

**Reference:** Nayara CPP/ENV/32631/EC Compliance of 483 MW/2023/1185

**22<sup>nd</sup> May 2023**

**To,**  
**The Deputy Director General of Forest (Central)**  
**Ministry of Environment, Forest and Climate Change,**  
Integrated Regional Office,  
Gandhinagar A wing- 407 & 409,  
Aranya Bhawan, Near CH-3 Circle,  
Sector-10A, Gandhi Nagar-382010

**Subject:** Environmental Clearance (EC) compliance report of M/s Nayara Energy Limited, Captive Power Plant 483 MW at Khambhalia, District - Devbhumi Dwarka, Gujarat, for period from 1<sup>st</sup> October 2022 to 31<sup>st</sup> March 2023.

**Reference:** 1) Clearance No. J-13012/130/2008-IA.II (T) dated 21<sup>st</sup> September 2011, renewed on 7<sup>th</sup> August 2018 & amended on 07<sup>th</sup> May 2020.

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. XVII of the Environmental Clearance, we hereby submit our six monthly compliance status report for the period 1<sup>st</sup> October 2022 to 31<sup>st</sup> March 2023 along with relevant Annexures for your kind perusal and record please.

Thanking you,

Yours truly,

**For, Nayara Energy Ltd. (CPP)**



**Authorized Signatory**

**Enclosure:** EC Compliance Report with annexures.

**Copy to:**

1. The Chairman, Central Pollution Control Board, Parivesh Bhavan, East Arjun Nagar, New-Delhi-110032.
2. The Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhawan, Sector-10 A, Gandhinagar-382010.
3. Regional Officer, Gujarat Pollution Control Board, Jamnagar



**EC COMPLIANCE REPORT AS ON 31<sup>st</sup> March, 2023**

**Ref: MOEF clearance No. J-13012/130/2008-IA.II (T) dated 21<sup>st</sup> September 2011, renewed on 7<sup>th</sup> August 2018 & amended on 07<sup>th</sup> May 2020**

**Compliance Report for 483 MW Environment Clearance, period from 1<sup>st</sup> October 2022 to 31<sup>st</sup> March 2023**

Sr. No.	SPECIFIC CONDITIONS	compliance status
I.	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.	<p>As per the letter received from the office of Chief Conservator of Forest, Marine National Park, Jamnagar, NAYARA ENERGY LTD. (CPP) submitted application to obtain Wildlife clearance. As per the letter, since the Nayara Energy Ltd. (CPP) is located 8 kms away from Marine National Park (MNP), Marine National Sanctuary (MNS) area, hence, the project does not fall inside the Eco Sensitive Zone (ESZ).</p> <p>The copy of the letter with its translation are attached here as <u>Annexure – 1.</u></p>
II.	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.	<p>As per the letter received from the office of Chief Conservator of Forest, Marine National Park, Jamnagar, NAYARA ENERGY LTD. (CPP) submitted application to obtain Wildlife clearance. As per the letter, since the Nayara Energy Ltd. (CPP) is located 8 kms away from Marine National Park (MNP), Marine National Sanctuary (MNS) area, hence, the project does not fall inside the Eco Sensitive Zone (ESZ).</p> <p>The copy of letter with its translation are attached here as <u>Annexure – 1.</u></p>

III.	A comprehensive conservation plan for protection and preservation of the Marine National Park prepared and vetted by the Competent Authority shall be implemented first in consultation before construction work for the plant is initiated.	<p>As per the below documentary proof, NAYARA ENERGY LTD. (CPP) is located 8 km away from the MNP, MNS &amp; ESZ. Hence the condition is not applicable to NAYARA ENERGY LTD. (CPP).</p> <p>Letter from Chief Conservator of Forest &amp; Director of Marine National Park, Jamnagar, mentioning the distance of 8 km from MNP/MNS &amp; ESZ is enclosed herewith as <b><u>Annexure – 1.</u></b></p>																								
IV.	Conservation plan of Mangroves as stipulated while clearance of the construction of Jetty shall be first implemented before starting construction activity.	<p>Coal for NAYARA ENERGY LTD. (CPP) is routed via Bedi port of Gujarat Maritime Board &amp; Salaya port of M/s EBTSL.</p> <p>NAYARA ENERGY LTD. (CPP) is not having any captive Jetty for receipt of coal, hence the specified condition is not applicable.</p>																								
V.	Vision document specifying prospective plan for the site shall be formulated and submitted to the ministry within six months.	<p>Complied with.</p> <p>The vision document has been provided to the Ministry along with the letter no. NAYARA ENERGY LTD. (CPP)/ENV/EC Compliance/2013 / 386 dated 27.06.2013.</p>																								
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 condition wherever necessary.	<p>Sulphur and ash contents in the coal is not exceeding 0.5% &amp; 34% respectively at any given time.</p> <p>In below table ash content &amp; sulphur content of coal shipment listed.</p> <table><tr><th>Sr. No.</th><th>Coal Shipment</th><th>Sulphur Content (%)</th><th>Ash Content (%)</th></tr><tr><td>1</td><td>MV Maran Spirit</td><td>0.10</td><td>5.69</td></tr><tr><td>2</td><td>MV Resilience</td><td>0.09</td><td>5.54</td></tr><tr><td>3</td><td>MV New Leonidas</td><td>0.13</td><td>3.72</td></tr><tr><td>4</td><td>MV KWK Providence</td><td>0.19</td><td>4.68</td></tr><tr><td></td><td><b>Average</b></td><td><b>0.13</b></td><td><b>4.91</b></td></tr></table>	Sr. No.	Coal Shipment	Sulphur Content (%)	Ash Content (%)	1	MV Maran Spirit	0.10	5.69	2	MV Resilience	0.09	5.54	3	MV New Leonidas	0.13	3.72	4	MV KWK Providence	0.19	4.68		<b>Average</b>	<b>0.13</b>	<b>4.91</b>
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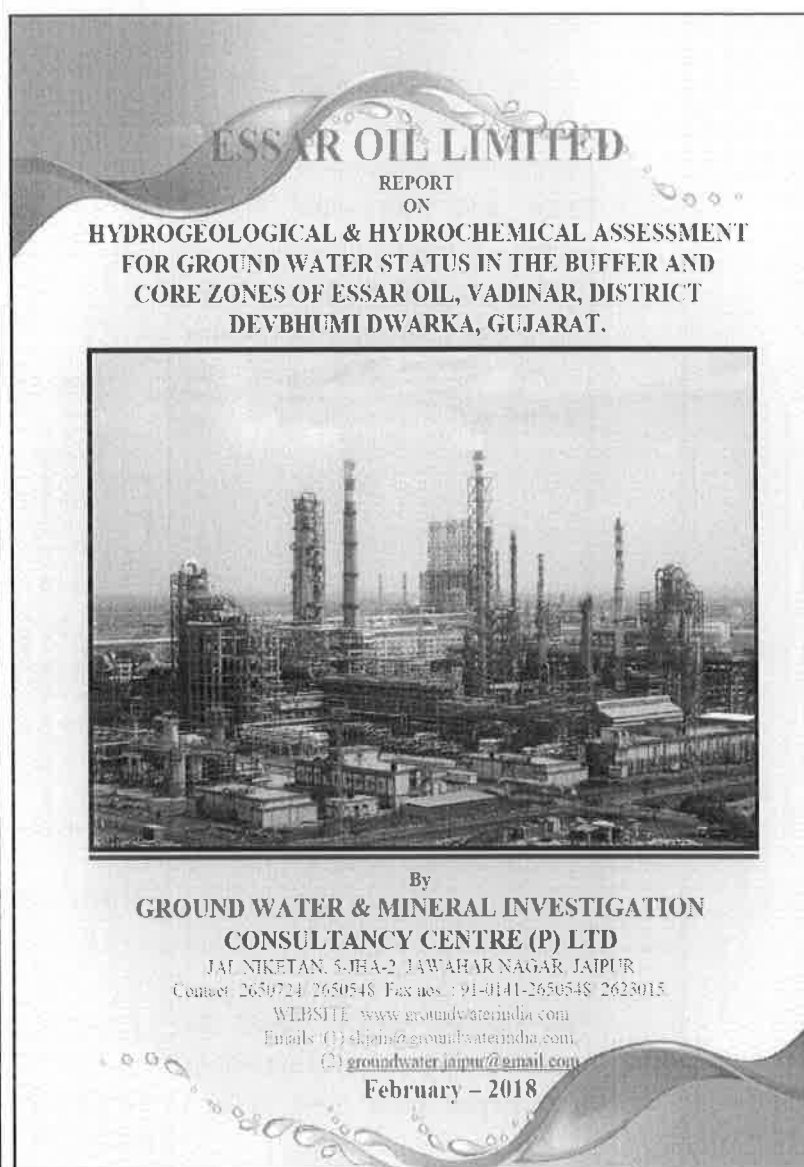
VII.	<p>A stack of 220 m height shall be provided with continuous online monitoring equipments for SO<sub>x</sub>, NO<sub>x</sub> and Particulate Matter (PM<sub>2.5</sub> &amp; PM<sub>10</sub>). Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.</p>	<p>A stack of 220 m height is provided with continuous online monitoring equipments.</p> <p>The results of monitoring reports for the parameters mentioned are provided below in tabular format with comparison to permissible limits prescribed in CC&amp;A issued by GPCB.</p> <table><tr><th><u>Boiler 4</u></th><th>Particulate Matter (PM)</th><th>Sulphur Dioxide (SO<sub>2</sub>)</th><th>Oxides of Nitrogen (NO<sub>x</sub>)</th></tr><tr><td>Oct'22</td><td>29</td><td>106</td><td>178</td></tr><tr><td>Nov'22</td><td>-</td><td>-</td><td>-</td></tr><tr><td>Dec'22</td><td>13</td><td>216</td><td>135</td></tr><tr><td>Jan'23</td><td>24</td><td>150</td><td>186</td></tr><tr><td>Feb'23</td><td>5</td><td>301</td><td>213</td></tr><tr><td>Mar'23</td><td>22</td><td>181</td><td>168</td></tr><tr><td><b>CC&amp;A Limit</b></td><td><b>50 mg/Nm<sup>3</sup></b></td><td><b>600 mg/Nm<sup>3</sup></b></td><td><b>300 mg/Nm<sup>3</sup></b></td></tr></table> <table><tr><th><u>Boiler 5</u></th><th>Particulate Matter (PM)</th><th>Sulphur Dioxide (SO<sub>2</sub>)</th><th>Oxides of Nitrogen (NO<sub>x</sub>)</th></tr><tr><td>Oct'22</td><td>7</td><td>192</td><td>152</td></tr><tr><td>Nov'22</td><td>-</td><td>-</td><td>-</td></tr><tr><td>Dec'22</td><td>7</td><td>180</td><td>88</td></tr><tr><td>Jan'23</td><td>31</td><td>193</td><td>127</td></tr><tr><td>Feb'23</td><td>6</td><td>259</td><td>209</td></tr><tr><td>Mar'23</td><td>16</td><td>124</td><td>185</td></tr><tr><td><b>CC&amp;A Limit</b></td><td><b>50</b></td><td><b>600</b></td><td><b>300</b></td></tr></table> <p>Note: In Nov'22 plant was under shutdown.</p> <p>All results are within prescribed limits.</p>	<u>Boiler 4</u>	Particulate Matter (PM)	Sulphur Dioxide (SO <sub>2</sub> )	Oxides of Nitrogen (NO <sub>x</sub> )	Oct'22	29	106	178	Nov'22	-	-	-	Dec'22	13	216	135	Jan'23	24	150	186	Feb'23	5	301	213	Mar'23	22	181	168	<b>CC&amp;A Limit</b>	<b>50 mg/Nm<sup>3</sup></b>	<b>600 mg/Nm<sup>3</sup></b>	<b>300 mg/Nm<sup>3</sup></b>	<u>Boiler 5</u>	Particulate Matter (PM)	Sulphur Dioxide (SO <sub>2</sub> )	Oxides of Nitrogen (NO <sub>x</sub> )	Oct'22	7	192	152	Nov'22	-	-	-	Dec'22	7	180	88	Jan'23	31	193	127	Feb'23	6	259	209	Mar'23	16	124	185	<b>CC&amp;A Limit</b>	<b>50</b>	<b>600</b>	<b>300</b>
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VIII.	<p>No ground water shall be extracted for use in operation of the power plant even in lean season.</p>	<p>Complied with.</p> <p>No ground water is extracted for use in operation of the power plant.</p>																																																																

