
Hg	NA							0.023	0.02	0.021	0.023	0.022

B. AMBIENT AIR QUALITY

PARAMETER	INTERNAL MONITORING		THIRD PARTY MONITORING	
	MAX.	MIN.	MAX.	AVE.
PM ₁₀ (µg/m ³)	92	17	82.4	40.8
PM _{2.5} (µg/m ³)	56	7	45.3	21.5
SO ₂ (µg/m ³)	18	7	7.4	6.2
NO ₂ (µg/m ³)	28	10	22.3	17.2

C. AMBIENT NOISE LEVEL

PARAMETER	INTERNAL MONITORING						THIRD PARTY MONITORING			RESIDENTIAL NOISE LEVEL dB(A)		
	NORM	INDUSTRIAL NOISE LEVEL dB(A)		RESIDENTIAL NOISE LEVEL dB(A)		MAX.	MIN.	AVE.	INDUSTRIAL NOISE LEVEL dB(A)		RESIDENTIAL NOISE LEVEL dB(A)	
		Day time	Night time	Day time	Night time				Day time	Night time	Day time	Night time
NORM	75	70	55	45	55	41	41	75	70	55	45	
Minimum	66	42	41	36	56.6	42	20	56.6	45.3	55.9	39.8	
Maximum	71	68	49	42	60.8	42	11	60.8	59.4	59.7	48.2	
Average	68	64	46	40	59.9	40	19	59.9	53	57.4	43.6	

D. LIQUID INDUSTRIAL EFFLUENT QUALITY

PARAMETERS	UNIT	NORM	INTERNAL MONITORING		PARAMETERS	UNIT	NORM	THIRD PARTY MONITORING	
			MAX.	MIN.				RESULT	RESULT
Temp(in)					pH		6.0 - 9.0	MAX.	MIN.
Temp(Out)					TSS	PPM	100	7.5	7.4
pH at 25°C					O & G	PPM	10	45.75	39.25
Chloride as Cl					BOD	PPM	30	1.92	1.78
D.Phos as P					COD	PPM	250		
O & G					Fe	PPM	3		
TSS					Total Chromium	PPM	2		
TDS					Copper	PPM	3		
Res chlorine					Zinc(as Zn)	PPM	5		
BOD									
COD									

E. STP OUTLET

PARAMETERS	UNIT	INTERNAL MONITORING		PARAMETERS	UNIT	NORM	THIRD PARTY MONITORING	
		MAX.	MIN.				RESULT	RESULT
						6.5 - 9	MAX.	MIN.

TSS	PPM	20	52	42
BOD	PPM	10	8	7
COD	PPM	50	32	24
Total Nitrogen	PPM	10	6.5	5.7
Ammonical Nitrogen	PPM	5	3.8	3.2
Faecal Coliform	MPN/100ml	<100	240	210
Total Coliform	MPN/100ml	\$	84	63

Sitaram

Sitaram Sahu
Head-EHS

NAME OF THE INDUSTRY:- IB THERMAL POWER STATION (2 x 660 MW) OF ODISHA POWER GENERATION CORPORATION, BANBARPALI
 STATUS OF UTILIZATION OF COAL ASH(FLY ASH AND BOTTOM ASH)-2020-2021 - Financial Year

Sl. No.	Month	Coal Consumption (MT)	Power Generation (MWH)	Quantity of fly ash generated (MT)	Quantity of bottom ash generated (MT)	Total ash generated	Disposal Method	Brick Manufacturing (MT)	Supplied to Industries			Mine void Quarry Filling		Utilization in embankment/dyke construction (MT)		Other purpose (MT)						Total ash utilized (MT)	% of utilization				
									Cements	Asbestos	Quarry Filling	Coal mine void filling	Dyke raising	Road making	Cross sphere	Small used fill	Tiles	Aggregates	Agriculture/horticulture sector								
1	Apr'20	368263	488459	125091	31273	156364	B.Ash-LCSD F.Ash-HCSD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12000	7.67	
2	May'20	464475	584138	162352	41339	206691	B.Ash-LCSD F.Ash-HCSD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15000	7.26
3	Jun'20	454740	590129	155739	38935	194674	B.Ash-LCSD F.Ash-HCSD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15500	7.96
4	Jul'20	492037	622872	170166	42547	212708	B.Ash-LCSD F.Ash-HCSD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15000	7.05
5	Aug'20	408054	452035	147011	36753	183764	B.Ash-LCSD F.Ash-HCSD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32000	17.41
6	Sep'20	211380	236318	76198	19050	95248	B.Ash-LCSD F.Ash-HCSD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43000	45.15
YTD-2020-21		2384949	2976003	832557	209862	1042419	B.Ash-LCSD F.Ash-HCSD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	132500	12.63

Sitaram Sahu
 Sitaram Sahu
 Head-ENS



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

BY SPEED POST

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

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

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

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

Sir,

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

2. The matter was placed before the Expert Appraisal Committee (Thermal Power) in its 4th Meeting held during November 18-19, 2013. In acceptance of the recommendation of the Expert Appraisal Committee (Thermal Power) and in view of the information/clarification furnished by you, with respect to the above mentioned power project, the following amendments are made in two conditions i.e. (xii) & (xviii) specified in the earlier EC accorded to you vide our letter of even no. dated 04.02.2010.

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

[REDACTED]

b) The condition no. (xviii) of Para No.4 shall be read as "Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil" instead of

"Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil."

