



NAYARA
ENERGY

Reference: VPCL/ENV/32631/EC Compliance/2020/949
13th May 2020

To,
Ministry of Environment Forests & Climate Change
Regional Office,
Kendriya Paryavaran Bhavan,
E-5, Area Colony,
Ravi Shankar Nagar,
Link Road No. 3
Bhopal – 462016.

Subject: Environmental Clearance (EC) compliance report of M/s Vadinar Power Company Limited, 780 MW Captive Power Plant at Khambhalia, District - Devbhumi Dwarka, Gujarat, for period from 1st October 2019 to 31st March 2020.

Reference: 1) Environmental Clearance No.J-110011/320/2006-IA-II (I) dated September 16, 2008.

Dear Sir,

This has reference to the Environmental Clearance (EC) issued by Ministry of Environment, Forests & Climate Change, Government of India vide letter referred above. As per General Condition No. B (VIII) of the Environmental Clearance, we hereby submit our six monthly compliance status report for the period 1st October 2019 to 31st March 2020 along with relevant Annexures for your kind perusal and record please.

Thanking you,
Yours truly,
For, Vadinar Power Company Limited

P. R. Dixit
(Head – HSEF)

Enclosure: EC Compliance Report with Annexures

Copy to:

1. The Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhawan, Sector 10 A, Gandhinagar-382 010
2. The Chairman, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, New Delhi – 110 032
3. Regional Officer, Gujarat Pollution Control Board, Rameshwar Nagar, Jamnagar – 361 008

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EC COMPLIANCE REPORT AS ON 31st March, 2020
780 MW Captive Power Plant Project , Vadinar Power Company Limited (VPCL),
Jamnagar dist, Gujarat.