IX.

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.

No water bodies have been disturbed due to activities associated with the setting up / operation of the power plant as there is no extraction of ground water as well as no discharge of any water on ground which may impact drainage system in the area.

NAYARA ENERGY LTD. (CPP) hired M/s Ground Water & Mineral Investigation Consultancy Centre (P) Ltd., Jaipur for Hydrogeology study. The cover page of the report is as below.



X.	COC of 1.5 shall be adopted.	<div>Complied with. NAYARA ENERGY LTD. (CPP) is maintaining COC as per the given condition. Monthly average, COC is tabulated below.</div> <table><tr><th>Month</th><th>Average COC</th></tr><tr><td>Oct'22</td><td>1.43</td></tr><tr><td>Nov'22</td><td>1.18</td></tr><tr><td>Dec'22</td><td>1.26</td></tr><tr><td>Jan'23</td><td>1.32</td></tr><tr><td>Feb'23</td><td>1.41</td></tr><tr><td>Mar'23</td><td>1.40</td></tr><tr><td>Average</td><td>1.33</td></tr></table>	Month	Average COC	Oct'22	1.43	Nov'22	1.18	Dec'22	1.26	Jan'23	1.32	Feb'23	1.41	Mar'23	1.40	Average	1.33
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XI.	Guard pond shall be developed and cooling water drawdown shall be disposed at ambient temperature after adequate retention at the guard pond.	Cooling Tower blow down is discharged along with the refinery streams such as Desalination brine, RO reject through the existing return sea water pipeline. Since the length of the pipeline up to the final discharge point is approximately 21 km provided with adequate diffuser, temperature drop takes place within the pipeline.																
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.	Nayara Energy Limited ensures 85% local employment as per the Employment Policy (Government of Gujarat) dated 31.12.1995.																
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.	Additional soil required has been taken from the area within the sites in such a way that natural drainage system of the area is protected.																

XIV.	Provision for installation of FGD shall be provided for future use.	Provision for installation of FGD has been provided for future use. The copy of the plot plan drawing mentioning location of proposed FGD has been submitted earlier along with EC compliance report vide our letter reference No.: NAYARA ENERGY LTD. (CPP)/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.	<p>Dust suppression system has been installed for transfer points of coal conveyer belt.</p> <p>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.</p> <p>Dust suppression &amp; extraction system schematic diagrams with drawings have been submitted with the EC compliance report vide letter reference no.: NAYARA ENERGY LTD. (CPP)/ENV/EC Compliance/32631/667, dated 25<sup>th</sup> April, 2017.</p>



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.	<p>NAYARA ENERGY LTD. (CPP) is utilizing low ash coal &amp; daily average generation of fly ash is 235 MT for FY 2022-23. There are 2 silos having total capacity of 1400 MT to store the fly ash, the capacity is adequate to store fly ash for 5 to 6 days. From silos the fly ash is directly loaded in the fly ash bulkers of cement manufacturers on daily basis.</p> <p>We have submitted a compliance letter vide letter no. Nayara CPP/ENV/Fly Ash/2023/32631/1175, dated 20<sup>th</sup> April 2023 to GPCB &amp; MoEF&amp;CC regarding disposal of fly ash. Please find enclosed ash disposal reports as <u>Annexure – 2</u>.</p>
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.	<p>NAYARA ENERGY LTD. (CPP) is utilizing low ash coal &amp; daily average generation of fly ash is 235 MT for FY 2022-23. There are 2 silos having total capacity of 1400 MT to store the fly ash, the capacity is adequate to store fly ash for 5 to 6 days. From silos the fly ash is directly loaded in the fly ash bulkers of cement manufacturers on daily basis.</p> <p>Ash pond has been built to meet emergency requirement &amp; no effluent is emanating from ash pond. Furthermore please find enclosed ash analysis reports as <u>Annexure -3</u>.</p> <p>Ground water quality monitoring in surrounding village is carried out six monthly and the copy of monitoring report is attached herewith as <u>Annexure – 4</u>.</p> <p>No ash is being disposed off in low lying area.</p>
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.	Ash pond has been lined with HDPE. Further 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 NAYARA ENERGY LTD. (Captive Power Plant) is located within the refinery of M/s Nayara Energy Limited (Formerly known as Essar Oil Ltd.) premises. 410 Ha greenbelt area is developed within premises.
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.	Nayara Energy Ltd. is committed to maintain the highest standards of CSR in its business activities and aims to make a difference to the communities around. Free potable water is being supplied in the nearby villages. Details of funding for potable drinking water supply to nearby villages is attached herewith as <b><u>Annexure – 5.</u></b>

XXIV.	<p>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.</p>	<p>M/s NAYARA ENERGY LTD. (CPP) is committed to maintain the highest standards of CSR in its business activities and aims to make a difference to the communities around.</p> <p>Amount of Total Rs. 1.24 Crores has been spent on CSR activities carried out during October 2022 to March 2023, sub-head wise break up is attached herewith as <b><u>Annexure – 5</u></b>.</p>
XXV.	<p>While identifying CSR program 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 program. Company shall provide separate budget for community development activities and income generating programs. This will be in addition to vocational training for individuals imparted to take up self-employment and jobs.</p>	<p>Company involves in social activity right from its inception in the field of education, health and livelihood also is very much concern about the local need for quality of life. All these activities lead to a cause for betterment of the life. Company has prepared long term vision and intervention plan for 12 nos. selected villages near the company area. Based on long term association with the community foundation felt that health, education, livelihood and environment are the key area of intervention.</p>