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

- (xli) A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. Thereafter, mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.
- (xlii) Continuous monitoring for heavy metals in and around the existing ash pond area shall be immediately carried out by reputed institutes like IIT Kanpur.
- (xliii) Harnessing solar power within the premises of the plant particularly at available roof tops shall be undertaken and status of implementation shall be submitted periodically to the Regional Office of the Ministry.
- (xliv) Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land.
- (xlv) No ground water shall be extracted for use in operation of the power plant even in lean season.
- (xlvi) Minimum required environmental flow suggested by the Competent Authority of the State Govt. shall be maintained in the Channel/ Rivers (as applicable) even in lean season.
- (xlvii) No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up/operation of the power plant.
- (xlviii) Fly ash shall not be used for agricultural purpose. No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close co-ordination with the State Pollution Control Board.
- (xlix) Three tier green belt shall be developed all around Ash Pond over and above the Green Belt around the plant boundary.
 - (i) A common **Green Endowment Fund** shall be created and the interest earned out of it shall be used for the development and management of green cover of the area.
 - (ii) It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.
 - (iii) An Environmental Cell shall be created at the project site itself and shall be headed by an officer of the company of appropriate seniority and

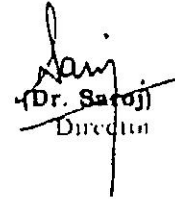
qualification. It shall be ensured that the head of the Cell shall directly report to the Head of the Organization.

- (iii) The project proponent shall formulate a well laid Corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.

4. All other conditions mentioned in this Ministry's letter of even no dated 04.02.2010 shall remain the same.

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

This issues with the approval of the Competent Authority.


(Dr. Saroj)
Director

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary (Environment), Environment Department Government of Orissa, Bhubaneswar.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R K Param, New Delhi-110066.
4. The Chairman, Orissa State Pollution Control Board, A-118, Nilkanta Nagar, Unit - VIII, Bhubaneswar- 751 012.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD cum-Office Complex, East Arjun Nagar, Delhi- 110032.
6. The Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment & Forests, A/3, Chandesekhapur, Bhubaneswar - 751023
7. The District Collector, Jharsuguda District, Orissa.
8. Guard file.

(Dr. Saroj)
Director

Report of Plantation Monitoring Committee

of the

District Environment Society, Jharsuguda

for the year 2017-18

Report of the Plantation Monitoring Committee of the District Environment Society, Jharsuguda-2017-18.

INTRODUCTION

The Jharsuguda District Environment Society constituted a Plantation Monitoring committee on 30.04.2013 with Prof. DR. Naik, Former Vice-Chancellor, Sambalpur University and Honorary Wildlife warden for Jharsuguda District as its Chief. The ACF, Jharsuguda Forest Division, the Chief Co-ordinator of the Eco-Club Co-ordination Committee and representatives from the State Pollution Control Board and Horticulture Department were other members. Since then the committee is inspecting industrial premises at least twice every year for monitoring the plantation activity. The report submitted by the committee was discussed in the Review meeting held on 20.12.2016 with the Collector as the Chairman. It was decided that the Plantation Monitoring Committee should inspect the industrial premises and submit its report for further action.

Inspection (2017-18):

The Plantation Monitoring Committee comprising of Prof. D.R. Naik, Former Vice-Chancellor, Sambalpur University and Honorary Wildlife Warden, Sri. P.K. Dhal, ACF, Jharsuguda Forest Division, Sri Prahallad Naik, Chief Co-ordination, Eco-Club Co-Ordination Committee, Sri Devadutta Mohanty, Assistant Environment Engineer, State Pollution Control Board and a representative of the Horticulture Department inspected in the various industrial premises as per the following schedule.

Date	Industries/Mines inspected
04.10.2017	MCL Lakhanpur Area, OPGC, Banharpali Ltd., TRL, Krosaki Ltd.
07.10.2017	Vedanta (Sesa Sterlite) Limited, Ultratech Cement Ltd., Sven Star Steel Ltd., MCL Ib Valley Area, Gobal Coalwashery.
23.08.2017	SMC Power Generation Limited, L.N. Metallic's, MCL Orient Area

General Remarks

- (1) It was not intended to conduct the census of trees planted over the years. An overall estimation of the greenery in the accessible areas within the industrial premises was made. In addition, patches of vacant Govt. land outside their premises assigned to some of them for creating 'green belt' were also inspected. Care was taken to note the species of tree planted.
- (2) It was found that some of the Industries/Mines have not been able to meet the 33.3% mandatory requirement. The concerned Industries have been advised to make up the deficiency by the end of 2017-18.
- (3) It was noted that some Industries have planted trees like Eucalyptus and Acacia over extensive areas. These species are not environment friendly. Hence the concerned Industries were advised to undertake intercropping with other species of trees such as Neem, Jamun, Karanja, Simaruba, Jackfruit and such other species with thick foliage and big crown. In due course Eucalyptus and Acacia may be eliminated.

(4) As Principal Chief Conservator of Forest, Odisha has allotted target of 1,25,000 nos. of seedlings to be planted during 2017-18 under Corporate Sector in Jharsuguda District, a scheme has been prepared by the Divisional Forest Officer, Jharsuguda for raising Urban/ Peri-Urban plantation which will be funded by MCL & Vedanta (Sesa Sterlite) Ltd. Copy of the scheme has been forwarded to the appropriate authority of MCL & Vedanta (Sesa Sterlite) Ltd. vide Letter No 4111 and Date.14.12.2016 and Letter No.1016 dt. 29.03.2017 respectively. However, MCL Authorities have provided required funds the DFO, Jharsuguda for raising one lakh saplings for plantation in Urban/ Peri-Urban area of Jharsuguda District.