Ref: MOEF clearance No. J-110011/320/2006-IA-II (I) dated September 16, 2008

Sr. No.	CONDITIONS	Compliance Status																																																				
		77 MW+220MW plants																																																				
	Specific Conditions	Compliance Status																																																				
1	<p>The gaseous emissions (SO₂, NO_x,) from various power plant units shall conform to the standards prescribed by the concerned State Pollution Control Board.</p> <p>All the measures detailed in the Environment Management Plan (EMP) and response to the public hearing shall be taken to control the stack emissions from the proposed power plant for ensuring that the ambient air quality around the power plant complex maintained with in prescribed limits under the EPA, 1986.</p>	<p>Plants are operational only during emergency situation from FY 2012-13.</p> <p>Manual monitoring for ambient air is carried out by third party on weekly basis and summary of the ambient air monitoring data is given in below table.</p> <table border="1"> <thead> <tr> <th>Sr. no.</th> <th>Parameter s</th> <th>Limit</th> <th>Min</th> <th>Max</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>PM10 µg/m³</td> <td>100 (TWA24 Hrs)</td> <td>62</td> <td>96</td> <td>80</td> </tr> <tr> <td>2</td> <td>PM2.5 µg/m³</td> <td>60 (TWA 24 Hrs)</td> <td>18</td> <td>39</td> <td>26</td> </tr> <tr> <td>3</td> <td>Sulphur Dioxide (SO₂) µg/m³</td> <td>80 (24 Hrs)</td> <td>9</td> <td>26</td> <td>16</td> </tr> <tr> <td>4</td> <td>Nitrogen Oxides (NO₂) µg/m³</td> <td>80 (24 Hrs)</td> <td>11</td> <td>28</td> <td>19</td> </tr> <tr> <td>5</td> <td>Carbon Monoxide (CO) mg/m³</td> <td>2 (TWA 8 Hrs)</td> <td><1</td> <td><1</td> <td><1</td> </tr> <tr> <td>6</td> <td>Benzene µg/m³</td> <td>5 (TWA Annual)</td> <td><1</td> <td><1</td> <td><1</td> </tr> <tr> <td>7</td> <td>Benzo(a) – Pyrene ng/m³</td> <td>1 (TWA Annual)</td> <td><0.1</td> <td><0.1</td> <td><0.1</td> </tr> </tbody> </table> <p>The following are implemented as per EMP:</p> <ul style="list-style-type: none"> - Low NO_x burners for minimizing NO_x emissions for 77MW power plant. - Low sulphur fuel is being used in 77MW power plant. 					Sr. no.	Parameter s	Limit	Min	Max	Average	1	PM10 µg/m ³	100 (TWA24 Hrs)	62	96	80	2	PM2.5 µg/m ³	60 (TWA 24 Hrs)	18	39	26	3	Sulphur Dioxide (SO ₂) µg/m ³	80 (24 Hrs)	9	26	16	4	Nitrogen Oxides (NO ₂) µg/m ³	80 (24 Hrs)	11	28	19	5	Carbon Monoxide (CO) mg/m ³	2 (TWA 8 Hrs)	<1	<1	<1	6	Benzene µg/m ³	5 (TWA Annual)	<1	<1	<1	7	Benzo(a) – Pyrene ng/m ³	1 (TWA Annual)	<0.1	<0.1	<0.1
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Sr. No.	CONDITIONS	Compliance Status
		77 MW+220MW plants
		<ul style="list-style-type: none"> - Stack height of 100m & 65m are provided for 77 MW & 220 MW Power Plant respectively. - Ambient air quality with respect to PM, SO₂, NO_x, and CO is regularly monitored and records are maintained.
II	The gas generated from the 60MMTPA unit refinery process units and natural gas shall be used as fuel for the power project. In case of non-availability of gas Liquid Fuel (LF), Light Cycle Oil (LCO), Clarified Slurry Oil (CSO) and High Speed Diesel (HSD) shall also be used.	Plants are operational only during emergency situation from 2012-13. However we are using low Sulphur fuel oil and Fuel gas when operational.
III	Adequate stack heights to meet the emission standards shall be provided with continuous online monitoring system installed. The instruments used for ambient air quality monitoring shall be calibrated regularly. The monitoring protocol shall ensure continuous monitoring of all the parameters.	<p>The stack height of 100 m for 77MW power plant and 65m for 220 MW power plant with online monitoring facility for SO₂, NO_x, CO, Opacity are installed.</p> <p>Ambient air quality equipments are calibrated regularly.</p>
IV	The total SO ₂ emissions shall not exceed 10.49 tones / day.	Plants are operational only during emergency situation from 2012-13. Considering the above scenario SO ₂ emission is negligible.
V	Low No _x burners shall be provided for control of No _x emissions.	Low NO _x burners have been provided in all boilers of the plants.
VI	Closed Cycle Cooling system with cycles of concentration of at least 1.3 shall be provided. The sea water shall be used for cooling purpose.	Sea water is being used for cooling purpose whenever plant is operational.
VII	The effluent generation shall not exceed 140m ³ /hr. The effluent	No effluent generated from the plants.

Sr. No.	CONDITIONS	Compliance Status
		77 MW+220MW plants
	after treatment shall be recycled for process or other internal use. The combined cooling tower blow down shall be discharged into the sea through a well designed diffuser at a location identified by National Institute of Oceanography. The return quantity of sea water is 1460 m ³ /hr.	Cooling Tower blow down is sent through the existing return sea water pipeline of M/s Nayara Energy Ltd. (Formerly known as Essar Oil Ltd.) at the location identified by NIO (National Institute of Oceanography).
VIII	Adequate safety measures shall be provided to limit the impact within the limits of the plant, in case of an accident. Leak detection devices shall also be installed at strategic places for early detection and warning.	Complied : All the required safety measures are in place.
IX	Regular mock drills for the On-site emergency management plan shall be carried out as per the Manufacture, storage and Import of Hazardous Chemical Rules, 1989.	Regular mock drills for the On-site emergency management plan carried out as per the Manufacture, storage and Import of Hazardous Chemical Rules, 1989.
X	Regular monitoring of relevant parameters for the under ground water in the surrounding areas will be undertaken and the results will be submitted to the relevant States pollution Control Boards.	To ensure quality of ground water in surrounding village, six monthly sampling & analysis is carried out. The copies of ground water monitoring reports carried out in last six months is attached here as Annexure – 1 .
XI	The project authorities shall strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals rules, 1989 as amended in 2000 for handling of hazardous chemicals. Necessary approvals from Chief controller of explosives must be obtained	Provisions made in Manufacture, Storage and Import of Hazardous Chemicals rules, 1989 as amended in 2000 for handling of hazardous chemicals are strictly complied. Necessary approvals from Chief controller of explosives has been obtained and renewed time to time.

