

Reference: VPCL/ENV/32631/EC Compliance/2018/801

20th November 2018

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, 483 MW Captive Power Plant at Khambhalia, District - Devbhumi Dwarka, Gujarat, for period from 1st October 2017 to 31st March 2018.

Reference: 1) Environmental Clearance of 483 MW No.J-13012/130/2008-IA-II (T) dated 21/09/2011

Dear Sir,

This has reference to the Environmental Clearance (EC) issued by Ministry of Environment Forest & Climate Change vide letter quoted above. As per General Condition No. XVII of Environmental Clearance, we hereby submit our EC compliance report for period 1st April 2018 to 30th September 2018 along with relevant annexures for your perusal and records please.

Thanking you, Yours truly,

For, Vadinar Power Company Limited

K. B. Makadia (Head - VPCL)

Enclosure: EC Compliance Report

### 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
- 3. Department of Forest & Environment, Block 14/8, Sachivalaya, Gandhinagar 382 010
- 4. Regional Officer, Gujarat Pollution Control Board, Rameshwar Nagar, Jamnagar 361 008

Vadinar Power Company Limited

4th Floor, Tower 2, Equinox Business Park, Off Bandra Kurla Complex, L.B.S. Marg, Kurla (W), Mumbai 400 070, India

Registered Office:

Vadinar Power Company Administration Building, Refinery Site, 39KM., Jamnagar-Okha Highway, Dist. Devbhumi Dwarka, Vadinar - 361305, Gujarat, India T +91 2833 661490 | F +91 2833 662929



### EC COMPLIANCE REPORT AS ON 30th September, 2018

### Ref: MOEF clearance No. J-13012/130/2008-IA.II (T) dated 21st September, 2011 & 7th August, 2018

### Action Taken Report for 483 MW, period from 1st April 2018 to 31st September 2018

Sr. No.	SPECIFIC CONDITIONS	Action Taken Report
	Approval/clearance from the National Board of Wildlife shall be obtained. Further, grant of environmental clearance does not necessarily imply that wildlife clearance shall be granted to the project and the proposal shall be considered by the National Board of Wildlife on merits. The investment made in the project, if any, based on environmental clearance so granted, in anticipation of clearance from the wildlife angle shall be entirely at the cost and the risk of the company and MoEF in this regard shall not be responsible in any matter.	As per the letter received from Chief Conservator of Forest & Director of Marine National Park, Jamnagar, VPCL has already applied for clearance. Also VPCL is 8 km away from Marine National Park (MNP), Marine National Sanctuary (MNS) thus it is not covered under Eco Sensitive Zone (ESZ). The letter & its translation are attached here as Annexure – 1.
11.	Environmental clearance is subject to final order of Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ petition (civil) no. 460 of 2004, as may be applicable to this project.	As per the letter received from Chief Conservator of Forest & Director of Marine National Park, Jamnagar, VPCL has already applied for clearance. Also VPCL is 8 km away from Marine National Park (MNP), Marine National Sanctuary (MNS) thus it is not covered under Eco Sensitive Zone (ESZ).  The letter & its translation are attached here as Annexure – 1.