Table showing the Area covered and Number of Saplings planted by various Industries/Mines

Sl No.	Name of Industries/ Mines	Total land Acquired (Ac)	33.3% of area (Ac)	Land planted (Ac) up to 2016-17	Plantation Achieved during 2017-18		Total area planted inside premises (Ac) up to 2017-18	Total nos. Of saplings planted during 2017-18 (inside & outside)	Remarks, percentage Achieved
					Inside premises (Ac/No)	Outside premises (Ac/Km)			
1	SMC Power Ltd.	284	94.57	93.8	5.1	0	96.92	2000	34.12%
2	TRL Krosaki	386	128.53	135.0	1.54	0	136.4	1000	35.33%
3	Global Washery	21.17	7.04	7.9	0	0	7.9	0	37.31%
4	Ultratech Cement Ltd.	165.25	55.02	55.02	0	0	55.02	0	33.33%
5	Vedanta (Sesa Sterlite)	2371.0	789.54	615.6	19.0	0	624.6	18000	26.34%
6	OPGC Ltd.	1227.5	408.75	207.0 (210.0 Ac natural forest)	7.0	0	424.0	1000	34.60% (4000 no seedling distributed)
7	MCL Ib Valley, Area	3474.558	1158.07	458.62	0	0	458.62	0	13.19%
8	MCL Orient, Area	3472.422 (surface braking area-247.5)	82.41	143.97	0	0	143.97	0	58.10%
9	MCL Lakhanpur, Area	3610.13	1202.17	1084.32	3.51	0	1087.83	5625	30.13%
10	Seven Star Steel	59.0	19.65	21.5	1.62	0	23.12	1200	39.18%
11	LN-Metallic's	25.41	8.46	12.0	1.4	0	13.4	900	52.73%
Total: -								29,725	

Comments on the Plantation Activities of Different Industries & Mines:

1. Ultratech Cement Ltd.:

- A) Saplings Planted on the embankments of the reservoir and along the railway track are well maintained. The 11 acres patch lately planted during the previous season was inspected. The area was inaccessible and filled with grass. This area would be inspected again. They are advised to clean up the tall grass and take adequate care of the saplings.
- B) They have done plantation in the Arda Gramya Jungle (about 4 acres). Many of the saplings are dead. They need to be replaced with neem, Karanj, and such other saplings.
- C) The Avenue plantation from Dhutra village to Badpulia is not visible. Proper maintenance of the saplings is necessary.
- D) No plantation has been taken up during 2017-18.

2. Seven Star Steels Ltd.:

- A) Maintenance of plantation sites satisfactory.
- B) Damaged tree-guard/gabion for the Avenue plantation may be repaired/replaced

3. LN Metallic's:

- A) Maintenance satisfactory. Care may be taken during the dry season to ensure survival of the saplings planted during the Current year. Fire-line should be maintained to check possible fire accident having summer.

4. SMC Power Generation Ltd.:

- A) Maintenance satisfactory. It is nice to see their greenery getting greener. Sustained efforts are necessary to keep it up.
- B) They have a nursery of their own. They are also providing sapling in the neighbouring areas. Preparatory work for the nursery may be started in January. However, the current year plantation work not up to the Mark.

5. Vedanta (Sesa- Sterillite) Ltd.:

- A) They have done plantation over an extensive area of their ash Pond dyke and in very small patches inside the premises of plant area. The area was inaccessible, but the greenery was visible.
- B) They have developed a nursery. Preparation for the necessary may be started in January.
- C) They may prepare a sketch map showing the green belt and number the different sectors for proper assessment of their greenery.
- D) Plantation done lately during the previous season may be properly maintained before the next inspection.
- E) Spacing between saplings should be 2 m. to 2.5m.
- F) As they have planted very small size seedlings, they have been advised to procure seedlings from Forest Department nursery from next year.

6.OPGC:

- A) Maintenance of plantation sites satisfactory.
- B) Saplings planted in the extension area are small. Special care need to be taken for their maintenance.
- C) They have nursery for their own use and for distribution among the local community

7.Global Coal Washery:

- A) Maintenance of plantation sites satisfactory.
- B) Plantation in the railway siding remains to be inspected.

8.MCL Ib Valley Area:

- A) No plantation has been done by during 2017-18

9. MCL Lakhanpur Area:

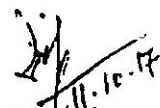
- A) Plantation sites of 2016-17 satisfactory. Replacement of the dead sapling advised.
- B) Plantation of the current season is satisfactory an about 20,000 saplings has been planted

10.MCL Orient Area:

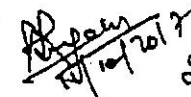
They reported that they have distributed saplings to different educational institutions. These institutions have to be inspected for on the spot verification. They have planted around 200 saplings in the colony area. They may be assigned Govt. land for plantation

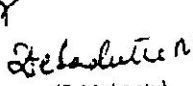
11.TBL-Krosaki:

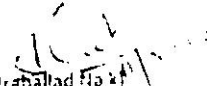
- A) Plantation satisfactory.
- B) They have a well maintained nursery.


(D.R. Naik)
Ex VC & Honorary
WL Warden


(P.K. Dhal)
ACF, Jharsuguda
Forest Division


(A. Lugun)
A D Horticulture
Jharsuguda


(D. Mohanty)
Asst. Env. Engineer
Jharsuguda


(Prabhakar)
Chief Co-ordinator
Eco Club, Jharsuguda

Annexure- V (A)
IB THERMAL POWER STATION
SUMMARY OF GREEN BELT & PLANTATION, TILL SEPTEMBER 2020

- Total Plantation & colony Area-1227.5 acres
- Greenbelt & High-Density Trees- 425 acres
- % Greenbelt & High-Density Trees- 34.6
- Total trees planted- 322699 Nos.
- Total trees survived-242944 Nos.
- % of survival-75.3

Plantation & sapling distribution

Year	Planted	Sapling distributed
2012-13	350	2000
2013-14	1300	6000
2014-15	3000	5000
2015-16	700	4480
2016-17	8200	15000
2017-18	1885	4000
2018-19	10725	4600
2019-20	265	4500 *Grafted mango saplings-4000 Nos Forest species trees saplings-500 Nos
2020-21	300	Saplings could not be distributed due to COVID Pandemic

*Compensatory plantation of 260 acres has been done in Deogarh area.