XXVI.	<p>It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.</p>	<p>The annual social audit in terms of impact assessment of schemes/projects identified is listed below.</p> <ol style="list-style-type: none"> <li>1. Impact assessment of Community Health Project was done by Chetna – 2013.</li> <li>2. Impact assessment of Shishumangalam Project was done by Chetna – 2013.</li> <li>3. Community assessment and feedback report for BIAF-ESSAR Gram Vikas by BIAF &amp; AROHANA Eco social Developments Pvt Ltd. – 2015.</li> <li>4. Think Through Consultancy (TTC) has evaluate the CSR program – for FY 2015-16.</li> <li>5. Klynveld Peat Marwick Goerdeler (KPMG) has evaluate the CSR programs – for FY 2016-17.</li> <li>6. Think Through Consultancy (TTC) has evaluate the CSR program –for FY 2017-18.</li> <li>7. Deloitte has conducted an assessment of CSR program in 2018-19.</li> <li>8. Think Through Consultancy (TTC) has evaluate the CSR program – for 2019.</li> <li>9. Skill, need &amp; Gap analysis by Centre for Environment Education – for 2019-20.</li> <li>10. Impact Assessment Report of CSR programs by KPMG Assurance and Consulting Services LLP – for March 2023.</li> </ol>
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Sr. No.	General Conditions:	Action Taken Report
I.	The treated effluents 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 effluents and storm water do not get mixed.	Boiler blow-down is being utilized for cooling tower make up. Sea water is used for Cooling water application. Cooling Tower Blow Down is discharged along with the refinery sea water return through 21 km long sea water return line. Separate Storm water channel network is provided.
II.	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.	Sewage Treatment plant is provided and all treated sewage is being used in green belt.
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 from the date of issue of clearance and details shall be furnished to the Regional Office of the Ministry.	As M/s NAYARA ENERGY LTD. (CPP) is located adjacent to refinery of M/s. Nayara Energy Limited (Formerly known as Essar Oil Ltd.) within same premises. Provision has been made for is common rain water harvesting system as per catchment area identified. As recharge wells & rain water harvesting pond belong to M/s Nayara Energy Limited, considering this we have not submitted details to regional office.  As per our existing practice, rain water from NAYARA ENERGY LTD. (CPP) is routed through storm water channels to Rainwater Harvesting Pond situated in M/s Nayara Energy Limited for storage & recharging of ground water.

IV.	<p>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.</p>	<p>At present there is no coal storage facility created at CPP for storage of coal.</p> <p>The coal is received from M/s. Essar Bulk Terminals Salaya Ltd. &amp; Bedi port of Gujarat Maritime Board through conveyor belt wherein all the safety measures have been implemented. No coal stock available at site.</p>
V.	<p>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.</p>	<p>Storage facilities for auxiliary liquid Fuel such as LDO, FO, and LSHS have been made. These storage tank have been licensed by Petroleum &amp; Explosives Safety Organization (PESO), Vadodara subcircle office.</p> <p>The sulphur content in the liquid fuel is less than 0.5%. Liquid fuel usage is very minimal during start-up of boiler only.</p> <p>Site specific Emergency Response Disaster Management Plan (ERDMP) is prepared, approved and implemented.</p>

VI.	<p>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.</p>	<p>NAYARA ENERGY LTD. (CPP) is utilizing low ash coal &amp; daily average generation of fly ash is 235 MT for FY 2022-23. There are 2 silos having total capacity of 1400 MT to store the fly ash, the capacity is adequate to store fly ash for 5 to 6 days. From silos the fly ash is directly loaded in the fly ash bulkers of cement manufacturers on daily basis.</p> <p>Ash pond has been also built to meet emergency requirement &amp; no effluent is emanating from ash pond. Furthermore, please find enclosed ash analysis reports as <u>Annexure - 3</u>.</p> <p>There is no use of Ground water.</p> <p>Ground water quality monitoring in surrounding village is carried out six monthly and the copy of monitoring report is attached herewith as <u>Annexure – 4</u>.</p>
VII.	<p>Monitoring surface water quantity and quality shall also be regularly conducted and 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.</p>	<p>No surface water sources available at the project site.</p> <p>Ground water extraction is not carried out.</p>
VIII.	<p>First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.</p>	<p>During project phase, First Aid and sanitation arrangements provided to the drivers &amp; contract workers.</p>

IX.	<p>Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA.</p> <p>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.</p>	Ambient Noise Monitoring is being carried out monthly in the surrounding of plant area, report of the same is in below table.				
		Locations	Noise Level, dB(A) during Day Time 06:00 am to 10:00 pm		Noise Level, dB(A) during Night Time 10:00 pm to 06:00 am	
			Min	Max	Min	Max
		Ambient Station at Port A Camp	49.0	51.2	46.8	49.4
		Ambient Station at Labour Gate	51.0	53.4	43.4	50.8
		Ambient Station at West side of Main Flare	50.8	53.0	42.6	49.4
		Nr. Batching Plant	52.0	54.0	45.6	51.0
		Ambient Station at 93 Gate	49.4	52.2	45.0	50.4
		Storm water drain outlet	51.0	53.0	46.4	51.8
		Ambient Station at Refinery Main Gate	51.0	53.4	45.4	52.4
		Petrol Pump (Near Delhi Darbar)	53.4	54.0	44.2	50.2
		Ambient Station at Pet Coke Rail Loading Yard	49.0	53.2	42.0	49.6
		Ambient Air Quality standards in terms of Noise for industrial area	75 dB(A)		70 dB(A)	
		<p>PPE's are provided to ensure for eardrum protection of the employees, workers as well as visitors.</p> <p>Engineering Control: Acoustic barriers or acoustic enclosures and silencers are provided for the high noise generating equipment.</p> <p>Sound proofing / glass paneling have been provided at critical operating stations / control rooms.</p>				



		<p>Periodic Medical Check-up for employees is carried out in house with audiometry test who are exposed to high noise and records are maintained.</p> <p>For contractual staff also medical check-up includes audiometry test and periodic test compliance and records are ensured (as medical checks are mandatory and linked with gate pass generation and renewal)</p>
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IX.	<p>Regular monitoring of ground level concentration of SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>2.5</sub> &amp; 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 website of the company.</p>	<p>Ambient air quality monitoring is carried out by MoEF &amp; NABL approved third party laboratory at 05 nos. of different locations inside Nayara Energy Ltd. Campus on weekly twice basis and summary of the ambient air monitoring data is given in below table.</p>																																																																																																																																														
		<table><tr><th>Location</th><th>Parameters</th><th>PM<sub>10</sub> µg/ m<sup>3</sup></th><th>PM<sub>2.5</sub> µg/ m<sup>3</sup></th><th>SO<sub>2</sub> µg/ m<sup>3</sup></th><th>NO<sub>2</sub> µg/ m<sup>3</sup></th><th>CO mg/ Nm<sup>3</sup></th><th>C<sub>6</sub>H<sub>6</sub> µg/m<sup>3</sup></th><th>C<sub>20</sub>H<sub>12</sub> ng/m<sup>3</sup></th></tr><tr><td rowspan="3">Labour Gate</td><td>Min</td><td>64</td><td>18</td><td>11</td><td>14</td><td>BDL</td><td>BDL</td><td>BDL</td></tr><tr><td>Max</td><td>98</td><td>34</td><td>19</td><td>22</td><td>BDL</td><td>BDL</td><td>BDL</td></tr><tr><td>Avg.</td><td>87</td><td>26</td><td>15</td><td>17</td><td>BDL</td><td>BDL</td><td>BDL</td></tr><tr><td rowspan="3">Refinery Main Gate</td><td>Min</td><td>62</td><td>16</td><td>11</td><td>14</td><td>BDL</td><td>BDL</td><td>BDL</td></tr><tr><td>Max</td><td>88</td><td>31</td><td>19</td><td>22</td><td>BDL</td><td>BDL</td><td>BDL</td></tr><tr><td>Avg.</td><td>77</td><td>23</td><td>15</td><td>18</td><td>BDL</td><td>BDL</td><td>BDL</td></tr><tr><td rowspan="3">93 Gate</td><td>Min</td><td>72</td><td>18</td><td>12</td><td>13</td><td>BDL</td><td>BDL</td><td>BDL</td></tr><tr><td>Max</td><td>98</td><td>34</td><td>20</td><td>23</td><td>BDL</td><td>BDL</td><td>BDL</td></tr><tr><td>Avg.</td><td>89</td><td>28</td><td>16</td><td>19</td><td>BDL</td><td>BDL</td><td>BDL</td></tr><tr><td rowspan="3">West Side of Main Flare</td><td>Min</td><td>61</td><td>16</td><td>12</td><td>15</td><td>BDL</td><td>BDL</td><td>BDL</td></tr><tr><td>Max</td><td>98</td><td>34</td><td>19</td><td>22</td><td>BDL</td><td>BDL</td><td>BDL</td></tr><tr><td>Avg.</td><td>84</td><td>26</td><td>16</td><td>19</td><td>BDL</td><td>BDL</td><td>BDL</td></tr><tr><td rowspan="3">COT</td><td>Min</td><td>64</td><td>18</td><td>11</td><td>15</td><td>BDL</td><td>BDL</td><td>BDL</td></tr><tr><td>Max</td><td>92</td><td>33</td><td>21</td><td>25</td><td>BDL</td><td>BDL</td><td>BDL</td></tr><tr><td>Avg.</td><td>77</td><td>24</td><td>16</td><td>19</td><td>BDL</td><td>BDL</td><td>BDL</td></tr></table>									Location	Parameters	PM <sub>10</sub> µg/ m <sup>3</sup>	PM <sub>2.5</sub> µg/ m <sup>3</sup>	SO <sub>2</sub> µg/ m <sup>3</sup>	NO <sub>2</sub> µg/ m <sup>3</sup>	CO mg/ Nm <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> µg/m <sup>3</sup>	C <sub>20</sub> H <sub>12</sub> ng/m <sup>3</sup>	Labour Gate	Min	64	18	11	14	BDL	BDL	BDL	Max	98	34	19	22	BDL	BDL	BDL	Avg.	87	26	15	17	BDL	BDL	BDL	Refinery Main Gate	Min	62	16	11	14	BDL	BDL	BDL	Max	88	31	19	22	BDL	BDL	BDL	Avg.	77	23	15	18	BDL	BDL	BDL	93 Gate	Min	72	18	12	13	BDL	BDL	BDL	Max	98	34	20	23	BDL	BDL	BDL	Avg.	89	28	16	19	BDL	BDL	BDL	West Side of Main Flare	Min	61	16	12	15	BDL	BDL	BDL	Max	98	34	19	22	BDL	BDL	BDL	Avg.	84	26	16	19	BDL	BDL	BDL	COT	Min	64	18	11	15	BDL	BDL	BDL	Max	92	33	21	25	BDL	BDL	BDL	Avg.	77	24	16	19	BDL	BDL	BDL
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X.	<p>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.</p>	<p>During project phase, workers were accommodated in well-planned Labour Colony with all the basic amenities were developed at site.</p>
XI.	<p>The project proponent shall 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></p>	<p>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.</p>

