

Compliance Report for Environmental Clearance accorded by MOEF for Vidarbha Industries Power Ltd. (Phase- II)	Vidarbha Industries Power Ltd.
	MOEF Ref.: J -13011/13/2009-IA.II(T)
	Date of Clearance: 26 May , 2010
	Status As On: 1 <sup>st</sup> July 2017 to 31 <sup>st</sup> Dec,2017
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Sl. No.	EC Conditions	Status
A	<b>Specific Condition</b>	
i.	A stack of 220 m height shall be provided with continuous online monitoring equipments for SO <sub>x</sub> , NO <sub>x</sub> , mercury and particulate. Exit velocity of flue gases shall not be less than 20m/sec.	Single plume Stack with 220-M height is provided for 1x300 MW power plant with Continuous online monitoring equipment for monitoring of PM, SO <sub>2</sub> and NO <sub>x</sub> .  Exit Velocity is maintained not less than 20 M/Sec at top.
ii.	High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm <sup>3</sup> .  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.	High Efficiency Electrostatic Precipitators are provided and particulate emission limit of less than 50 mg/Nm <sup>3</sup> is maintained  Dust extraction system such as cyclones/ bag filters and water spray system in dusty areas in coal handling and ash handling points, transfer areas and other vulnerable dusty areas are provided.
iii.	Space provision for retrofitting of FGD shall be kept, if required at a later date	Adequate Space has been provided for FGD in the layout. Enclosed lay out marking location earmarked for FGD. (Refer Annexure-3) Inline new emission regulation 2015 & subsequent direction issue by CPCB Vide B-33014/07/2017-18/IPC-II/TPP/15914 on dt. 11/12/2017. VIPL is working actively to comply with new emission requirement as per schedule.
iv.	The proponent shall upload the status of compliance of the stipulated environmental clearance 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 at Bhopal, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM (PM <sub>2.5</sub> & PM <sub>10</sub> ), SO <sub>2</sub> , NO <sub>x</sub> (ambient levels as well as stack emissions) shall be displayed at a	CAAQMS systems were installed at three locations as suggested by MPCB. CEMS system with opacity meters was also provided for continuous monitoring of stack emission and connected to CPCB server.  Photographs of the CAAQMS / CEMS are enclosed as Annexure- 4 .The criteria pollutant levels namely; SPM, RSPM (PM <sub>2.5</sub> & PM <sub>10</sub> ), SO <sub>2</sub> , NO <sub>x</sub> (ambient levels as well as stack emissions) are displayed at the

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	convenient location near the main gate of the company in the public domain.	main gate of the company in the public domain. Photograph enclosed  Regular monitoring of the ground level concentration of SO <sub>2</sub> , NO <sub>x</sub> , PM <sub>2.5</sub> & PM <sub>10</sub> , Hg, Pb and CO is being carried out and records are maintained. Six monthly reports are being submitted to MoEF, MPCB, and CPCB regularly.
v.	COC of 6.0 shall be adopted and report submitted within 3 months of operation of the plant.	COC of 6.0 to 6.5 is maintained and complied. The effluent is being treated to conform to the prescribed norms.
vi.	Closed cycle cooling system with natural draft cooling towers shall be provided. The effluent shall be treated as per the prescribed norms. The treated effluent conforming to the prescribed standards only shall be re-circulated and reused within the plant.  There shall be no discharge outside the plant boundary except during monsoon. Arrangements shall be made that effluent and storm water do not get mixed. A sewage treatment plant shall be provided and the treated sewage shall be used for raising green belt/plantation.	While placing application for EC, it was clearly mentioned in submitted document that Induced Draft Cooling Tower will be provided and it was also presented before EAC at the time of presentation on February 13, 2010 and recommended.  There is no discharge outside plant boundary except for the period of downpour. There is no mixing of effluent and storm water.  A sewage treatment plant of 40 CMD capacities is provided and the treated sewage is used for greenbelt/ Plantation. (Photograph enclosed)
vii.	Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg, Cr, As, Pb) and records maintained and data submitted to the Regional Office of this Ministry. The data so obtained shall be compared with the baseline data so as to ensure that the ground water	Regular monitoring of ground water in and around the plant area is being done and records are maintained.  A map showing the net work of monitoring stations and installation of Piezometers are enclosed for your reference.  There are 2nosof pizometers are installed.