Besides, a nursery of 25000 capacity has been developed


Sitaram Sahu
 Head-EHS



Annexure-V (B)


ODISHA POWER GENERATION CORPORATION LTD
IB THERMAL POWER STATION

YEARWISE TREE PLANTATION DETAILS OF OPGC AT ITPS

Location	Name of Agency	Year	No. of trees planted	Name of the Species	No. of trees alive	Plant Area	Green Belt & High density nature belt
Colony, Guest House, Halliped, Periphery, Pump House, Filter House, Stores etc.	Local agencies	1991-92/92-93	12,000	Akashia Sirish Chhatim	9,350		
Periphery of Boundary Wall (Green Belt)	O.P.G.C.	1992-93/93-94	38,500	Kadamba Panash Neem	22,300		
Vacant place in front of SBI, Old Hanuman Temple back side of Store yard, colony road side.	Sidhartha agency, Jharsuguda.	1993-94/94-95	23,800	Bottle brush Bottle Palm Chakunda	15,000		
i) Back side of Autobase, Fakamunda village area.	ii) Sidhartha agency, Brukshyaropan Samiti, Jharsuguda.	1994-95/95-96	20,000	Jhamun Sisoo Golmohar	18,000		
ii) Coal yard side, either sides of main roads, Plant boundary, Railway lines, inside area between D.M. Plant, R.W. pump house and compound wall.	iii) Departmentally		37,000	Eucalyptus Gambhari Jarul Litchi Amba	31,155		
Both sides of fly, In line out side the plant boundary and Ash Pond area.	iii) Green channel, Brukshyaropan Samiti & 3 Nos. of Club and Yubak Sangha	1995-96/96-97	40,000	Baula Radhachuda DeodarU Karanja Pijull			
Jhawn & Plantation coal handling plant area & other species on both sides of roads inside plant.	ii) Departmentally		34,500	Sargun basa Mandar Rangam			
Fuel Oil Pump house area, School, Hospital, Police station Outer periphery of children Parks, Playgrounds etc.	iii) Local agencies		5,500	Arca Palm Juniperous china Palm Musunda	65,000		
Ash Pond	i) Brukshyaropan Samiti		5,000	Karabira Golap			
Both side of Security road.	ii) Departmentally		5,000	Thupa			
	i) Brukshyaropan Samiti		5,000				
	ii) Departmentally		5,000				
	Total				15,500		
Ash Pond		1988-89/89-90	5,500		4,500		
Ash Pond	By agencies	2000-2001	5,058		5,000		
CHP & Plant Colony	-do-		5,966		3,812		
	-do-		11,500		10,000		
Ash Filling Area (low lying area), Colony, Warehouse, SVM School (ITPS), Rengali School	-do-	2006-07	1,800		1,200		
inside Plant campus	-do-	2007-08	3,000		2,300		
Distribution of fruit bearing tree in Periphery villages	-do-	2008-09	4,000	Mango, Lemon	2,100		
Block Plantation in association with District Environmental Society	Majhi		3,000	Teak	2,500		
Fruit bearing tree plantation at Gujapar and in Schools	do		350	Mango	50		
CHP & Learning Centre on Earth Day	Self	2009-10	120	Neem	75		
World Env Day	Self		150	Mango	90		
Govt. Land near Rengali Nursery	Karunakar Sahu		5000	Neem, Karanja, Kadamba, chakunda etc	2000		
Vatarika & Adhapada Mandir- 150 nos fruit & flower tree, inside Colony vacant place- 100 neem trees, World Env day- 150 neem & Devdaru tree inside Plant Premises, Gujapahar- 200 Fruit bearing trees, 800 Fruit bearing, Radhs Chuda etc planted in Binika & Banaharpall through villagers	Self & through villagers	2010-11	1500	Neem, Devdaru, Radhachura, Mango, Guava, Lemon, Jamun, Coconut, Lichi & Flower Plants	900	1227.5	425
Vacant space in between Boiler area scrap yard & clarifiers	Self	2010-11	100	Neem	70		
Inside Colony Vacant Places	Self	2011-12	150	Mango, Lemon, Guava	100		

Vacant space at Coal Handling Plant	Self	2012-13	350	Neem, Devdaru	200
Distribution of fruit bearing & Forest plant species in Periphery villages, 2000 nos	Self	2012-13	2000	Teak, Mango, Lemon	1000
Avenue Plantation at Banharpathi & Ash Pond Road & 100 nos inside Plant premises	Self	2013-14	1300	Kadamba, Limba, Karanga, Radhachuda, Teak, Devdaru etc	900
Sapling Distribution, 6000 nos	through nearby villagers		6000	Teak, Guava, Jackfruit, Dalimb etc	3000
Sapling Distribution, 5000 nos	through nearby villagers	2014-15	5000	Teak, Guava, Teak etc	2500
Block & Avenue Plantation (OPGC old Pump House vacant space, old Adhapada Shiv Temple premises near Banaharpali & Tarrini Temple premises at Pump House Pargi)	Self		3000		1050
Sapling Distribution	through nearby villagers, 4480 nos	2015-16	4480	Teak, Baula, Guava, Lemon, Karanj etc	2100
Plantation inside Plant and Colony	Self		700		650
Plantation inside Plant and Colony	Self	2016-17	200	Baula, Mango	192
Plantation inside Plant	Self		8000	Karanja, Neem, Baula	8000
Saplings Distributed, 15000 nos	Others			Grafted Mango, Guava, Teak, etc	
Plantation inside plant & township • 4000 Nos of mango sapling distributed	Self	2017-18	1885	Kadamba, Neem, Bakul, Siris & Karanja	1880
Gap Plantation	Self	2018-19	10725	Baula, Neem, Karanj, Mango, Arjun, Sisoo, Teak	10725
Plantation inside Plant and Colony	Self	2019-20	265	Karanj, Neem Bakul	265
Plantation inside Plant and Colony	Self	2020-21	300	Bakul	250
Total			322,699		242,944
% Survival					75.3
Green Belt%					34.6