	A comprehensive conservation plan for protection and preservation of the Marine	As per the below documentary proof, VPCL is 8 km away from MNP, MNS & ESZ. Hence the condition is not applicable to VPC				
111.	National Park prepared and		nentary proof  Letter from Chief Conso  Marine National Park, Ja  of 8 km from MNP/MNS  Annexure – 1.	mnagar, mention	ing the distan	
IV.	Conservation plan of Mangroves as stipulated while clearance of the construction of Jetty shall be first implemented before starting construction activity.	Coal for VPCL is brought via Bedi port of Gujarat Maritime Board & Salaya port of M/s EBTSL. VPCL is not having any captive Jetty hence the given condition not applicable to VPCL.				
٧.	Vision document specifying prospective plan for the site shall be formulated and submitted to	The vision document has been provided to ministry along with the letter no. VPCL/ENV/EC Compliance/2013 / 386 dated 27.06.2013.				
	the ministry within six months.	Sulphu	r and ash contents in the	coal is not exceed	ling 0.5% & 34	
	Sulphur and ash contents in the coal to be used in the project	respection below listed.	r and ash contents in the outvely at any given time.  The own table ash content & so	ulphur content o	f coal shipme	
	Sulphur and ash contents in the	respec	tively at any given time.	-		
VI	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34 % respectively at any given time. In case of variation of coal quality at	respection below listed.	tively at any given time.	ulphur content o	f coal shipme Sulphur	
VI,	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34 % respectively at any given time. In	In beloudisted.  Sr. No.	tively at any given time.  ow table ash content & so  Coal Shipment	Ash Content (%)	f coal shipme Sulphur Content (%)	
VI,	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34 % respectively at any given time. In case of variation of coal quality at	respecting below the second se	tively at any given time.  ow table ash content & so  Coal Shipment  MV African Hornbill	Ash Content (%)	f coal shipme Sulphur Content (%)	
VI,	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34 % respectively at any given time. In case of variation of coal quality at any point of time, fresh reference	respecting below the second se	coal Shipment  MV African Hornbill  MV Jag Anand	Ash Content (%) 5.82 3.00	Sulphur Content (%)	
VI,	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34 % respectively at any given time. In case of variation of coal quality at any point of time, fresh reference shall be made to MOEF for	respection below listed.  Sr. No.  1 2 3	Coal Shipment  MV African Hornbill  MV Jag Anand  MV Orient Vesta	Ash Content (%)  5.82  3.00  3.73	Sulphur Content (%)  0.11  0.09  . 0.09	
VI.	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34 % respectively at any given time. In case of variation of coal quality at any point of time, fresh reference shall be made to MOEF for suitable amendments to	respection listed.  Sr. No.  1 2 3 4 5 6	Coal Shipment  MV African Hornbill  MV Orient Vesta  MV Energy G  MV Ranhill	Ash Content (%)  5.82  3.00  3.73  5.79  4.65  4.49	Sulphur Content (%)  0.11  0.09  0.09  0.44  0.10  0.11	
VI.	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34 % respectively at any given time. In case of variation of coal quality at any point of time, fresh reference shall be made to MOEF for suitable amendments to environmental clearance	respection below listed.  Sr. No.  1 2 3 4 5	Coal Shipment  MV African Hornbill  MV Jag Anand  MV Orient Vesta  MV Energy G  MV Ranhill  MV Cape Orchid	Ash Content (%)  5.82  3.00  3.73  5.79  4.65	Sulphur Content (%)  0.11  0.09  0.09  0.44  0.10	
VI.	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34 % respectively at any given time. In case of variation of coal quality at any point of time, fresh reference shall be made to MOEF for suitable amendments to environmental clearance	respection listed.  Sr. No.  1 2 3 4 5 6	Coal Shipment  MV African Hornbill  MV Orient Vesta  MV Energy G  MV Ranhill	Ash Content (%)  5.82  3.00  3.73  5.79  4.65  4.49  3.14  4.04	Sulphur Content (%)  0.11  0.09  0.09  0.44  0.10  0.11  0.06  0.10	
VI.	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34 % respectively at any given time. In case of variation of coal quality at any point of time, fresh reference shall be made to MOEF for suitable amendments to environmental clearance	respection listed.  Sr. No.  1 2 3 4 5 6 7	Coal Shipment  MV African Hornbill  MV Jag Anand  MV Orient Vesta  MV Energy G  MV Ranhill  MV Cape Orchid  MV Wisdom of the sea	Ash Content (%)  5.82  3.00  3.73  5.79  4.65  4.49  3.14	Sulphur Content (%)  0.11  0.09  0.44  0.10  0.11  0.06	



A stack of 220 m height is provided with continuous online monitoring equipments.

The results of monitoring reports for the parameters mentioned are provided below in tabular format with comparison to permissible limits prescribed in CC&A issued by GPCB.

Month	Particulate Matter (PM)	Sulphur Dioxide (SO₂)	Oxides of Nitrogen (NOx)	
	mg/Nm³	mg/Nm³	mg/Nm <sup>3</sup>	
Apr'18	41	125	82	
May'18	42	133	81	
Jun'18	40	139	90	
Jul'18	19	166	41	
Aug'18	34	166	41	
Sep'18	36	139	44	
CC&A Limit	50	600	300	

A stack of 220 m height shall be provided with continuous online monitoring equipments for SOx, NOx and Particulate Matter (PM2.5 & PM10). Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack shall also monitored on periodic basis.

Month	Particulate Matter (PM)	Sulphur Dioxide (SO <sub>2</sub> )	Oxides of Nitrogen (NOx)	
	mg/Nm³	mg/Nm³	mg/Nm³	
Apr'18	43	147	70	
May'18	44	134	74	
Jun'18	45	152	71	
Jul'18	42	156	69	
Aug'18	44	156	69	
Sep'18	43	119	75	
CC&A Limit	50	600	300	

All results are within prescribed limits of CC&A & MoEF&CC notification.