XII.	<p>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.</p>	<p>Environment Clearance copy was submitted to Gram Panchayat, local NGO &amp; Gujarat Pollution control Board, Jamnagar and also put on our website.</p>
XIII.	<p>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.</p>	<p>Environment Cell is available since inception of the company and headed by qualified person.</p>

XV.	<p>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 &amp; PM10), SO<sub>2</sub>, NO<sub>x</sub> (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.</p>	<p>EC compliance report for the period Apr'22 to Sep'22 period has been submitted to MoEF &amp; CC office vide letter no: Nayara CPP/ENV/32631/EC Compliance 483 MW/2022/1137 dated. 12.11.2022</p> <p>EC compliance report along with monitoring data is uploaded on company website and updated on half yearly basis.</p> <p>Continuous stack emission and Continuous ambient air quality data is being displayed at main gate.</p>
XVI.	<p>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.</p>	<p>Environment Statement Form-V for each financial year is being submitted to Gujarat Pollution Control Board and same has been uploaded on company website.</p> <p>Form V of FY2021-22 has been sent along with letter no. NAYARA CPP/ENV/32631/Env Statement/2022/1117 dated 06.09.2022.</p> <p>The Environment Statement has been submitted to ministry via e-mail.</p>

XVII.	<p>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.</p> <p>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.</p>	<p>EC compliance report along with monitoring data is uploaded on company website and updated on half yearly basis.</p> <p>Copy of the reports had been submitted to Central pollution control board and state pollution control board.</p> <p>EC compliance report for the period Apr'22 to Sep'22 period has been submitted to MoEF &amp; CC office vide letter no: Nayara CPP/ENV/32631/EC Compliance 483 MW/2022/1137 dated 12.11.2022. Likewise every 6 monthly EC compliance report submitted to Authority since EC granted by MoEF &amp; CC.</p>
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XVIII.	<p>Regional Office of the Ministry of Environment &amp; Forests 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. Project proponent will up-load the compliance status in their website and update the same from time to time at least six monthly basis. Criteria pollutants levels including NO<sub>x</sub> (from stack &amp; ambient air) shall be displayed at the main gate of the power plant.</p>	<p>Noted.</p> <p>Updated status of compliance of implementation of EC Conditions including results of monitored data is being displayed on our company website.</p> <p>EC compliance report for the period Apr'22 to Sep'22 period has been submitted by mail to MoEF &amp; CC office vide letter no: Nayara CPP/ENV/32631/EC Compliance 483 MW/2022/1137 dated 12.11.2022. Likewise every 6 month EC compliance report submitted to Authority since EC granted by MoEF &amp; CC.</p> <p>Continuous ambient air quality data and real time Stack emission data is being displayed at Main Gate.</p>
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XIX.	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.	<p>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.</p> <table><tr><th>Sr. No</th><th>Name of Equipment</th><th>Approximate Installation Cost Rs. (In Crore)</th><th>Approximate Operation Maintenance Cost in Rs. (In Crore)</th></tr><tr><td>1</td><td>Electrostatic Precipitator</td><td>120</td><td>0.1</td></tr><tr><td>2</td><td>Low NOx Burner</td><td>52.8</td><td>0.52</td></tr><tr><td>3</td><td>Dust Extraction System</td><td>1.8</td><td>0</td></tr><tr><td>4</td><td>Dry Fog Dust Suppression System</td><td>2</td><td>0</td></tr><tr><td>5</td><td>Ash Handling System</td><td>8</td><td>2.63</td></tr><tr><td>6</td><td>Stack</td><td>60</td><td>0</td></tr><tr><td>7</td><td>Pollution Monitoring &amp; Surveillance System</td><td>1</td><td>0.05</td></tr><tr><td>8</td><td>Regenerative Air Pre-Heater</td><td>2</td><td>0</td></tr><tr><td>9</td><td>Others like bag filters</td><td>2.5</td><td>0.08</td></tr><tr><td>10</td><td>Ash pond</td><td>0.6</td><td>0</td></tr><tr><td colspan="2">Total</td><td>250</td><td>3.4</td></tr></table>	Sr. No	Name of Equipment	Approximate Installation Cost Rs. (In Crore)	Approximate Operation Maintenance Cost in Rs. (In Crore)	1	Electrostatic Precipitator	120	0.1	2	Low NOx Burner	52.8	0.52	3	Dust Extraction System	1.8	0	4	Dry Fog Dust Suppression System	2	0	5	Ash Handling System	8	2.63	6	Stack	60	0	7	Pollution Monitoring & Surveillance System	1	0.05	8	Regenerative Air Pre-Heater	2	0	9	Others like bag filters	2.5	0.08	10	Ash pond	0.6	0	Total		250	3.4
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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 31 <sup>st</sup> December 2012, has been submitted along with letter no. NAYARA ENERGY LTD. (CPP)/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.																																																



15	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.
16	The environmental clearance accorded shall be valid for a period of 5 years to start operations by the power plant.	Noted.
17	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.
18	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.

	<p>The above stipulations would be enforced among others under the Water (Prevention &amp; Control of Pollution) Act, 1974, the Air (Prevention &amp; 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.</p>	<p>Regular updates related to Water (Prevention &amp; Control of Pollution) Act, 1974, the Air (Prevention &amp; 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 wherever applicable.</p>
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Sr. No.	Additional Conditions	
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 incorporated in our CC&A conditions by GPCB and the compliance status of the same is provided against specific condition no. VII.
ii	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 NAYARA ENERGY LTD. (CPP) is located within the M/s Nayara Energy Limited (Formerly known as Essar Oil Ltd.) premises. The green belt of the NAYARA ENERGY LTD. (CPP) is covered under the M/s Nayara Energy Limited green belt & M/s Nayara Energy Limited has developed green belt in 410 Ha area.



ક્રમાંક :- ક/જમન/૨૪/ટે-૦/

/ સને ૨૦૧૬-૧૭

મુખ્ય વન સંરક્ષકશ્રીની કચેરી,  
મરીન નેશનલ પાર્ક,  
વન સંકુલ,  
નાગનાથ ગેઈટ પાસે,  
જામનગર-૩૬૧ ૦૦૧  
તા. /૦૨/૨૦૧૭

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

22

વિષય :- Regarding Application or VPCL for clearance from  
National Board or Wildlife

સંદર્ભ :- આપનાં પત્રાંક :- VPCL/Env/Application to NWLB/32631/650/  
Dt 27/1/2017

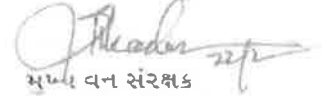
મહાશય,

જય ભારત સાથે ઉપરોક્ત વિષયે જણાવવાનું કે, મરીન નેશનલ પાર્ક, જામનગર હેઠળના આપના ધ્વારા અત્રેને એસ્સાર પાવર કંપની લી. ૪૮૩ મેગાવોટ કો-જનરેશન મલ્ટી ફ્યુલ 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 સાર્ફટ ઉપર ઈકો સેન્સેટીવ ઝોન અગાઉ જાહેર ના થયેલ હોય જેથી ૧૦કી.મી. લાગુ પડતો હતો પરંતુ આપનો પ્રોજેક્ટ સાર્ફટ મરીન નેશનલ પાર્ક અને મરીન અભ્યારણ્ય વિસ્તારથી ૮કી.મી. દુર આવતો હોવાથી સરકારશ્રીના પ્રવર્તમાન કાયદા મુજબની જોગવાઈ મુજબ વાઈલ્ડ લાઈફ ક્લીયરન્સ અંગેની જરૂરી દરખાસ્ત આ કચેરીને મોકલવામાં આવેલ હતી.