In addition to above plantation at ITPS, Compensatory Afforestation has been done by OPGC over 260 Ha. non-forest land in Deogarh, through Forest Department, Govt. Of Odisha.


Sitaram Sahu
Head-EHS

SN	Project Name	Project Description	Name of the Village	Name of Gram Panchayat	Oper. Area	Approved Budget by CSR Committee & SOD in Rs. Lakh	Project Status As on 20-09-2018
1	Water & Sanitation	Drinking water project	Sarbahal	Sanghumda	MGR	16.00	Awarded & ...
2		Water Sanitation & Hygiene (WASH) Project	08 villages of Telenpali G.P	Telenpali	Power Plant	359.00	Completed
3		Water Sanitation & Hygiene (WASH) Project	08 Villages of Kusalaloi G.P	Kusalaloi	MGR	416.00	Awarded & ...
4		Water Sanitation & Hygiene (WASH) Project	22 Villages of Tilia G.P	Tilia	N. Ash Pond	600.00	Awarded & ...
5		Water Sanitation & Hygiene (WASH) Project at Rengali Village in all 05 Hamlet & habitations	Rengali	Kumarbandh	Power Plant	125.00	Awarded & ...
6		Installation of drinking water project	Beleituda	Rajpur	MGR	22.00	Awarded & ...
7		Toilet for Girls In High School	Phatapali	Tilia	N. Ash Pond	5.00	Completed
8		Kumarbandh Education Complex (School & College) Drinking Water Project	Kumarbandh	Kumarbandh	Power Plant	5.00	Completed
9		Kumarbandh College Sanitation Project	Kumarbandh	Kumarbandh	Power Plant	10.00	Completed
10		Kumarbandh Police Station Sanitation Project	Kumarbandh	Kumarbandh	Power Plant	5.00	Completed
11		Construction of Toilet Facility at District Police Line	Jharsuguda	Jharsuguda	Power Plant	30.00	Completed
12		Drinking water Project at Bhaludole & Sargipali village	02 Villages	Kumarbandh	Power Plant	20.00	Estimate Stag
13	Education	Cycle stand for 100 Children in High School	Phatapali	Tilia	N. Ash Pond	5.00	Completed
14		Construction of High School Building	Remenda	Remenda	Power Plant	40.00	Completed
15		Construction of School Building & Anganwadi Centre	Telenpali	Telenpali	Power Plant	25.00	Completed
16		Construction of 02 Additional Class Rooms in High School	Banharpali	Telenpali	Power Plant	15.00	Completed

Sl. No.	Project	Project Description	Name of the Village	Name of Gram Panchayat	Oper. Area	Approved Budget by CSR Committee & BOD in Rs. Lakhs	Project Status: As on 20-09-2018
17	E	Construction of Cycle Stand at U.P. School	Banharpali	Telenpali	Power Plant	5.00	Completed
18		Construction of two Classrooms at School	Bargad	Kusuraloi	MGR	15.00	Awarded & Ongoing
19		Basic materials to Primary School Hostel (PSH) at Kanaktura (Sundargarh District)	Kanaktura	Kanaktura	MGR	4.00	Completed
20		Leveling of Pathway at Kantatikira Project U.P. School	Kantatikira	Kumarbandh	Power Plant	1.25	Awarded & Ongoing
21	Rural Development	Deepening of village pond at Saradhapali village	Saradhapali	Kumarbandh	Power Plant	2.75	Awarded & Ongoing
22		Construction of Kalyan Mandap	Kechubahal	Chandnimal	MGR	35.00	Awarded & Ongoing
23							
		Excavation of new Pond	Sarbahal	Sanghumda	MGR	10.00	Awarded & Ongoing
24		Deepening of village Pond	Kanaktura	Kanaktura	MGR	5.00	Completed
25		Construction of Bathing Ghat	Kechubahal	Chandnimal	MGR	3.00	Completed
26		Renovation of Pond (Gheemunda) Rohidas Para	Chandnimal	Chandnimal	MGR	5.00	Completed
27		Digging of village Pond	Gaudmal	Gaudmal	MGR	12.00	Completed
28		Renovation of Pond & Construction of Bathing Step (Bada Kanta)	Rajpur	Rajpur	MGR	10.00	Completed
29		Deepening of Village Pond	Ambdhar	Rajpur	MGR	10.00	Completed
30		Construction of New School Building	Sarbahal	Sanghumda	MGR	14.00	Awarded & Ongoing
31		Repair and Annual Maintenance Contract (AMC) of Street Light		Rajpur	MGR	15.00	Estimate Stage
32		Repairing of Road from Telenpali gate to Pump House Chawk	Telenpali	Telenpali	Power Plant	45.00	Cancelled
33		Construction of Road to village	Gaudmal	Gaudmal	MGR	12.00	Awarded & Ongoing
34		Construction of Community Centre	Chandnimal	Chandnimal	MGR	10.00	Awarded & Ongoing
35		Construction of Community Centre	Sarbahal	Sanghumda	MGR	10.00	Completed
36		Construction of community centre	Junanimunda	Rajpur	MGR	8.00	Awarded & Ongoing
37		Construction of community centre	Beleituda	Rajpur	MGR	8.00	Awarded & Ongoing
38		Ramela Pada Community Centre	Badsarua	Tilia	N. Ash Pond	8.00	Completed
39	Phatapali (Saharapada) Community Centre	Phatapali	Tilia	N. Ash Pond	8.00	Completed	