No ground water shall VIII extracted for use in operation of the power plant even in lean season.

The source of water is sea water. DM water after desalination of sea water is supplied by M/s Nayara Energy Limited (Formerly known as Essar Oil Ltd.) and sea water is utilized as make up in cooling tower.

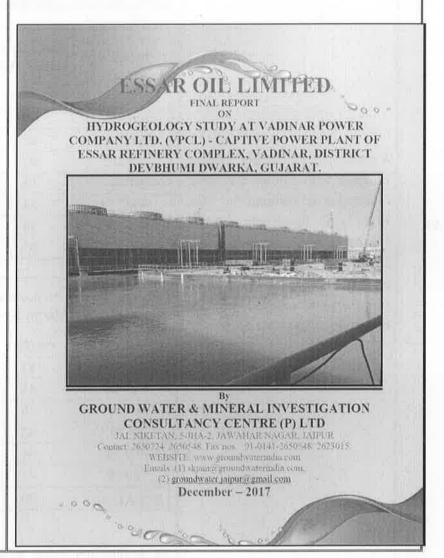
VII.



VPCL has retained M/s Ground Water & Mineral Investigation Consultancy Centre (P) Ltd., Jaipur in 2017 & report of Dec 2017 submitted to Ministry vide letter No. VPCL/ENV/Hydrogeological Report/32631/723 dated 04.04.2018. The cover page of the report is as below.

Hydro geological study of the area shall be reviewed annually and report submitted to the Ministry. 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.

IX.





	, , , , , , , , , , , , , , , , , , , ,	,		- ,	the given condition, tabulated below.
		Month	Average COC	Maximum COC	Minimum COC
X.	COC of 1.5 shall be adopted.	Apr'18	1.40	1.47	1.31
		May'18	1.40	1.47	1.36
		Jun'18	1.40	1.45	1.33
		Jul'18	1.35	1.45	0.78
		Aug'18	1.30	1.36	1.20
		Sep-18	1.41	1.48	1.35
		Average	1.41	1.45	1.22
		The guard pond	d does not rec	juired to mainta	in the temperature
		gradient as Coc	oling Tower blo	w down comes	from the bottom of
	Guard pond shall be developed and cooling water drawdown				ater is having same water make up).
XI.	shall be disposed at ambient temperature after adequate retention at the guard pond.	return sea wat known as Essar final discharge	er pipeline of Oil Ltd). Since point is app	M/s Nayara En the length of th roximately 21	through the existing ergy Ltd. (Formerly e pipeline up to the km provided with place within the
XII.	Local employable youth shall be trained in skills relevant to the project for eventual employment in the project itself. The action taken report and details thereof to this effect shall be submitted to the Regional Office of the Ministry and the State Govt. Dept. concerned from time to time.	Local youth is being trained for technical skill required for placed operation and maintenance. These local trained people appointed in plant.			
XIII.	Additional soil for levelling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.			ated within the n of the area is p	sites in such a way rotected.



XIV.	Provision for installation of FGD shall be provided for future use.	Provision for installation of FGD has already been provided for future use. The copy of the plot plan drawing mentioning location of proposed FGD has been submitted with compliance report VPCL/ENV/EC Compliance/32631/667, dated 25 <sup>th</sup> April, 2017.
XV.	High efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that Particulate Emission from the proposed plant and cement grinding unit (as applicable) does not exceed 50 mg/Nm <sup>3</sup> .	High efficiency ESPs have been installed to ensure that the particulate matter emission from the plant does not exceed 50 mg/Nm <sup>3</sup> .
XVI.	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 suppression system has been installed for transfer points of coal conveyer belt.  Dust extraction system with Bag filter units are mounted on the top of ash silos and coal bunkers to filter exhaust air before leaving it to the atmosphere.  Dust suppression & extraction system schematic diagrams with drawings have been submitted with the compliance report VPCL/ENV/EC Compliance/32631/667, dated 25 <sup>th</sup> April, 2017.
XVII.	Utilization of 100% Fly Ash generated shall be made 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.	100% utilization fly ash generated from plant and dispatched directly from silos to cement manufacturers. VPCL is utilizing low ash content coal, daily average generation of fly ash is 218 MT for FY 2017-18. There are 2 silos having total capacity of 1400 MT to store the fly ash, which is adequate to store fly ash for 6 to 7 days. From silos the fly ash is directly loaded in the fly ash bulkers of cement manufacturers on daily basis.  The six monthly Ash generation & disposal report is in below table.