પરંતુ મરીન નેશનલ પાર્ક / સેન્કચ્યુરી વિસ્તારને જમીન તરફની એક કિ.મી. ની ત્રિજ્યામાં ઈકો સેન્સેટીવ ઝોન સરકારશ્રી તરફથી તારીખ:-૨૨/૦૮/૨૦૧૭ થી જાહેર કરવામાં આવેલ છે. જેથી આપનો પ્રોજેક્ટ મરીન નેશનલ પાર્ક અને મરીન અભ્યારણ્ય વિસ્તારથી ૮કી.મી. દુર આવેલ હોય જેથી ઈકો સેન્સેટીવ ઝોનમાં સમાવેશ થતો નથી. જે જાણ થવા વિનંતી.

આપનો વિશ્વાસ,

  
મુખ્ય વન સંરક્ષક  
મરીન નેશનલ પાર્ક  
જામનગર

નકલ સાદર રવાના:- અગ્ર મુખ્ય વન સંરક્ષકશ્રી વન્યપ્રાણી ગુ.રા.ગાંધીનગર તરફ જાણ સારું

**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 Multi fuel 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.

Reference No: Nayara CPP/ENV/Fly Ash/2023/32631/1175  
20<sup>th</sup> April, 2023

To,  
**The Member Secretary**  
Gujarat Pollution Control Board,  
Paryavaran Bhavan, Sector-10 A,  
Gandhinagar-382010

**Subject:** Annual Compliance Report of Fly Ash Disposal for FY 2022-23

**Reference:** XGN ID 32631

Dear Sir,

We would like to submit Annual Compliance Report of Fly Ash Disposal for FY 2022-23 as required under sub paragraph (2) (i) of para E of the notification S.O. 5481(E) dated 31<sup>st</sup> December 2021. The Annual Compliance Report is enclosed as **Annexure – 1**.

Thanking you,

Yours sincerely,

For, **Nayara Energy Ltd. (CPP)**,



**Authorised Signatory**

**Enclosure:** **Annexure: I** - Annual Compliance Report of Fly Ash Disposal FY 2022-23

**Copy To:**

- 1) Regional Officer, GPCB, Sardar Patel Bhavan, Rameshwar Nagar, Jamnagar – 361 008
- 2) Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Gandhinagar A wing- 407 & 409, Aranya Bhawan, Near CH-3 Circle, Sector-10A, Gandhi Nagar-382010
- 3) The Chairman, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, New Delhi – 110 032

**Registered Office:**  
Khambhalla, Post Box No.24, Dist. Devbhumi Dwarka, Gujarat 361 305, India  
T +91 2833 661444 | F +91 2833 662929

CIN: U11100GJ1989PLC032116  
[www.nayaraenergy.com](http://www.nayaraenergy.com)

**Nayara Energy Limited (Formerly Essar Oil Limited)**  
5<sup>th</sup> Floor, Jet Airways Godrej BKC, Plot No. C-68, G Block,  
Bandra Kurla Complex, Bandra East, Mumbai 400051, India

T +91 22 66 121800 | F +91 22 6708 2177  
E [refinery@nayaraenergy.com](mailto:refinery@nayaraenergy.com)

**Ash Compliance Report (for the period 1st April-31st March) to be submitted**

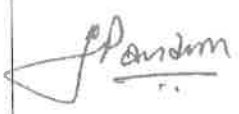
Sr. no.	Details	Compliance
1	Name of Power Plant	Nayara Energy Ltd. (CPP)
2	Name of the company	Nayara Energy Ltd. (CPP)
3	District	Devbhumi Dwarka
4	State	Gujarat
5	Postal address for communication:	Nayara Energy Ltd. Khambhalia, Post Box No. 24, Dist. Devbhumi Dwarka, Gujarat – 361305, India +91 2833 661444
6	E-mail:	Jay.Pandya@nayaraenergy.com
7	Power Plant installed capacity (MW):	303 MW
8	Plant Load Factor (PLF):	67.38%
9	No. of units generated (MWh):	13,70,504
10	Total area under power plant (ha): (including area under ash ponds)	M/s NAYARA ENERGY LTD. (CPP) approx. 40 ha is located within the refinery of M/s Nayara Energy Limited premises.
11	Quantity of coal consumption during reporting period (Metric Tons per Annum):	17,64,857.23
12	Average ash content in percentage (per cent):	5.61 %
13	Quantity of current ash generation during reporting period (Metric Tons per Annum): Fly ash (Metric Tons per Annum): Bottom ash (Metric Tons per Annum):	93,001 85,634 7,367
14	Capacity of dry fly ash storage silo(s) (Metric Tons) :	Total 02 nos. of silos & total capacity is 1400 MT
15	Details of utilisation of current ash generated during reporting period (a) Total quantity of current ash utilised (MTPA) during reporting period: (b) Quantity of fly ash utilised (MTPA): (i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels) (ii) Cement manufacturing: (iii) Ready mix concrete: (iv) Ash and Geo-polymer based construction material: (v) Manufacturing of sintered or cold bonded ash aggregate:	(a) 92,659 (b) 85,634 (i) 0 (ii) 85,634 (iii) 0 (iv) 0 (v) 0



	(vi) Construction of roads, road and fly over embankment: (vii) Construction of dams: (viii) Filling up of low lying area: (ix) Filling of mine voids: (x) Use in overburden dumps: (xi) Agriculture: (xii) Construction of shoreline protection structures in coastal districts; (xiii) Export of ash to other countries: (xiv) Others (please specify): (c) Quantity of bottom ash utilised (MTPA): (i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels): (ii) Cement manufacturing: (iii) Ready mix concrete: (iv) Ash and Geo-polymer based construction material: (v) Manufacturing of sintered or cold bonded ash aggregate: (vi) Construction of roads, road and flyover embankment: (vii) Construction of dams: (viii) Filling up of low lying area: (ix) Filling of mine voids: (x) Use in overburden dumps: (xi) Agriculture: (xii) Construction of shoreline protection structures in coastal districts: (xiii) Export of ash to other countries: (xiv) Others (please specify): Total quantity of current ash unutilised (MTPA) during reporting period:	(vi) 0 (vii) 0 (viii) 0 (ix) 0 (x) 0 (xi) 0 (xii) 0 (xiii) 0 (xiv) 0 (C) 7,025 (i) 7,025 (ii) 0 (iii) 0 (iv) 0 (v) 0 (vi) 0 (vii) 0 (viii) 0 (ix) 0 (x) 0 (xi) 0 (xii) 0 (xiii) 0 (xiv) 0 499
16	Percentage utilisation of current ash generated during reporting period (per cent):	There is 100% utilization of ash generated, any ash which is balance will get disposed in FY 2023-24.
17	Details of disposal of ash in ash ponds (a) Total quantity of ash disposed in ash pond(s) (Metric Tons) as on 31st March (excluding reporting period): (b) Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons):	(a) 0 (b) 499 MT

	(c) Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m3): (d) Total number of ash ponds: (i) Active: (ii) Exhausted (yet to be reclaimed): (iii) Reclaimed: (e) total area under ash ponds (ha):	(c) 0 (d) 1 (i) 1 (ii) 0 (iii) 0 (e) 0.63 ha
18	Individual ash pond details <i>Ash pond-1,2, etc (please provide below mentioned details separately, if number of ash ponds is more than one)</i> (a) Status: Under construction or Active or Exhausted or Reclaimed (b) Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY): (c) Date of stoppage of ash disposal in ash pond after completing its capacity (DD/MM/YYYY or MM/YYYY): (Not applicable for active ash ponds)  (d) area (hectares): (e) dyke height (m): (f) volume (m3): (g) quantity of ash disposed as on 31st March (Metric Tons): (h) available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons): (i) expected life of ash pond (number of years and months): (j) co-ordinates (Lat and Long): (please specify minimum 4 co-ordinates)	(a) Active – Only one ash pond at site. (b) 01/04/2017 (c) Considering timely & direct disposal from silos we are able to load ash from the silos. Hence there is minimum requirement for storage of ash. Only one active ash pond available at site to cater any storage requirement. Also pond ash is regularly being emptied out by disposing to cement industry & brick manufacturers. (d) 0.63 ha (e) 5.5 M (f) 24794 M <sup>3</sup> (g) 0 MT (h) 100%, ~22315 MT assuming ash density 0.9 T/ Cu.m. (i) Approx. 09 years assuming current generation & disposal record. (j) Lat 22°19'48.12"N Long 69°44'3.45"E Lat 22°19'49.23"N Long 69°44'5.14"E Lat 22°19'46.41"N