Sr. No.	CONDITIONS	Compliance Status
		77 MW+220MW plants
	before commissioning of the power project.	
XII	No solid waste will be generated. Used oil (40 KLPA) to be generated from the power project shall be disposed off as per CPCB guidelines.	No Hazardous Waste generated from the plants as plants are operational in emergency only.
XIII	The Company shall harvest surface as well as rainwater from the rooftops of the buildings proposed power project and storm water drains to recharge the ground water and use the same water for the various activities of the project to conserve fresh water.	As M/s VPCL is situated within the M/s Nayara Energy Limited (Formerly known as Essar Oil Ltd.) premises, there is common rain water harvesting system in M/s Nayara Energy Limited as per catchment area identified. As per our existing practice, rain water from VPCL is routed through storm water channels to Rainwater Harvesting Pond situated in M/s Nayara Energy Limited for storage & recharging of ground water.
XIV	Green belt shall be raised in 33% of plant area in consultation with the DFO. Selection of plant species shall be as per the CPCB guidelines.	M/s VPCL is located within the M/s Nayara Energy Limited (Formerly known as Essar Oil Ltd.) premises. The green belt of the VPCL is covered under the M/s Nayara Energy Limited green belt & M/s Nayara Energy Limited has developed green belt in 410 Ha of area.
XV	Occupational Health Surveillance of the workers shall be done on regular basis and records be maintained as per the Factories Act.	Annual medical checkup is done as per Factories Act and records are maintained with Occupational Health Center.
XVI	All the recommendations made in the EIA / EMP and Risk Assessment Reports in respect of environmental management and risk mitigation measures relating to power plant shall be implemented.	Recommendations made in the EIA / EMP and Risk assessment are implemented to safe guard the environment.
XVII	The company shall undertake all relevant measures, as indicated during the public Hearing for improving the Socio-economic conditions of the surrounding area. CSR activities will be undertaken by involving local	Vadinar Power Company Limited (VPCL) is committed to maintaining the highest standards of CSR in its business activities and aims to make a difference to the communities around. Company has taken all relevant measures, as indicated during the public Hearing for improving the Socio-economic conditions of the surrounding area.

Sr. No.	CONDITIONS	Compliance Status										
		77 MW+220MW plants										
	village and administration.											
Sr. No.	GENERAL CONDITIONS											
I	The project authorities must strictly adhere to the stipulations made by the concerned State pollution Control Board (SPCB) and the State Government.	M/s VPCL is strictly adhering to the stipulations made by the Gujarat State Pollution Control Board (GPCB) and the Gujarat Government.										
II	No further expansion or modifications in the power plant shall be carried out without prior approval of the Ministry of Environment and Forests.	Noted.										
III	At no time, the emissions should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the units, the respective unit should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved.	Noted.										
IV	Regular monitoring shall be carried out for relevant parameters for both surface and ground water.	To ensure quality of ground water in surrounding village, six monthly sampling & analysis is carried out. The copies of ground water monitoring reports carried out recently is attached here as Annexure – 1 .										
V	The overall noise levels in and around the plant area shall be limited within the prescribed standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise level shall conform to the standards prescribed under EPA	<p>Noise Monitoring is being carried out monthly in the surrounding of plant area, report of the same is in below table.</p> <table border="1"> <thead> <tr> <th rowspan="2">Locations</th> <th>Noise Level, dB(A) during Day Time</th> <th>Noise Level, dB(A) during Night Time</th> </tr> <tr> <th>06:00 am to 10:00 pm Min - Max</th> <th>10:00 pm to 06:00 am Min - Max</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			Locations	Noise Level, dB(A) during Day Time	Noise Level, dB(A) during Night Time	06:00 am to 10:00 pm Min - Max	10:00 pm to 06:00 am Min - Max			
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Sr. No.	CONDITIONS	Compliance Status		
		77 MW+220MW plants		
	Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Ambient Station at Port A Camp	49 – 51	49.4 – 50.2
		Ambient Station at Labour Gate	48.4 – 52.8	48.6 – 51.4
		Ambient Station at West side of Main Flare	51.2 – 52.4	50.4 – 51.6
		Nr. Batching Plant	50.6 – 51.6	49.2 – 50
		Ambient Station at 93 Gate	48.4 – 52.6	47.8 – 51.2
		Storm water drain outlet	52.2 – 53	50.6 – 52.8
		Ambient Station at Refinery Main Gate	48.8 – 51.2	48.4 – 49.4
		Petrol Pump (Near Delhi Darbar)	52 – 53	51.2 – 51.8
		Ambient Station at Pet Coke Rail Loading Yard	51.6 – 53.4	49.8 - 52.6
		Ambient Air Quality standards in terms of Noise for industrial area	75 dB(A)	70 dB(A)
VI	Authorization from the State Pollution Control Board must be obtained for collection / treatment /storage /disposal of Hazardous wastes.	Consolidated Consent & Authorization no. AWH-105449 with letter no. PC/CCA-JMN-496(4)/ID-32631/529604 dated 09.12.2019 has been obtained from GPCB for storage and disposal of Hazardous waste.		
VII	The project authorities will provide RS. 272.00 Crores to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. Adequate funds for recurring expenditure shall also be provided. The funds so provided shall not be diverted for any other purposes.	The Required amount to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government has already been spent. Adequate funds for recurring expenditure has been provided.		
VIII	The stipulated conditions will be monitored by the concerned Regional Office of this Ministry / Central pollution Control Board/State Pollution Control Board. A six monthly compliance report and the monitored data shall be submitted to them	Six monthly compliance report and the monitored data are being submitted to the concerned Regional Office of Ministry of Environment Forest & Climate Change / Central pollution Control Board/ Gujarat Pollution Control Board regularly.		