		Ash Disposal For April 2018 to September 2018							
	Sr. No.	Month	Outsta nding (MT)	Generation (MT)		Target Utilizatio			
	1	Apr'18	0	7525.83	7525.83	Cement Industry	1) Ambuja Cements Ltd. (Kodinar): 4370.95 MT 2) Ultratech Cement Ltd (Amreli): 26.1 MT 3) Shree Digvijay Cement Co. Ltd: 2481.45 MT 4) Saurashtra Cement Limited: 386.18 MT 5) Stallion Energy Pvt. Ltd: 261.15 MT		
	2	May'18	0	6074.98	6074.98	Cement Industry	1) Ambuja Cements Ltd. (Kodinar): 3654.75 MT 2) Shree Digvijay Cement Co. Ltd: 1873.74 MT 3) Saurashtra Cement Limited:256.02 MT 4) Stallion Energy Pvt. Ltd: 265.18 MT 5) Ultratech Cement Ltd (Amreli): 25.29 MT		
XVII.	3	Jun'18	0	6084.58	6084.58		1) Ambuja Cements Ltd. (Kodinar): 3353.31 MT 2) Shree Digvijay Cement Co. Ltd: 1958.05 MT 3) Saurashtra Cement Limited: 533.23 MT 4) Stallion Energy Pvt. Ltd: 239.99 MT		
	4	Jul'18	0	6344.03	6344.03	Industry	1) Ambuja Cements Ltd (Kodinar): 3287.66 MT 2) Shree Digvijay Cement Co. Ltd: 1579.72 MT 3) Saurashtra Cement Limited: 139.27 MT 4) Stallion Energy Pvt. Ltd: 608.17 MT 5) Anand Trading Company: 729.21 MT		
7	5	Aug'18	0	8717.66	8717.66		1) Ambuja Cements Ltd. (Kodinar): 3432.85 MT 2) Shree Digvijay Cement Co. Ltd: 1668.07 MT 3) Saurashtra Cement Limited: 598.45 MT 4) Stallion Energy Pvt. Ltd: 910.91 MT 5) Anand Trading Company: 2037.07 MT 6) Gujarat Sidhee Cement Limited: 70.31 MT		
	6	Sep-18	0	7357.76	7357.76	Industry	1) Ambuja Cements Ltd. (Kodinar): 2187.66 MT 2) Shree Digvijay Cement Co. Ltd: 2960.05 MT 3) Anand Trading Company: 1678.59 MT 4) Stallion Energy Pvt. Ltd: 398.71 MT 5) Gujarat Sidhee Cement Limited: 132.75 MT		
	Tot	al Quan MT	tity in	42104.84	42104.84				
XVIII.	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. 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.) will 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.			collected in the collec	in dry forn om silos t sh pond til rcury and	naving total capacity of 1400 MT, Fly ash is n. 100% of fly ash generated from plant is sold to cement manufacturers. No fly ash_is stored lidate, hence no effluent is emanating from ash other heavy metals (As, Hg, Cr, Pb etc.) are the fly ash & bottom ash.			



XIX.	Ash pond shall be lined with HDPE/LDPE 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 facility has been provided in ash pond. Moreover Brick lining has also been provided as additional safety measures.
XX.	Old abandoned ash dyke (if any) shall be appropriately capped and rehabilitated so that no possible emission of fly ash takes place.	No old abandoned ash dyke is available on the site.
XXI.	Grazing land of adequate area (and not less than the same area earlier acquired while land for the refinery was acquired) shall be developed and action plan shall be submitted to the Ministry within six months.	The Captive Power Plant site is located within the existing M/s Nayara Energy Limited (Formerly known as Essar Oil Ltd.) Land is already purchased by M/s Nayara Energy Ltd.
XXII.	Green Belt consisting of three tiers of plantations of native species around plant and at least 100 m width shall be raised. Wherever 100 m 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 75 %.	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.



XXIII.	The project proponent shall also adequately contribute in the development of the neighbouring villages. Special package with implementation schedule for free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.	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. Detail of funding for potable drinking water supply to nearby villages is attached herewith as <b>Annexure – 2.</b>
XXIV.	An amount of Rs 16.0 Crores shall be earmarked as one time capital cost for CSR program. Subsequently a recurring expenditure of Rs 3.20 Crores per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within one month along with road map for implementation.	M/s 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.  Total Rs. 1,11,13,840/- spent on CSR activities carried out from April 2018 to September 2018, sub-head wise break up is attached herewith as Annexure – 2.