Sr	Project Description	Name of the Village	Name of Gram Panchayat	Oper. Area	Approved Budget by CSR Committee & BOD in Rs. Lakhs	Project Status As on 20-09-2018
40	Community Centre (Near Bus Stand)	Tilia	Tilia	N. Ash Pond	8.00	Completed
41	Community Centre (near Tilia market)	Nuapada	Tilia	N. Ash Pond	8.00	Completed
42	Community Centre at Pudhipali	Tilia	Tilia	N. Ash Pond	8.00	Completed
43	Community Centre	Binika	Telenpali	Power Plant	8.00	Completed
44	Bhagabanpali Kanta (Birtia) Renovation	Bhagbanpali	Tilia	N. Ash Pond	4.00	Completed
45	Singhda bandh Pond Renovation	Singhelpali	Tilia	N. Ash Pond	4.00	Completed
46	Shabandh (Kantatikra) Pond Renovation	Kantatikira	Tilia	N. Ash Pond	4.00	Completed
47	Thorapali Pond Renovation	Thorapali	Tilia	N. Ash Pond	4.00	Completed
48	Sivakanta Bathing Steps (two)	Badsarua	Tilia	N. Ash Pond	3.50	Completed
49	Nua Kanta Bathing Steps (two)	Pudhipali	Tilia	N. Ash Pond	3.50	Completed
50	Pipal Kanta Bathing Steps (two)	Kantatikira	Tilia	N. Ash Pond	3.50	Awarded & Completed
51	Tali Kanta Bathing Steps (two)	Phatapali	Tilia	N. Ash Pond	3.50	Completed
52	Renovation of pond at Charnal	Nuapada	Tilia	N. Ash Pond	7.00	Completed
53	Rengali Bandha 02 Bathing Steps	Rengali	Kumarbandh	Power Plant	3.50	Completed
54	Pond Renovation	Bhaludole	Kumarbandh	Power Plant	4.00	Awarded & Completed
55	Pond Renovation	Banikdera	Kumarbandh	Power Plant	4.00	Completed
56	Pond Renovation	Kantapali	Kumarbandh	Power Plant	4.00	Completed

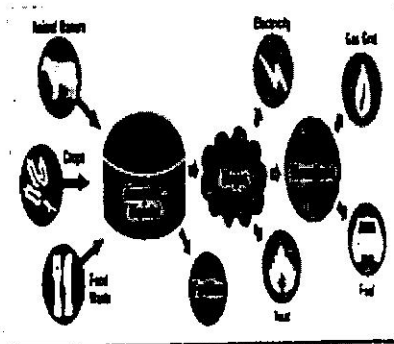
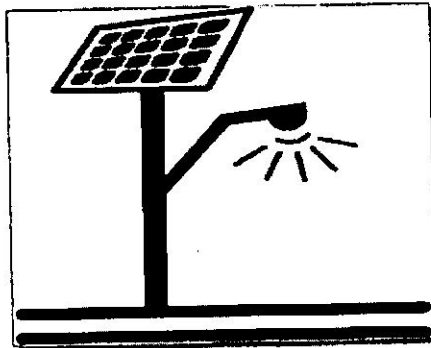
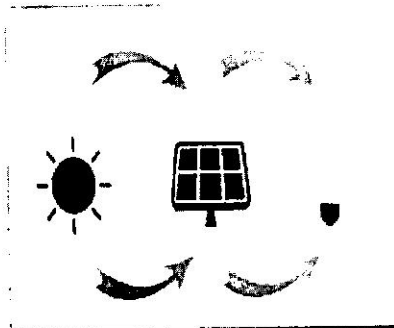
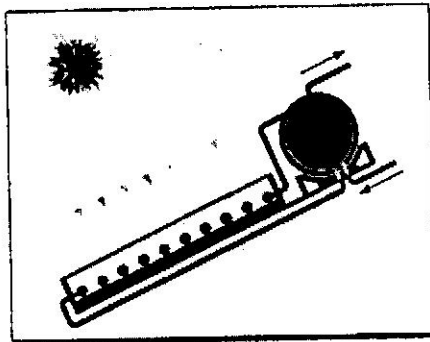
S.N.	Project Description	Name of the Village	Name of Gram Panchayat	Oper. Area	Approved Budget by CSR Committee & BOD in Rs. Lakhs	Project Status As on 20-09-2018
57	Dunguri Kisan Pada Pond Renovation & 02 Bathing Steps	Rengali	Kumarbandh	Power Plant	7.00	Completed
58	Sajni Kanta Pond Renovation	Budhapali	Kumarbandh	Power Plant	4.00	Completed
59	Birtia Kanta Renovation and 02 Bathing Steps	Barihapali	Sunari	Power Plant	7.00	Completed
60	Renovation of Rani Sagar Pond	Old Adhapada	Telenpali	Power Plant	4.00	Completed
61	Telenpali Upper Bandh 02 Bathing Ghats	Telenpali	Telenpali	Power Plant	3.50	Completed
62	Construction of Community Centre	Sargipali	Kumarbandh	Power Plant	15.00	Completed
63	Construction of Community Centre	Kantatikira	Kumarbandh	Power Plant	10.00	Completed
64	Electrification of Village (Part of WASH Project)	Sahareipada	Telenpali	Power Plant	7.00	Completed
65	Construction of Bus Stop	Kusuraloi	Kusuraloi	MGR	5.00	Completed
66	Construction of Kalyan Mandap at Suitable Place	Telenpali G.P	Telenpali	Power Plant	30.00	Awarded & On going
67	Kalyan Mandap at Ambdhar	Ambdhar	Rajpur	MGR	35.00	Estimate Stage
68	LED Street Light on Main Road	Banharpali	Telenpali	Power Plant	5.00	Completed
69	LED Street Light on Main Road	05 G.P	05 G.P	Power Plant	150.00	Completed
70	Installation of High Mast light	Adhapada	Kusuraloi	MGR	9.00	Completed
71	2.1 K.M LED Street Light on Main Road	Belpahar Municipality	Belpahar Municipality	MGR	30.00	Completed
72	LED Street Light Project in Tilia Revenue Village (Including all its hamlets/ constituent padas)	Tilia	Tilia	N. Ash Pond	50.00	Awarded & On going
73	Erection/ Construction of New Electrical Infrastructure in Bargad Village near ITPS	Bargad	Kusuraloi	Power Plant	50.00	Estimate Stage
74	Bus Stop at Telenpali Market Bus Stand	Telenpali	Telenpali	Power Plant	5.00	Completed
75	Renovation of Asthal Kanta	Adhapada	Kusuraloi	MGR	10.00	Completed
76	Deepening of Village Pond & 02 Bathing Steps	Phalsamunda	Kusuraloi	MGR	7.00	Completed
77	Deepening of Naik Kanta	Khandsa	Kusuraloi	MGR	4.00	Completed
78	Renovation of Village Pond	Bargad	Kusuraloi	MGR	4.00	Completed

