

**COMPLIANCE TO CONDITIONS OF MOEF CLEARANCE FOR 2x60 MW POWER PROJECT**

Sl.No.	CONDITION	COMPLIANCE STATUS
i)	The total land requirement for the project shall be restricted to 60.00 acres.	60 acres land ,belonging to UPL is already available. The relevant document has been sent to SPCB under the cover of letter no. SVP(O)/SPCB/07 Dt.30.08.07 as required while applying for NOC.
ii)	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.4 % and 50% respectively.	Use of coal with sulphur & ash content limited to 0.4% & 50% respectively,has been considered for design of boiler and are being taken care during operation.
iii)	Two stacks of 48 m height each have been proposed. Continuous on line monitoring equipments for SO <sub>x</sub> , NO <sub>x</sub> and Particulate will be provided. Exit velocity of flue gases shall not be less than 15 m/sec. Possibility of having a bi-flue stack may be explored and the stack height may be finalized in consultation with CPCB/SPCB.	Continuous on line monitoring equipments for SO <sub>x</sub> , NO <sub>x</sub> and CO has been fitted to each stack. Exit velocity of flue gas, 15m/sec (max), has been considered in equipment designing and are being taken care.
iv)	High efficiency Electrostatic Precipitator (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm <sup>3</sup> .	Installation of High efficiency Electrostatic Precipitator (ESPs) have been completed. It is being ensured that during operation particulate emission will not exceed 50 mg/Nm <sup>3</sup> .
v)	CFBC boiler with lime injection with efficiency of sulphur removal upto 90% shall be provided.	Lime handling system has been deployed with injection system with sulphur removal upto 90%.
vi)	Dry low Nox burners shall be provided.	The CFBC boilers do not envisage any coal burners. Due to the state of the art technology the furnace temp is maintained low and hence the NO <sub>x</sub> emission is very low.
vii)	Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	Dust extraction system,consisting of fans, bag filters have been provided at coal and ash handling system. Also water spray/sprinkling system have been installed in dust prone areas (coal ground hopper, screen house, stack yard) & are working satisfactorily.
viii)	Fly ash shall be collected in dry form and its 100 % utilization shall be achieved from day one.	Dry dense phase pneumatic ash handling system and ash silo have been deployed and 100% ash utilisation is being ensured.
ix)	No ash Dyke shall be created as part of this project; however, an area not exceeding one acre shall be earmarked for ash handling.	Dry ash handling system with ash silo has been installed. Hence no ash dyke will be created.
x)	Closed cycle cooling system with cooling towers shall be provided. The effluent shall be treated as per the prescribed norms.	Closed cycle cooling system with cooling towers have been installed The effluent are being treated as per the prescribed norm.
xi)	The treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon for storm water. Arrangements shall be made that effluents and storm water do not get mixed.	Effluent treatment plant (settling & pressure filtration) has been deployed. Treated effluent conforming to prescribed standard are being re-circulated & reused inside the plant.

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xii)	A sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt/plantation.		The sewage water is soaked through soak pit
xiii)	Rainwater harvesting should be adopted. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearance and details shall be furnished.		Report on rain water harvesting has been submitted to your good office. Vide our letter no. UPL/EMV/09/1597 dt 24.09.09.
xiv)	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy of the 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 at Bhubaneswar.		Separate fire hydrant system having fire hydrant reservoir, pumps and fire hydrant points surrounding the coal yard has been deployed. Drawing no. SGC-BEV-IMF-0103 showing all detail has been submitted to your good office. Vide our letter no. PP/ENV/13/391 dt 23.05.2013.
xv)	Regular monitoring of ground water in and around the plant area shall be carried out, records maintained and periodic reports shall be furnished to the Regional Office of this Ministry.		Monitoring of ground water has been carried out at three locations. No abnormalities have been observed. Results are furnished.
xvi)	A green belt of adequate width and density shall be developed around the plant periphery covering about 1/3 <sup>rd</sup> of the project area preferably with local species.		Provision has been kept for green belt development as required and plantation will be carried out.
xvii)	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.		One safety center along with first aid facility and one ambulance was provided. First aid boxes were provided at all major work places. Separate toilets for ladies and gents were provided.
xviii)	Leq of Noise levels emanating from gas and steam turbines 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 steam & gas turbines, 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.		Acoustic enclosure for turbines, compressors and other noisy areas have been provided to reduce the noise level. In addition to the above PPEs had been provided to the individuals. Medical examination for individuals are being conducted.
xix)	Regular monitoring of ground level concentration of SO <sub>2</sub> , NO <sub>x</sub> , SPM and RSPM 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		Regular monitoring of the ground level concentration are being carried. Analysis results are furnished with this report.

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xx)	The project proponent shall advertise at least two local news papers widely circulated in the region around the project, one of them shall be in vernacular language of the locality concerned and within seven days of the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board / Committee and may also be seen at the website of the Ministry of Environment & Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> .		Advertised in New Indian Express & Samaya (vernacular language) on 31.05.08
xxi)	A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.		Separate environment management cell with qualified staff has been set up and functioning.
xxii)	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to this Ministry/ Regional Office/CPCB/SPCB.		Is being complied.
xxiii)	Regional Office of the Ministry of Environment & Forests located at Bhubaneswar 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.		Is being complied.
xxiv)	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.		Separate funds have been allocated as projected in our letter UPL/ENV/08/143 dt 12.4.2008 addressed to your good office and will be ensured not divert this for other purposes.
xxv)	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.		Purchase order dt 04.04.09 has been placed on M/s Thermax as EPC contract for supply of equipment along with erection and commissioning of the project. Financial closure has already been obtained. Land development of the project has already been completed.
xxvi)	Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Bhubaneswar /the CPCB/the SPCB who would be monitoring the compliance of environmental status.		Is being complied.