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	quality is not adversely affected due to the project.	Monitoring around Hg, Cr, As, Pb is being done on regular basis. The analysis report for the reporting period is enclosed as Annexure-3
viii.	The proponent shall ensure that natural drainage in the area shall not be disturbed due to activities associated with operation of the plant.	Storm water drainage study report has been prepared by CWPRS, Pune. Accordingly, various drainage through plant has been channelized as per the recommendations of CWPRS report and complied, hence the natural drainage in the area is not disturbed due to activities associated with operation of plant.
ix.	Rainwater harvesting shall 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.	Detailed Rainwater harvesting study has been conducted and a report on the same has been submitted to CGWA. CGWA has given acceptance to the same vide letter no. CGWA/CR/GW/-Abs/Ind/2008/3989 dated 02/12/2008 and also submitted to MoEF in July 2009.  Rain water harvesting pits are established to conserve rain water.
x.	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. 100% fly ash utilization shall be ensured from 4th year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) shall be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.	3 nos. of Fly ash Storage Silos of 1000 MT each have been provided at site. (Enclosed photographs). The fly ash is collected in dry form and utilized as per the latest notification on Fly Ash utilization issued by MoEF. The unutilized fly ash is being disposed off in the HCSO form and bottom ash in lean slurry form. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) is being monitored in the bottom ash as also in the effluents emanating from the existing ash pond. ( Ash Utilization report for the FY 2016-17 is enclosed at <b>Annexure-1</b>
xi.	Ash pond shall be lined with HDP/LDP lining or any other suitable impermeable media so 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.	Ash pond lining is done with black cotton soil as per the recommendations of the leaching study conducted by M/s. Central Institute of Mining & Fuel Research, Dhanbad, Jharkhand.  Adequate Safety measures are implemented

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		to protect the ash dyke from breaching.
xii.	For disposal of Bottom Ash in abandoned mines (if proposed to be undertaken) it shall be ensured that the bottom and sides of the mined out areas are adequately lined with clay before Bottom Ash is filled up. The project proponent shall inform the State Pollution Control Board well in advance before undertaking the activity.	Note for Compliance
xiii.	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.	All Fire Safety precautions are taken at the Coal storage areas. The fire safety measures taken at coal yard are enclosed .  DMP is prepared identifying the hazards, Safety precautions, Periodical Mock drills and action plans for Risk Management and is in place.
xiv.	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 including fire and explosion in boilers and turbines. Reliability analysis of high pressure instruments/equipments shall be periodically carried out and corrective measures taken to prevent any fire and explosion hazards. Location of the turbines may be decided in such a way that the impact of fire and explosion does not cross the plant boundary. Mock drills shall be conducted regularly and based on the same, modifications required, if any shall be incorporated in the DMP.	LDO and HFO storage tanks had been installed with all required fire detection and protection system.  License for the storage area has been granted by PESO, vide License No: P/HQ/MH/15/6068(P250859),dt 18/01/2013.  Sulphur content in the liquid fuel is exceeding 0.5%.  DMP is prepared identifying the hazards, Safety precautions, Periodical Mock drills and action plans for Risk Management and is in place. Annexure- 7 Gist of On Site and Off Site Emergency Plan of VIPL.
xv.	Green belt consisting of 3 tiers of plantations of native species around plant and at least 100 m width shall be raised. Wherever 100 m	VIPL has identified a total of 90 acres of land for developing greenbelt as per MoEF guidelines in phase I & II and accordingly

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	width is not feasible a 50 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not less than 2500 per ha with survival rate not less than 70 %.	plantation has already been developed in 88 Acres of land and remaining 2 Acres of green belt will be developed and the total requirement will be Complied.  Till date 264777 numbers of different varieties of plants are planted over an area of 88 Acres. Additionally 25000 nos of tree planted at Railway siding. The survival rate for the plantation is more than 90%. The plantation map is enclosed Annexure-2.
xvi.	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Complied
xvii.	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.	Engg. Control measures are taken to limit the noise level. Also, Earplugs and Ear muffs are provided to all the people working in high nose areas. Workers engaged in noisy areas like TG, Compressors are periodically examined and the records of the same are maintained.  The work place noise monitoring is carried out and results observed to be well within the stipulated limit. The monitoring reports are enclosed
xviii.	A good action plan for R&R (if applicable) with package for the project affected persons be submitted and implemented as per prevalent R&R policy within three months from the date of issue of this letter.	The Govt. of Maharashtra in the notified MIDC area allotted the land for the Project. Therefore, there are no Project affected people. The land acquired for railway siding was mainly private land and there were no houses and habitants. The land was purchased from the landowners on mutually accepted terms and conditions.
xix.	An amount of Rs 12.0 Crores shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs 2.5 Crores per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within one	Detailed CSR plan based on need-based survey conducted was submitted by Society for All Round Development, (SARD) NGO based at Delhi.  An amount of <b>Rs 3.13 Crores</b> was spent on CSR activities for the <b>FY 2016-17</b> .