Sr. No.	CONDITIONS	Compliance Status
		77 MW+220MW plants
	regularly. It will also be displayed on the website of the Company.	
IX	The date of financial Closure and final approval of the project by the concerned authorities and the date of commencing the land development work as well as the commissioning of the project will be informed to the Ministry and its regional Office.	Date of financial closure and commissioning of plant was communicated with the concern authorities.
X	Proper Housekeeping and adequate occupational health program shall be taken up. Regular Occupational Health Surveillance program for the relevant diseases shall be carried out and the records shall be maintained properly.	Proper Housekeeping and adequate occupational health program is being carried out continuously. Records of Regular Occupational Health Surveillance program are maintained with OHC.
XI	A separate environment management cell with full fledge laboratory facilities to carry out various management and monitoring functions shall be set up under the control of Senior Executive.	Environment Cell is created since inception of the company and headed by qualified person.
6	Ministry may revoke or suspend the clearance, if implementation of the above conditions is not satisfactory.	Noted.
7	The Ministry reserves right to stipulate additional environmental conditions if found necessary. The company will implement these conditions in a time bound manner.	Noted.
8	Any appeal against this environmental clearance shall lie with the National Appellate Authority, if preferred, within a	Noted.

Sr. No.	CONDITIONS	Compliance Status
		77 MW+220MW plants
	period of 30 days as prescribed under section 11 of the National Environment Appellate Authority Act, 1997.	
9	The above stipulations would be enforced among others under the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous wastes (Management, Handling and Transboundary Movement) Rules, 2008 and its amendments.	Noted.

Annexure – I

Monitoring Results of Ground Water Quality of Surrounding Village

Parameters analyzed

Sr. No	NAME OF THE VILLAGE	pH	Total Dissolved Solids (TDS), (in ppm)	T. Hardness, (in ppm)	Oil & Grease, (in ppm)	Sulfate, (in ppm)	Chloride, (in ppm)
1	KATHI DEVALIYA	7.15	1250	437	<4	132	445
2	ZAKHAR	7.83	1880	550	<4	252	847
3	VADINAR	7.11	1150	579	<4	80	342
4	SINGACH	6.98	1710	210	<4	354	910
5	KAJURADA	7.28	1680	388	<4	160	887
6	BHARANA	7.38	350	278	<4	89	54
7	SODHA TARAGADI	7.5	677	525	<4	59	130
8	MITHOI	7.7	973	580	<4	108	296
9	TIMBADI	7.67	690	204	<4	188	470

Location of Villages