While identifying CSR program the company shall conduct need based assessment for the villages study nearby to economic measures with action which can help upliftment of poor section of Company involves in social activity right from its inception in the society. Income generating field of education, health and livelihood also is very much projects consistent with the concern about the local need for quality of life. All these activities traditional skills of the people lead to a cause for betterment of the life. Company has prepared besides development of fodder XXV. long term vision and intervention plan in 12 selected villages near farm, fruit bearing orchards, the company area. Based on long association with the community vocational training etc. can form foundation felt that health, education, livelihood and environment part of such program. Company shall provide separate are the key area of intervention. budget for community activities development and income generating programs. This will be in addition to vocational training for individuals imparted to take up self-employment and jobs. The annual social audit in terms of impact assessment of schemes/ projects identified is listed below. Impact assessment of Community Health Project was done by It shall be ensured that in-built Chetna - 2013. monitoring mechanism for the Impact assessment of Shishumangalam Project was done by Chetna schemes identified is in place -2013.and annual social audit shall be got done from the nearest Community assessment and feedback report for BIAF-ESSAR Gram XXVI. government institute of repute Vikas by BIAF & AROHANA Eco social Developments Pvt Ltd. - 2015. in the region. The project proponent shall also submit the Think Through Consultancy (TTC) has evaluate the CSR program status of implementation of the for FY 2015-16. scheme from time to time. Klynveld Peat Marwick Goerdeler (KPMG) has evaluate the CSR programs - for FY 2016-17.



Sr. No.	General Conditions:	Action Taken Report
l.	The treated effluents conforming to the prescribed standards only shall be recirculated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon. Arrangements shall be made that effluents and storm water do not get mixed.	Boiler blow-down is being utilized for cooling tower make up. No effluent is generated from VPCL. Storm water channel is provided.
Ш.	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.	Complied With.
III.	A well designed rainwater harvesting shall be constructed. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months	As M/s VPCL is situated within the M/s Nayara Energy Limite (Formerly known as Essar Oil Ltd.) premises, there is common rai water harvesting system in M/s Nayara Energy Limited as per catchment area identified. As recharge wells & rain water harvesting pond is belong to M/s Nayara Energy Limited considering this we have not submitted details to regional office.
	from the date of issue of clearance and details shall be furnished to the Regional Office of the Ministry.	As per our existing practice, rain water from VPCL is routed throug storm water channels to Rainwater Harvesting Pond situated in M/Nayara Energy Limited for storage & recharging of ground water.
IV.	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.	Coal from M/s Essar Bulk Terminals Salaya Ltd. supplied to M/s VPC through conveyor belt. Wherein all the safety measures have bee implemented. No coal stock at site.



		30, 43, 50, 53, 50, 7
V.	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.	Liquid Fuel (LDO, FO, LHSH) are used from the storage tank. All these storage tanks are licensed by Petroleum & Explosives Safety Organization (PESO), Vadodara sub circle office.  Complied with, the sulphur content in the liquid fuel is less than 0.5%. Liquid fuel usage is very minimal for start-up of boiler only.  Site specific Emergency Response Disaster Management Plan (ERDMP) is prepared, approved and implemented.
VI.	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 submitted to the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	No ash is being stored in ash pond as 100% fly ash generated from plant is sold directly from silos to cement manufacturers. As VPCL is utilising low ash content coal, daily average generation of fly ash is 230 MT. VPCL has 2 silos having total capacity of 1400 MT to store the fly ash, which is adequate to store fly ash for 6 to 7 days. From silos the fly ash is directly loaded in the fly ash bulkers of cement manufacturers on daily basis.  However Ash pond has been constructed for emergency purpose but no fly ash is stored into the ash pond till date, hence no effluent is emanating from ash pond.  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 — 3.



VII.	records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.  First Aid and sanitation arrangements shall be made for	No surface water sources available at the project site.  First Aid and sanitation arrangements provided to the drivers &
VIII.	the drivers and other contract workers during construction phase.	contract workers.



Noise Monitoring is being carried out monthly in the surrounding of plant area, report of the same is in below table.

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 maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/less noisy areas.

IX.

Locations	Noise Level, dB(A) during Day Time 06:00 am to 10:00 pm Min - Max	Noise Level, dB(A) during Night Time 10:00 pm to 06:00 am Min - Max
Ambient Station at Port A Camp1	52 – 53	49 – 52
Ambient Station at Labour Gate1	52 – 53	51 – 53
Ambient Station at West side of Main Flare1	49 – 53	48 – 52
Nr. Batching Plant	52 – 53	50 - 53
Ambient Station at 93 Gate	51 - 52	50 - 52
Storm water drain outlet	51 – 53	50 – 53
Ambient Station at Refinery Main Gate1	52 – 53	50 – 52
Petrol Pump (Near Delhi Darbar)	53 – 54	52 - 53
Ambient Station at Pet Coke Rail Loading Yard	51 – 53	49 - 51
Ambient Air Quality standards		
in terms of Noise for industrial area	75 dB(A)	70 dB(A)

Periodic Medical Examination of each employee conducted every year which includes audiometric tests as well.