S.N.	Category	Project Description	Name of the Village	Name of Gram Panchayat	Oper. Area	Approved Budget by CSR Committee & BOD in Rs. Lakhs	Project Status As on 20-09-2018
79		Multi-purpose Training Hall Inside PHC Building along with Filtered Drinking Water Facility	Adhapada	Kusuraloi	MGR	15.00	Completed
80		06 (six) Bathing Ghats in four villages of Kushraloi	Kerualbahal etc	Kusuraloi	MGR	10.00	Completed
81		Community Centre	Adhapada	Kusuraloi	MGR	11.00	Completed
82		Repair/ Extension of Community Centre	Phalsamunda	Kusuraloi	MGR	5.00	Completed
83		Tali Kanta Irrigation Project	Telenpali	Telenpali	Power Plant	25.00	Completed
84		Construction of Canal from Asthai Kanta to Goucharmal at Adhapada	Adhapada	Kusuraloi	MGR	15.00	Completed
85		Big Community Centre/ Kalyan Mandap project In Tilia Revenue Village	Tilia	Tilia	N. Ash Pond	34.00	Awarded & On going
86		Electrification of Dhobadera & Sapali Village	02 Villages	Telenpali	Power Plant	36.00	Completed
87		Baseline survey in peripheral villages	37 villages	11 G.P's	Power Plant	20.00	Completed
88		Production of Video Films	37 villages	11 G.P's	Power Plant	10.83	Completed
89	Physical Monitoring of projects, documentation, training and capacity building, overheads, etc.			Power Plant	19.17	Awarded & On going	
Total CSR Budget (OPGC II- Unit 3&4) Approved by CSR Committee						2691.00	

OPGC

Renewable Energy Details

Engg & Efficiency Dept.



Renewable Initiatives:

- Solar Photovoltaic Roof top plants
- Solar Powered LED Street Lights.
- Solar Water Heaters.
- Biogas plant.

1. Roof top PV Plants :

Area	Switch yard	Ash Pond	DM Plant	CW Pump House	Plant Canteen	Total
Installed Capacity	3 KW	6 KW	9 KW	3 KW	9 KW	30 KW

a. PV Solar System at Switch Yard Roof:

3 KW PV Solar system installed at switchyard control room building commissioned in April-2016.

- Connected load: All indoor lighting of Switch yard control room, Front & rear halogen lights of Switch yard control room building.

b. PV Solar System at Ash Pond Control Room Roof:

2x3 KW PV Solar system installed at Ash Pond Control Room roof top commissioned in June-2017.

- Connected load: All indoor lighting of Switch gear control room, Battery room, Front & rear halogen lights of Ash pond control room gear room, all outdoor lighting of Ash Pond 33/6.6KV Switch yard.

c. PV Solar System at DM Plant Building Roof:

3x3 KW PV Solar system installed at DM Plant building Roof commissioned in June-2018.

- Connected load: All indoor lighting of control room, MCC room, Office rooms, Efficiency Lab, GCV Room & coal laboratory

d. PV Solar System at CW Pump House Roof:

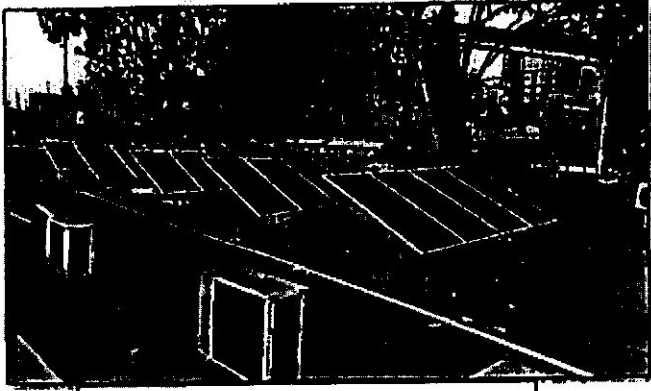
3 KW PV Solar system installed at CW Pump house roof commissioned in June-2018.