	<p>(k) type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining</p> <p>(l) mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)</p> <p>(m) Ratio of ash: water in slurry mix (1:___):</p> <p>(n) Ash water recycling system (AWRS) installed and functioning: Yes or No</p> <p>(o) Quantity of wastewater from ash pond discharged into land or water body (m3):</p> <p>(p) Last date when the dyke stability study was conducted and name of the organisation who conducted the study:</p> <p>(q) Last date when the audit was conducted and name of the organisation who conducted the audit:</p>	<p>Long 69°44'7.08"E Lat 22°19'45.28"N Long 69°44'5.49"E</p> <p>(k) HDPE</p> <p>(l) Dry disposal</p> <p>(m) Not Applicable</p> <p>(n) Not Applicable</p> <p>(o) Not Applicable</p> <p>(p) One ash pond at site, which is active. Dyke stability study will be conducted as per the Notification.</p> <p>(q) Audit will be conducted as per notification.</p>
19	<p>Quantity of legacy ash utilised (MTPA):</p> <p>i. Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):</p> <p>ii. Cement manufacturing:</p> <p>iii. Ready mix concrete:</p> <p>iv. Ash and Geo-polymer based construction material:</p> <p>v. Manufacturing of sintered or cold bonded ash aggregate:</p> <p>vi. Construction of roads, road and flyover embankment:</p> <p>vii. Construction of dams:</p> <p>viii. Filling up of low lying area:</p> <p>ix. Filling of mine voids:</p> <p>x. Use in overburden dumps:</p> <p>xi. Agriculture:</p> <p>xii. Construction of shoreline protection structures in coastal districts;</p> <p>xiii. Export of ash to other countries:</p> <p>xiv. Others (please specify):</p>	<p>No legacy ash available for disposal.</p>

20	Summary			
	Details	Quantity generated (MTP)	Quantity utilised (MTP) and (per cent)	Balance quantity (MTP)
	Current ash during reporting period	93,001	92,659	499 (Closing stock)
	Legacy ash	0	0	0
	Total	93,001	92,659	499 (Closing stock)
21	Any other information: Soft copy of the annual compliance report, and shape files of power plant and ash ponds may be e-mailed to:- moefcccoalash@gov.in			
22	Signature of Authorised Signatory			



# Anacon Laboratories Pvt. Ltd.

Anacon Laboratories Pvt. Ltd. Nagpur Lab  
 P-34, 35, Food Park, Five Star Industrial Estate,  
 MIDC Butibon, Nagpur, Maharashtra, India - 441 122  
 ☎ + 91 8045685558 ✉ Email : info@anacon.in  
 🌐 https://www.anaconlaboratories.com

## Test Report

Test Report No.: ALPL/10022023/06-1

Dated 10.02.2023

Page 1 of 3

Page 1 of 3

<b>Issued To :</b> M/s Nayara Energy Limited 39 KM Jamnagar- Okha Highway, Vadinar, Devbhumi Dwarka, Gujarat-361305 <b>Kind Attention :</b> Mr. Piyush Lad <b>Contact No.:</b> 6357074412	<b>Sample Inward No.</b> ALPL/03022023/FCI-2/02-1 <b>Inward Date</b> 03.02.2023 <b>Reference</b> PO :5300004385; Dt. 02.07.2021 <b>Inv. No.</b> TICLO/2302/7	<b>Analysis Start</b> 03.02.2023 <b>Analysis End</b> 09.02.2023 <b>Sample Category</b> General
<b>Sample Name</b> Fly Ash	<b>Sample Particulars</b> Fly Ash (23/01/2023); Material Code : 6966	<b>Quantity Received</b> 1.2 kg
<b>Sample Collected By</b> M/s Nayara Energy Limited		
<b>Tests Required:</b> TCLP Analysis, Pesticide residue.		

## TEST RESULTS

Initial pH – 11.70

After Acid Treatment, pH –8.96

Extraction fluid type II is used

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
<b>TCLP Analysis</b>				
1	Arsenic (as As)	mg/l	by ICP-AES	0.06
2	Barium (as Ba)	mg/l	by ICP-OES	1.86
3	Cadmium (as Cd)	mg/l	by ICP-OES	ND
4	Total Chromium (as Cr)	mg/l	by ICP-OES	0.13
5	Lead (as Pb)	mg/l	by ICP-OES	ND
6	Mercury (as Hg)	mg/l	by ICP-OES	ND
7	Selenium (as Se)	mg/l	by ICP-OES	ND
8	Silver (as Ag)	mg/l	by ICP-OES	ND
<b>Pesticide residues</b>				
9	Chlordane	mg/kg	GC-MS/MS	BDL (DL – 0.01)
10	Endrin	mg/kg	GC-MS/MS	BDL (DL – 0.01)
11	Heptachlor & its epoxide	mg/kg	GC-MS/MS	BDL (DL – 0.01)
12	Hexachlorobenzene	mg/kg	GC-MS/MS	BDL (DL – 0.01)
13	Lindane	mg/kg	GC-MS/MS	BDL (DL – 0.01)
14	Methoxychlor	mg/kg	GC-MS/MS	BDL (DL – 0.01)
15	Toxaphene	mg/kg	LC-MS/MS	BDL (DL – 0.01)
16	2,4,5 -TP (silvex)	mg/kg	GC-MS/MS	BDL (DL – 0.01)
17	2,4-D	mg/kg	LC-MS/MS	BDL (DL – 0.01)
18	Pentachlorophenol	mg/kg	GC-MS/MS	BDL (DL – 0.01)
19	2,4,5 Trichlorophenol	mg/kg	GC-MS/MS	BDL (DL – 0.01)
20	2,4,6 Trichlorophenol	mg/kg	GC-MS/MS	BDL (DL – 0.01)
21	2-Methylephenol (O-Cresol)	mg/kg	GC-MS/MS	BDL (DL – 0.01)
22	3- Methylphenol	mg/kg	GC-MS/MS	BDL (DL – 0.01)

please refer last Page for Note and Remarks.

Verified By

Mangesh Fande  
 Technical Manager

Shob Khan  
 Deputy Technical Manager

Authorized Signatory

Chinmay Garway  
 Deputy Quality Manager

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Q. 34, 35, Food Park, Five Star Industrial Estate,  
MIDC, Bulburi, Nagpur, Maharashtra, India - 441 122  
☎ + 91 8045685558 ✉ Email: info@anacon.in  
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## Test Report

Test Report No.: AI/PL/10022023/06-1

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<b>Issued To :</b> M/s Nayara Energy Limited 39 KM Jamnagar- Okha Highway, Vadinar, Devbhumi Dwarka, Gujarat-361305 <b>Kind Attention :</b> Mr. Piyush Lad <b>Contact No.:</b> 6357074412		<b>Sample Inward No.</b> AI/PL/03022023/EG-2/02-1 <b>Inward Date</b> 03.02.2023 <b>Reference</b> PO :5300004385; Dt. 02.07.2021 <b>Inv. No.</b> TICLO/2302/7	<b>Analysis Start</b> 03.02.2023 <b>Analysis End</b> 09.02.2023  <b>Sample Category</b> General
<b>Sample Name</b> Fly Ash	<b>Sample Particulars</b> Fly Ash (23/01/2023); Material Code : 6966		<b>Quantity Received</b> 1.2 kg
<b>Sample Collected By</b> M/s Nayara Energy Limited			
<b>Tests Required:</b> Pesticides, Heavy Metals.			

## TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
<b>Pesticides</b>				
23	4- Methylephenol	mg/kg	GC-MS/MS	BDL (DL - 0.01)
24	Total Cresol	mg/kg	GC-MS/MS	BDL (DL - 0.01)
25	2,4-Dinitrotoulene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
26	Nitrobenzene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
27	Pyridine	mg/kg	GC-MS/MS	BDL (DL - 0.01)
28	Chlorobenzene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
29	Carbon tetrachloride	mg/kg	GC-MS/MS	BDL (DL - 0.01)
30	Chloroform	mg/kg	GC-MS/MS	BDL (DL - 0.01)
31	1,2-dichloroethene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
32	1,1-dichloroethene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
33	1,4-dichloroethene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
34	Hexachlorobutadiene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
35	Hexachloroethane	mg/kg	GC-MS/MS	BDL (DL - 0.01)
36	Methylethyleketone	mg/kg	GC-MS/MS	BDL (DL - 0.01)
37	Trichloroethylene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
38	Tetrachloroethylene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
39	Vinyl Chloride	mg/kg	LC-MS/MS	BDL (DL - 0.01)
<b>Heavy Metals</b>				
40	Barium (as Ba)	%	by ED - XRF	1.05
41	Total Chromium (as Cr)	%	by ED - XRF	0.01
42	Gallium (as Ga)	%	by ED - XRF	0.00
43	Molybdenum (as Mo)	%	by ED - XRF	ND
44	Nickel (as Ni)	%	by ED - XRF	0.00
45	Sulphur (as S)	%	by ED - XRF	0.68
46	Bromine (as Br)	%	by ED - XRF	0.00
47	Strontium (as Sr)	%	by ED - XRF	0.15
48	Vanadium (as V)	%	by ED - XRF	0.06
49	Yttrium (as Y)	%	by ED - XRF	0.00
50	Zinc (as Zn)	%	by ED - XRF	0.01
51	Zirconium (as Zr)	%	by ED - XRF	0.02
52	Arsenic (as As)	%	by ED - XRF	0.00
53	Mercury (as Hg)	%	by ED - XRF	ND
54	Lead (as Pb)	%	by ED - XRF	0.00

Please refer last Page for Note and Remarks.