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.

Regular monitoring of ground level concentration of SO2, NOx, PM2.5 & PM10 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 website of the company.

Sr. no.	Parameters	Limit	Min	Max	Average
1	PM10 μg/m3	100 (TWA* 24 Hrs)	54	88	72
2	PM2.5 μg/m3	60 (TWA 24 Hrs)	14	28	22
3	Sulphur Dioxide (SO2) µg/m3	80 (24 Hrs)	11	28	20
4	Nitrogen Oxides (NO2) μg/m3	80 (24 Hrs)	16	32	24
5	Carbon Monoxide (CO) mg/m3	2 (TWA 8 Hrs)	<1	<1	<1
6	Benzene μg/m3	5 (TWA Annual)	<1	<1	<1
7	Benzo(a) – Pyrene μg/m3	1 (TWA Annual)	<0.1	<0.1	<0.1

Environmental monitoring reports are submitted to GPCB on monthly basis & MoEF&CC on yearly basis.

IX.



X.	Provision shall be made for the housing of construction labour (as applicable) 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.  The project proponent shall	A well planned Labour Colony with all the basic amenities has been developed at site.
XI.	advertise in at least two 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 that the project has been accorded environmental clearance and copies of clearance letter are available with State Pollution Control Board/ Committee and may also be seen at website of the Ministry of Environment and Forest at <a href="http://envfor.nic.in">http://envfor.nic.in</a>	Advertised in three local newspapers widely circulated in the region around the project on 27.09.2011 informing that the project has been accorded environment clearance.  Copies of clearance letter are available with the Gujarat pollution control board/ committee and can also be seen at website of the ministry of Environment and Forest at <a href="http://envfor.nic.in">http://envfor.nic.in</a>



XII.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila 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.	Environment Clearance copy was submitted to Gram Panchayat, local NGO & Gujarat Pollution control Board, Jamnagar and also put on our website.
XIII,	An environmental cell shall be created at the project site itself and shall be headed by an officer of appropriate seniority and qualification. It shall be ensured that the head of the cell directly report to the head of the organization.	Environment Cell is created since inception of the company and headed by qualified person.
XV.	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; SPM, RSPM (PM2.5 & PM10), SO2, NOx (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.	EC compliance report along with monitoring data is uploaded on company website and updated on half yearly basis.  Continuous stack emission and Continuous ambient air quality data is being displayed at main gate.



XVI,	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 also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.	Environment Statement Form-V for each financial year is being submitted to Gujarat Pollution Control Board and same has been uploaded on company website.  Form V of FY2017-18 has been sent along with letter no. VPCL/ENV/32631/Env Statement 2017-18/2018/621 dated 27.09.2018.  The Environment Statement & EC compliance report have been submitted to ministry via e-mail.
XVII.	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.	EC compliance report along with monitoring data is uploaded on company website and updated on half yearly basis.  Copy of the reports had been submitted to Central pollution control board and state pollution control board.  EC compliance report for the period October'17 to March'18 has been submitted to MoEF & CC, Regional Office, Bhopal vide letter No. VPCL/ENV/32631/EC Compliance/2018/757, Dated 21.06.2018.  Likewise every 6 monthly EC compliance report submitted to Authority since EC granted by MoEF &CC.

XVIII.

XIX.



Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report **Environment Management Plan** with the additional along 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.

EC compliance report for the period October'17 to March'18 has been submitted to MoEF & CC, Regional Office, Bhopal vide letter No. VPCL/ENV/32631/EC Compliance/2018/757, Dated 21.06.2018.

Likewise every 6 month EC compliance report submitted to Authority since EC granted by MoEF &CC.

EC compliance report along with monitoring data is uploaded on company website and updated on half yearly basis.

Continuous stack emission and Continuous ambient air quality data is being displayed at main gate.

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 yearwise expenditure should be reported to the Ministry.

Cost is earmarked for Environment Mitigation Measures at Project stage itself. Details of the funds earmarked for the environment protection measures are listed in below table.