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	month along with road map for implementation.	The CSR activity for last six months is enclosed as Annexure -5
xx.	As part of CSR programme the company shall conduct need based assessment for the nearby villages to study economic measures with action plan which can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people besides development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such 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.	Report on the CSR activities conducted is enclosed at <b>Annexure- 5</b>
xxi.	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, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Complied during Project stage.
B.	General conditions	
i.	Regular monitoring of ground level concentration of SO <sub>2</sub> , NO <sub>x</sub> , PM <sub>2.5</sub> & PM <sub>10</sub> and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the	Regular monitoring of the ground level concentration of SO <sub>2</sub> , NO <sub>x</sub> , PM <sub>2.5</sub> & PM <sub>10</sub> , Hg, Pb and CO is being carried out and records are maintained. The location of the monitoring stations and frequency of monitoring was decided in consultation with MPCB. CAAQMS were installed at three locations as suggested by MPCB. CEMS system with opacity meters was also provided for continuous monitoring of stack emission and connected to CPCB server. Six monthly reports are being submitted regularly to MoEF, MPCB and CPCB.

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	website of the company.	Refer Annexure-6
ii.	A separate Environment Management Cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.	Environment Management Department with qualified and adequate staff has been set up for implementation of the Environment Management Plan.
iii.	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.	Half-yearly compliance reports are regularly submitted to MoEF, MPCB and CPCB.  The last Half yearly report was submitted vide letter dated 12.07.2017 for the period of 1 <sup>st</sup> Jan 2017 – 30 <sup>th</sup> June 2017
iv.	Regional Office of the Ministry of Environment & Forests shall monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponent will up-load the compliance status in their website and up-date the same from time to time at least six monthly basis. Criteria pollutants levels including NOx (from stack & ambient air) shall be displayed at the main gate of the power plant.	A complete set of EIA & EMP report has been already submitted to regional office for future monitoring & implementation of stipulated conditions.  CAAQMS system is installed at three locations as suggested by MPCB. Criteria pollutant level including NOx (from Stack & ambient air) displayed at the Main Gate of the Plant through CAAQMS system.

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v.	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.	Item-wise break up of Expenditure incurred for Environmental protection measures for Phase I and II during the Financial year 2016-17:																														
		<table border="1"> <thead> <tr> <th>Sr. No</th> <th>Description</th> <th>Amount incurred in (Lakhs)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Housekeeping Expenses</td> <td>46.46</td> </tr> <tr> <td>2</td> <td>Maintenance expenses for CAAQMS &amp; CEMS</td> <td>3.70</td> </tr> <tr> <td>3</td> <td>AMC for Environmental Monitoring</td> <td>11.30</td> </tr> <tr> <td>4</td> <td>Expenses on Tree Plantation</td> <td>48.17</td> </tr> <tr> <td>5</td> <td>O&amp;M of STP and ETP</td> <td>15.60</td> </tr> <tr> <td>6</td> <td>CSR Expenses for FY Yr 16-17</td> <td>312.97</td> </tr> <tr> <td>7</td> <td>Expenses for Ash Utilization</td> <td>298.50</td> </tr> <tr> <td>8</td> <td>CTO Expenses</td> <td>466.03</td> </tr> <tr> <td></td> <td>Total expenditure Rs</td> <td>1202.73</td> </tr> </tbody> </table>	Sr. No	Description	Amount incurred in (Lakhs)	1	Housekeeping Expenses	46.46	2	Maintenance expenses for CAAQMS & CEMS	3.70	3	AMC for Environmental Monitoring	11.30	4	Expenses on Tree Plantation	48.17	5	O&M of STP and ETP	15.60	6	CSR Expenses for FY Yr 16-17	312.97	7	Expenses for Ash Utilization	298.50	8	CTO Expenses	466.03		Total expenditure Rs	1202.73
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vi.	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.	VIPL has achieved the Financial Closure in October 2010 and informed to MoEF.																														
vii.	Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Bhopal I CPCS I SPCS who would be monitoring the compliance of environmental status.	Noted for compliance																														
viii.	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing	Complied.  The information regarding the EC has been published in the local newspaper dated June 10, 2010.																														

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	that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> .	
ix.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad, Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/ representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Complied.  The clearance letter has been uploaded on the link: <a href="http://www.reliancepower.co.in/pdf/EC_VIPL_Phase_II_26_05_2010.pdf">http://www.reliancepower.co.in/pdf/EC_VIPL_Phase_II_26_05_2010.pdf</a>
x.	The environment statement for each financial year ending 31 <sup>st</sup> 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 also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.	Environment Statement for the FY 2016-17 was submitted to State Pollution Control Board on 28 <sup>th</sup> Sept., 2017 and complied. (Enclosed Annexure-3)