Verified By

Mangesh Fande  
Technical Manager

Shob Khan  
Deputy Technical Manager

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager



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Page 3 of 3

Issued To : M/s Nayara Energy Limited 39 KM Jamnagar- Okha Highway, Vadinar, Devbhumi Dwarka, Gujarat-361305 Kind Attention : Mr. Piyush Lad Contact No.: 6357074412	Sample Inward No. ALPL/03022023/EG-2/02-1 Inward Date 03.02.2023 Reference PO :5300004385; DL 02.07.2021 Inv. No. TICLO/2302/7	Analysis Start 03.02.2023 Analysis End 09.02.2023  Sample Category General
Sample Name Fly Ash	Sample Particulars Fly Ash (23/01/2023); Material Code : 6966	Quantity Received 1.2 kg
Sample Collected By M/s Nayara Energy Limited		
Tests Required: Metal oxides in ash, Radioactivity test & Total Sulphur.		

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
<b>Metal oxides in ash</b>				
55	Aluminium oxide (as $Al_2O_3$ )	%	by ED - XRF	16.594
56	Silica (as $SiO_2$ )	%	by ED - XRF	38.068
57	Ferric oxide (as $Fe_2O_3$ )	%	by ED - XRF	15.710
58	Titanium dioxide ( $TiO_2$ )	%	by ED - XRF	0.922
59	Calcium dioxide (as $CaO$ )	%	by ED - XRF	18.066
60	Magnesium oxide (as $MgO$ )	%	by ED - XRF	5.275
61	Sodium oxide (as $Na_2O$ )	%	by ED - XRF	2.110
62	Potassium oxide (as $K_2O$ )	%	by ED - XRF	1.085
63	Phosphorus pentoxide (as $P_2O_5$ )	%	by ED - XRF	0.464
64	Manganese oxide (as $MnO$ )	%	by ED - XRF	0.190
65	Loss on Ignition	%	Wet classical method	0.00
<b>Radioactivity test</b>				
66	Radium (226)	mg/kg	by ED - XRF	ND
67	Uranium (238)	mg/kg	by ED - XRF	ND
68	Thorium (232)	mg/kg	by ED - XRF	ND
69	Potassium (40)	mg/kg	by ED - XRF	7395.505
<b>Sulphur Content Testing</b>				
70	Total Sulphur	%	by ED - XRF	0.37

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perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. ● 'g/100 g' is equivalent to '%w/w'.  
● All results are on as air dried basis.

REMARKS : As requested by the client, sample was tested for above parameters only.

Verified By

Mangesh Fande  
Technical Manager

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories Pvt. Ltd.

Anacon Laboratories Pvt. Ltd. Nagpur Lab  
 QP-34, 35, Food Park, Five Star Industrial Estate,  
 MIDC Butibori, Nagpur, Maharashtra, India - 441 122  
 ☎ +91-8045685558 ✉ Email : info@anacon.in  
 🌐 https://www.anaconlaboratories.com

## Test Report

Test Report No.: ALPL/10022023/06-2

Dated 10.02.2023

Page 1 of 3

Page 1 of 1

<b>Issued To :</b> M/s Nayara Energy Limited 39 KM Jamnagar- Okha Highway, Vadinar, Devbhumi Dwarka, Gujarat-361305 <b>Kind Attention :</b> Mr. Piyush Lad <b>Contact No.:</b> 6357074412	<b>Sample Inward No.</b> ALPL/03022023/EG-2/02-2 <b>Inward Date</b> 03.02.2023 <b>Reference</b> PO :5300004385; Dt. 02.07.2021 <b>Inv. No.</b> TICLO/2302/7	<b>Analysis Start</b> 03.02.2023 <b>Analysis End</b> 09.02.2023  <b>Sample Category</b> General
<b>Sample Name</b> Bottom Ash	<b>Sample Particulars</b> Bottom Ash (23/01/2023); Material Code : 6967	<b>Quantity Received</b> 1.2 kg
<b>Sample Collected By</b> M/s Nayara Energy Limited		
<b>Tests Required:</b> TCLP Analysis, Pesticide residue.		

## TEST RESULTS

Initial pH – 10.12

After Acid Treatment, pH –7.77

Extraction fluid type II is used

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
<b>TCLP Analysis</b>				
1	Arsenic (as As)	mg/l	by ICP-AES	0.01
2	Barium (as Ba)	mg/l	by ICP-OES	1.07
3	Cadmium (as Cd)	mg/l	by ICP-OES	ND
4	Total Chromium (as Cr)	mg/l	by ICP-OES	0.06
5	Lead (as Pb)	mg/l	by ICP-OES	ND
6	Mercury (as Hg)	mg/l	by ICP-OES	ND
7	Selenium (as Se)	mg/l	by ICP-OES	ND
8	Silver (as Ag)	mg/l	by ICP-OES	ND
<b>Pesticide residues</b>				
9	Chlordane	mg/kg	GC-MS/MS	BDL (DL – 0.01)
10	Endrin	mg/kg	GC-MS/MS	BDL (DL – 0.01)
11	Heptachlor & its epoxide	mg/kg	GC-MS/MS	BDL (DL – 0.01)
12	Hexachlorobenzene	mg/kg	GC-MS/MS	BDL (DL – 0.01)
13	Lindane	mg/kg	GC-MS/MS	BDL (DL – 0.01)
14	Methoxychlor	mg/kg	GC-MS/MS	BDL (DL – 0.01)
15	Toxaphene	mg/kg	LC-MS/MS	BDL (DL – 0.01)
16	2,4,5 -TP (silvex)	mg/kg	GC-MS/MS	BDL (DL – 0.01)
17	2,4-D	mg/kg	LC-MS/MS	BDL (DL – 0.01)
18	Pentachlorophenol	mg/kg	GC-MS/MS	BDL (DL – 0.01)
19	2,4,5 Trichlorophenol	mg/kg	GC-MS/MS	BDL (DL – 0.01)
20	2,4,6 Trichlorophenol	mg/kg	GC-MS/MS	BDL (DL – 0.01)
21	2-Methylephenol (O-Cresol)	mg/kg	GC-MS/MS	BDL (DL – 0.01)
22	3-Methylephenol	mg/kg	GC-MS/MS	BDL (DL – 0.01)

please refer last Page for Note and Remarks.

Verified By

Mangesh Fande  
 Technical Manager

Shobh Khan  
 Deputy Technical Manager

Authorized Signatory

Chinmay Garway  
 Deputy Quality Manager

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# Anacon Laboratories Pvt. Ltd.

Anacon Laboratories Pvt. Ltd. Nagpur Lab  
 9 FP-34, 35, Food Park, Five Star Industrial Estate  
 MIDC Bulbon, Nagpur, Maharashtra, India - 441 122  
 T + 91 8045685558 E Email : info@anacon.in  
 https://www.anaconlaboratories.com

## Test Report

Test Report No.: ALPL/10022023/06-2

Dated 10.02.2023

Page 2 of 3

<b>Issued To :</b> M/s Nayara Energy Limited 39 KM Jamnagar- Okha Highway, Vadinar, Devbhumi Dwarka, Gujarat-361305 <b>Kind Attention :</b> Mr. Piyush Lad <b>Contact No.:</b> 6357074412	<b>Sample Inward No.</b> ALPL/03022023/EG-2/02-2 <b>Inward Date</b> 03.02.2023 <b>Reference</b> PO :5300004385; DL 02.07.2021 <b>Inv. No.</b> TICLO/2302/7	<b>Analysis Start</b> 03.02.2023 <b>Analysis End</b> 09.02.2023  <b>Sample Category</b> General
<b>Sample Name</b> Bottom Ash	<b>Sample Particulars</b> Bottom Ash (23/01/2023); Material Code : 6967	<b>Quantity Received</b> 1.2 kg
<b>Sample Collected By</b> M/s Nayara Energy Limited		
<b>Tests Required:</b> Pesticides, Heavy Metals.		