Sr. No	Name of Equipment	Installation Cost Rs. (In Crore)	Operation Maintenance Cost per year Rs. (In Crore)
1	Electrostatic Precipitator	120	0.1
2	Low NOx Burner	52.8	0.025
3	Dust Extraction System	1.8	0.2
4	Dry Fog Dust Suppression System	2	0.15
5	Ash Conveying System	8	0.25
6	Stack	60	0.05
7	Pollution Monitoring & Surveillance System	1	0.025
8	Green Belt	2	0.05
9	Others	2.5	0.15
	Total	250	1



XX.	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.	Date of financial closure and commissioning of plant was 31st December 2012, has been submitted along with letter no. VPCL/ENV/EC compliance/ 2013/408, dated 31.10.2013.
XXI.	Full cooperation shall be extended to the scientists/ officers from the ministry/ Regional Office of the ministry at Bhopal / CPCB/ GPCB, who would be monitoring the compliance of environmental status.	Full cooperation is provided to the scientists/ officers from the ministry/ Regional Office of the ministry at Bhopal / CPCB/ GPCB, who would be monitoring the compliance of environmental status.
5.	The Ministry of Environment and Forests reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry. The Ministry may also impose additional environmental conditions or modify the existing ones, if necessary.	Noted.
6.	The environmental clearance accorded shall be valid for a period of 5 years to start operations by the power plant.	Ministry has extended the validity of EC up to 20.09.2021 vide letter no. J-13012/130/2008-IA.II (T) dated 7 <sup>th</sup> August, 2018.



		ENERGY
7.	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Noted.
8.	In case of any deviation or alteration in the project proposed including coal transportation system from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.	Noted
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.	Regular updates related to 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 and other wastes (Management and Transboundary Movement) Rules, 2016 and its amendments are being referred continuously and implemented the same in plant whereve applicable.



Sr. No.	Additional Conditions	Action Taken Report
i	Revised emission standards as per the Ministry's notification dated 07.12.2015 and subsequent amendments notified from time to time shall be complied. In case, plant is ready for commissioning and not meeting revised emission norms, operation shall be stopped unless there is an extension given through a specific direction by MOEFCC/ CPCB or amendment in notification is issued.	Revised emission standards as per the Ministry's notification dated 07.12.2015 and subsequent amendments notified from time to time have been implemented in our CC&A conditions by GPCB and the compliance status of the same is provided against specific condition no. VII.
11	In case STP are located within 50 km from the project site then the treated water shall be used in the plant.	Noted.
lii	Local indigenous species shall be planted as a part of greenbelt development plan in consultation with local social forestry department.	M/s VPCL is situated 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.



suis :- 5/84-1/28/2-9/

/ સને ૨૦૧૬–૧૭

મુખ્ય વન સંરક્ષકશ્રીની કચેરી, મરીન નેશનલ પાર્ક, વન સંકુલ, નાગનાથ ગેઈટ પાસે, જામનગર–ઉદ૧ ૦૦૧ તા. /૦૨/૨૦૧૭

પ્રતિ, મેનેજરશ્રી, એરસાર વાડીનાર પાવર કંપની લી., પો.બો. નં. ૨૪, ખંભાળીયા, જી. જામનગર

> વિષય :- Regarding Application or VPCL for clearance from National Board or Wildlife સંદર્ભ :- આપની પંત્રાંક :- VPCL/Env/Application to NWLB/32631/650/ Dt 27/1/2017

મહાશય.

જય ભારત સાથે ઉપરોક્ત વિષયે જણાવવાનું કે, મરીન નેશનલ પાર્ક, જામનગર હેઠળના આપના ધ્વારા અત્રેને એસ્સાર પાવર કંપની લી. ૪૮૭ મેગાવોટ ક્રો–જનરેશન મલ્ટી ક્યુલ પાવર પ્લાન સ્થપવા માટેની દરખાસ્ત કરેલ

વધુમાં જણાવવાનું કે, અત્રેના કાર્યક્ષેત્ર હેઠળનાં જંગલ ! મરીન નેશનલ પાર્ક અને મરીન અભ્યારણ્ય વિસ્તારમાંથી આવતો નથી. તેમજ દરીયાકાંઠા થી જમીન સાઈટ ઉપર ઈકો સેન્સેટીવ ઝોન અગાઉ જાહેર તા થયેલ હોય જેથી ૧૦કી.મી. લાગુ પડતો હશી પરંતુ આપનો પ્રોજેક્ટ સાઈટ મરીન નેશનલ થાર્ક અને મરીન અભ્યારણ્ય વિસ્તારથી ૮કી.મી. દૂર આવતો હોવાથી સરકારશ્રીના પ્રવર્તમાન કાયદા મુજબની જોગવાઈ મુજબ વાઈલ્ડ લાઈક કલીયરન્સ અંગેની જરૂરી દરખાસ્ત આ કચેરીને મોકલવામાં આવેલ હતી.