- Connected load: All indoor lighting of MCC room & outside lights.

e. PV Solar System at Plant Canteen building Roof:

9 KW PV Solar system installed at Plant Canteen roof commissioned in April-2019.

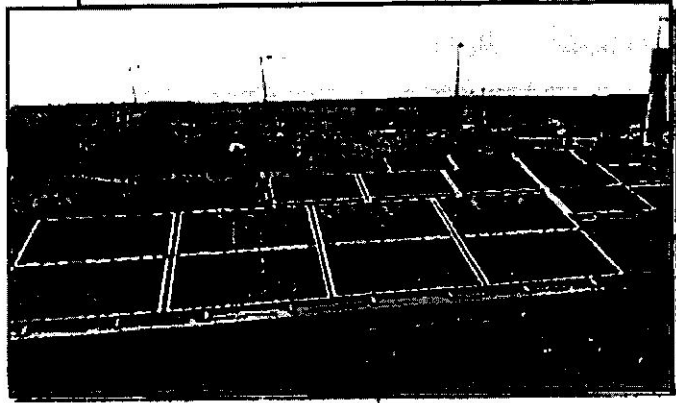
Connected load: All indoor lighting of Canteen dining, fans, Water cooler, TV, Insect killers & Portable strip warmer



Solar PV Plant in Canteen.



Solar PV Plant in Ash Pond.



Solar PV Plant in DM Plant.

2. Solar Powered LED Street Lights:

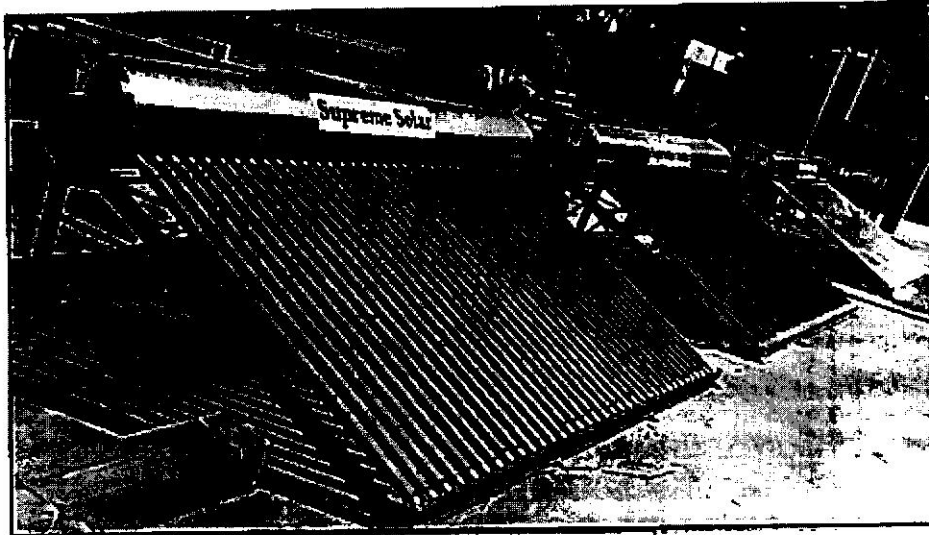


Solar Powered LED Street Light at Ash pond-C

- Total 60 no's of solar 50 watt powered 30 watt LED's Street lights are installed in Ash Pond -C area
- The total capacity of the system is 3KW.
- Specific Features of the street lights: Pole Mounted type, Inbuilt Maintenance free Lithium Ion Battery With Motion Sensor.
- Lights are in service on an average 11 hours daily i.e. 6 pm to 5am .
- Electrical Energy saved in a month =60 no's x 30 watt x 11 hours x 31 days = 614 kWh.

3. Solar Water Heater:

a. Solar Water Heater:



Solar Water Heater at Plant

900 Litre /day Solar Water Heater installed at roof of plant canteen commissioned in March-2017

- 3 Hot water tap points are provided at different locations inside plant canteen: for full filling to meet requirements like cooking, utensil cleaning, tea making, and vegetable washing & cleaning.
- Physical verification on 6th April 2019, all the three hot tap points are working & serving their purpose.
- The electric geyser is in OFF condition.
- Energy Savings for geyser not in service: 2 kw X 4hrs X 30 Days=240 KWH
(Also LPG Cylinder consumption savings is additional.)

b. Solar Water Heater at Guest House & Colony:

Sl. No.	Location	Total Capacity (LPD)	Remarks
1	D1 type Buildings -	14000	7 nos X 2000 LPD
2	D3 type Buildings	6000	3 nos X 2000 LPD

3	Guest House(Existing)	2000	(2 nos X 500 LPD) + (1 no X 1000 LPD)
Total		22000 LPD	LPD- Litter Per Day

Purpose: To serve the hot water requirement to the individual houses & rooms.

4. Biogas Plant

a. Biogas supplied to guest house:

- Total 980 hrs for the month of April-19.

Month	Operational Hours
April'19	20
May'19	113
Jun'19	210
Jul'19	210
Aug'19	217
Sep'19	210

Proposed Green Initiatives for FY 2020-21

1. Solar Power LED Street lights for ASDP Lines inside plant boundary: Proposal Initiated.
2. Roof Top solar plant at service building: Feasibility study under progress.