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xxvii)	The project proponent shall submit six monthly reports on status of implementation of the stipulated environmental safeguards to the MoEF, its regional office, Central Pollution Control Board & State Pollution Control Board. The project proponent shall upload the status of compliance of EC conditions on their website and update the same periodically and simultaneously send the same by e-mail to MoEF.		Is being complied.
xxviii)	The project proponent will upload the compliance status in their web site and update the same from time to time at least six monthly basis. Criteria pollutants levels such as SOx, NOx, SPM, RSPM (from stack & ambient air) shall be uploaded on their web site and also be deployed at the main gate of Power Plant.		Compliance status of EC condition are being uploaded in our website. Display of the said parameters at main gate have been made.

Ground water monitoring

<b>Ground water monitoring data</b>				
Sampling location	Total Chromium	Hexavalent Chromium	Selenium	Zinc
	mg / l	mg / l	mg / l	mg / l
Colony well	0.0012	<0.001	<0.001	0.055
Champakeswar Temple well	0.0016	<0.001	<0.001	0.163
Ram Mandir well	<0.001	<0.001	<0.001	0.035

Monitoring data

**AMBIENT AIR QUALITY & STACK EMISSION DATA OF 120MW (APRIL' 2014 –SEPTEMBER' 2014 )**

Month/week	Near ETP area				Near 120MW Main gate				Stack emission (PM)	
	PM10	SO2	NO2	PM2.5	PM10	SO2	NO2	PM2.5	Boiler # 7	Boiler # 8
Apl' 1 <sup>st</sup> week	107	9.2	13.4		82	7.9	12.8		19	20
2 <sup>nd</sup> week	75	8.5	11.5		96	10.2	13.1			
3 <sup>rd</sup> week	122	13.7	14.8	56	72	8.9	12.1			
4 <sup>th</sup> week	94	9.8	13.5		114	10.6	14.2			27
May' 1 <sup>st</sup> week	89	10.2	13.1		102	11.1	13.6			34
2 <sup>nd</sup> week	114	12.6	14.7		88	9.2	11.1		15	
3 <sup>rd</sup> week	75	9.8	12.8		91	10.8	13.7	48		24
4 <sup>th</sup> week	81	11.4	12.2		105	12.2	14.1		43	
Jun' 1 <sup>st</sup> week	89	12.2	14.6		112	8.9	12.6			33
2 <sup>nd</sup> week	70	10.5	13.4		90	10.5	13.7	52	17	
3 <sup>rd</sup> week	120	13.8	14.9		85	10.9	12.3			
4 <sup>th</sup> week	114	11.2	14.1		88	10.8	12.1		10	20
July' 1 <sup>st</sup> week	85	11.5	13.8		80	9.2	13.5			
2 <sup>nd</sup> week	112	10.8	14.6	48	75	11.3	14.5		15	23
3 <sup>rd</sup> week	88	13.5	15.2		102	14.8	15.9			
4 <sup>th</sup> week	68	9.5	12.1		92	11.8	12.6		38	
Aug' 1 <sup>st</sup> week	75	9.5	12.8		72	12.9	14.8		15	
2 <sup>nd</sup> week	96	9.8	15.1	42	110	12.4	16.8			
3 <sup>rd</sup> week	92	11.6	13.2		70	13.2	13.8		12	25
4 <sup>th</sup> week	89	15.8	16.1		94	12.2	13.1			30
Sep' 1 <sup>st</sup> week	62	9.8	12.2		70	11.2	13.9			
2 <sup>nd</sup> week	76	11.5	14.8	44	105	12.5	15.5		18	
3 <sup>rd</sup> week	75	10.8	12.4		80	12.7	13.2			
4 <sup>th</sup> week	82	14.5	15.4		95	10.6	12.7		22	

Env expenditure, CSR, Plantation

Period	Expenditure incurred on environmental management	Plantation, green belt development	CSR activities undertaken
April'14 to September'14	<p>Operation – Rs.28,70,169/-</p> <p>Maintenance – Nil</p> <p>Total – Rs.28,70,169/-</p>	<p>April - Nil</p> <p>May - Nil</p> <p>June - 100 Nos.</p> <p>July - 6000</p> <p>August - 7002</p> <p>September - 600</p>	<p>Three nos computers donated to Shankarpur community center. Two nos computer donated to Swaraswati Sisu Vidyamandir, Agrahat. Twenty pair pre fabricated desk &amp; bench donated to Sri Sri Balunkeswar Vidyapitha, Banipada. Ten pairs pre fabricated desk &amp; bench donated to KC Nodal school, Mundamal and Sri Sri Megheswar High School, San Chanchuo. Scientific instruments donated to Sri Sri Balunkeswar Vidyapitha, Banipada, Nigamananda High School, Doulatabad, Swaraswati Sisu Mandir, Choudwar and Municipal High School, Choudwar. Free medical check up through out the period near Kapaleswar Post Office.</p> <p>Total expenditure incurred = Rs 4 lac.</p>