પરંતુ મરીન નેશનલ પાર્ક / સેન્કરયુરી વિસ્તારને જમીન તરફની એક કિ.મી. સીં ત્રિજયામાં ઈકો સેન્સેટીવ ઝોન સરકારશ્રી તરફથી તારીખ:—૨૨/૦૮/૨૦૧ ઉથી જાહેર કરવામાં આવેલ છે. જેથી આપનો પ્રોજેક્ટ મરીન નેશનલ પાર્ક અને મરીન અભ્યારણ્ય વિસ્તારથી ૮કી.મી. દૂર આવેલ હોય જેથી ઈકો સેન્સેટીવ ઝોનમાં સમાવેશ થતો નથી.જે જાણ થવા વિનંતી.

આપનો વિશ્વાસુ,

મુખી વન સંસ્થક મરીન નેશનલ પાર્ક

જાયનગર

મકલ સાદર રવાનાઃ-- અગ્ર મુખ્ય વન સંરક્ષકશ્રી વન્યપ્રાણી ગુ.રા.ગાંધીનગર તરફ જાણ સાર્



### Translation of letter received from Chief Conservator of Forest Office, Jamnagar

No.: K/JMN/24/Te-7/689-90/Year 2016-17

Office of Chief Conservator of Forest Marin National Park, Forest Department, Near Nagnath Gate, Jamnagar -- 361 001 Date:- 22/02/2017

To, Manager, Essar Vadinar Power Company Ltd. Po. Box No. 24 Khambhaliya, Dist:- Jamnagar

Subject: - Regarding application of VPCL for clearance from National Board of Wildlife

Reference:- Your letter - VPCL/ENV/Application to NWLB/32631/650 dated 27.01.2017

Sir,

With reference to above subject matter, we would like to inform you that, you had made an application for Installation of Power Plant with capacity of 483 Megawatt, Co-generation Multifuel as Essar Power Company Limited under Marine National Park, Jamnagar.

Furthermore, we would like to inform you that above project area does not cover under the Forest / Marine National Park and Marine National Sanctuary Area. Eco sensitive Zone was not declared previously for Coast to Land site, thus 10Km radius was applicable to your project site as it is at distance of 8 km from Marine National Park and Marine National Sanctuary, so as per Government's previous notification of Wildlife Clearance related application was sent by you to this department.

However, Government has declared the area of 1 KM radius landward site from Marine National Park / Sanctuary as Eco Sensitive Zone on date 22.08.2013. We would like to inform you that your project which is 8 km away from Marine National Park and Marine National Sanctuary thus it is not covered under Eco Sensitive Zone.

Yours Faithfully Chief Conservator of Forest Marin National Park Jamnagar.

For your information only: A copy of the above letter has been dispatched to Principal Chief Conservator of Forest, Gandhinagar.





### Annexure - II

### **CSR Activities by Vadinar Power Company Ltd.**

M/s 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. M/s VPCL collaborates with key stakeholders, especially the local administration and institutions to facilitate development with initiatives in education, livelihoods, women's empowerment and health. The interventions are in line with the UN Sustainable Development Goals (SDGs) and the provisions under the Companies' Act, 2013.

### CSR Activities carried out in April'18 – September'18 are as under:

Project	Beneficiaries	Amount
Water Tanker Supply	19,156 from 6 villages	62,84,850/-
Fodder Assistance	5292 from 11 villages	48,28,990/-
	Total	1,11,13,840/-

ARAYAM

to the second



### Annexure – III

# Monitoring Results of Ground Water Quality of Surrounding Village

## Parameters analyzed

		)   1				Name of Villages	ages			
Parameters	Unit	Vadinar	Timbdi	Bharana	Mithoi	Kathi Devaliya	Zakhar	Singach	Kajurada	Sodha Taragadi
Hd	i	98.9	7.85	8.15	7.56	7.95	7.36	7.78	8.06	7.75
TDS	mg/l	1840	1590	378	1720	1634	1650	1450	730	1040
Chloride	mg/l	859	029	220	859	805	305	770	240	410
Sulphate	mg/l	338	81	15	26	80	270	94	21	49
T-Hardness	mg/l	515	130	200	540	310	205	450	490	385
0&6	mg/l	<b>4</b> >	4>	4>	4>	4>	4>	4>	\$ \$	4>



## Location of Villages