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
<b>Pesticides</b>				
23	4- Methylphenol	mg/kg	GC-MS/MS	BDL (DL - 0.01)
24	Total Cresol	mg/kg	GC-MS/MS	BDL (DL - 0.01)
25	2,4-Dinitrotoulene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
26	Nitrobenzene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
27	Pyridine	mg/kg	GC-MS/MS	BDL (DL - 0.01)
28	Chlorobenzene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
29	Carbon tetrachloride	mg/kg	GC-MS/MS	BDL (DL - 0.01)
30	Chloroform	mg/kg	GC-MS/MS	BDL (DL - 0.01)
31	1,2-dichloroethene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
32	1,1-dichloroethene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
33	1,4-dichloroethene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
34	Hexachlorobutadiene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
35	Hexachloroethane	mg/kg	GC-MS/MS	BDL (DL - 0.01)
36	Methylethyleketone	mg/kg	GC-MS/MS	BDL (DL - 0.01)
37	Trichloroethylene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
38	Tetrachloroethylene	mg/kg	GC-MS/MS	BDL (DL - 0.01)
39	Vinyl Chloride	mg/kg	LC-MS/MS	BDL (DL - 0.01)
<b>Heavy Metals</b>				
40	Barium (as Ba)	%	by ED - XRF	0.07
41	Total Chromium (as Cr)	%	by ED - XRF	0.00
42	Gallium (as Ga)	%	by ED - XRF	0.00
43	Molybdenum (as Mo)	%	by ED - XRF	ND
44	Nickel (as Ni)	%	by ED - XRF	0.00
45	Sulphur (as S)	%	by ED - XRF	0.91
46	Bromine (as Br)	%	by ED - XRF	ND
47	Strontium (as Sr)	%	by ED - XRF	0.05
48	Vanadium (as V)	%	by ED - XRF	0.05
49	Yttrium (as Y)	%	by ED - XRF	0.00
50	Zinc (as Zn)	%	by ED - XRF	0.00
51	Zirconium (as Zr)	%	by ED - XRF	0.02
52	Arsenic (as As)	%	by ED - XRF	ND
53	Mercury (as Hg)	%	by ED - XRF	ND
54	Lead (as Pb)	%	by ED - XRF	0.00

Please refer last Page for Note and Remarks.

Verified By

Mangosh Fande  
 Technical Manager

Shoeb Khan  
 Deputy Technical Manager

Authorized Signatory

Chinmay Garway  
 Deputy Quality Manager



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## Test Report

Test Report No.: ALPL/10022023/06-2

Dated 10.02.2023

Page 3 of 3

Issued To : M/s Nayara Energy Limited 39 KM Jamnagar- Okha Highway, Vadinar, Devbhumi Dwarka, Gujarat-361305 Kind Attention : Mr. Piyush Lad Contact No.: 6357074412	Sample Inward No. ALPL/03022023/EG-2/02-2 Inward Date 03.02.2023 Reference PO :5300004385; Dt. 02.07.2021 Inv. No. TICLO/2302/7	Analysis Start 03.02.2023 Analysis End 09.02.2023 Sample Category General
Sample Name Bottom Ash	Sample Particulars Bottom Ash (23/01/2023); Material Code : 6967	Quantity Received 1.2 kg
Sample Collected By M/s Nayara Energy Limited		
Tests Required: Metal oxides in ash, Radioactivity test & Total Sulphur.		

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
Metal oxides in ash				
55	Aluminium oxide (as $Al_2O_3$ )	%	by ED - XRF	15.680
56	Silica (as $SiO_2$ )	%	by ED - XRF	40.262
57	Ferric oxide (as $Fe_2O_3$ )	%	by ED - XRF	15.057
58	Titanium dioxide ( $TiO_2$ )	%	by ED - XRF	1.160
59	Calcium dioxide (as $CaO$ )	%	by ED - XRF	20.120
60	Magnesium oxide (as $MgO$ )	%	by ED - XRF	4.222
61	Sodium oxide (as $Na_2O$ )	%	by ED - XRF	ND
62	Potassium oxide (as $K_2O$ )	%	by ED - XRF	0.989
63	Phosphorus pentoxide (as $P_2O_5$ )	%	by ED - XRF	0.112
64	Manganese oxide (as $MnO$ )	%	by ED - XRF	0.140
65	Loss on Ignition	%	Wet classical method	21.72
Radioactivity test				
66	Radium (226)	mg/kg	by ED - XRF	ND
67	Uranium (238)	mg/kg	by ED - XRF	ND
68	Thorium (232)	mg/kg	by ED - XRF	ND
69	Potassium (40)	mg/kg	by ED - XRF	13086.78
Sulphur Content Testing				
70	Total Sulphur	%	by ED - XRF	0.36

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● All results are on as air dried basis.

REMARKS : As requested by the client, sample was tested for above parameters only.

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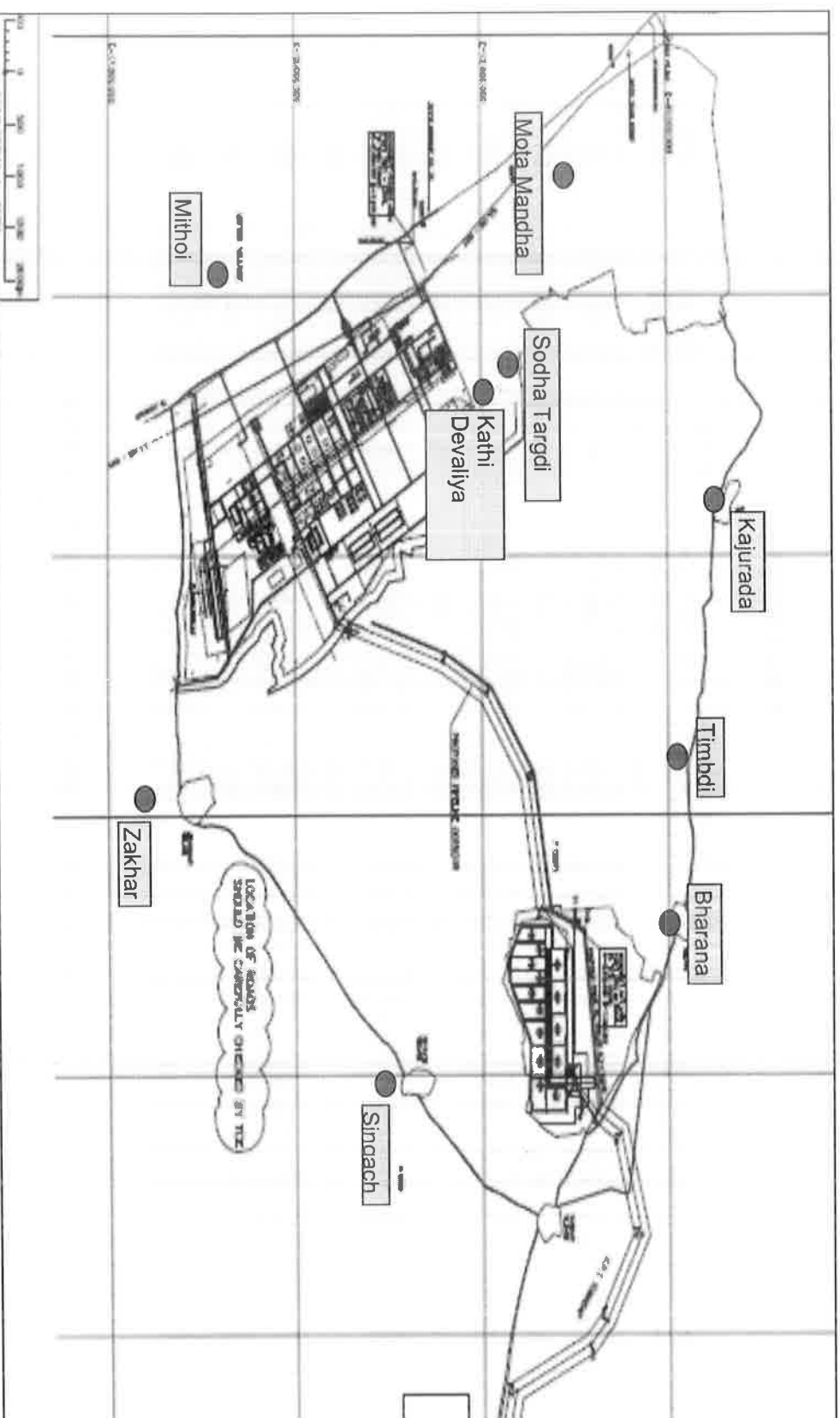


### Monitoring Results of Ground Water Quality of Surrounding Villages

#### 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	Vadinar	8	1116	449	<4	98	230
2	Bharana	8.16	789	475	<4	42	208
3	Kathi Devaliya	7.98	2070	1131	<4	75	869
4	Zakhar	8.08	790	497	<4	61	217
5	Singach	8.12	802	523	<4	71	209
6	Kajurada	7.75	3280	1500	<4	180	1340
7	Sodha Taragadi	7.9	605	350	<4	46	80
8	Timbadi	8.09	784	486	<4	54	199
9	Mithoi	7.71	2260	1150	<4	107	906

\* Well water samples collected and analyzed in Mar, 2023



Location of Villages



## **Annexure - 5**

### **CSR Activities by M/s NAYARA ENERGY LTD. (CPP).**

M/s NAYARA ENERGY LTD. (CPP) 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 NAYARA ENERGY LTD. (CPP) 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 Oct'22 to Mar'23 are as under:**

<b>Project</b>	<b>Beneficiaries &amp; Remarks</b>	<b>Amount in Cr</b>
Financial support for Fodder to 12 Gaushalas	5542 cattle	0.49
Drinking Water Supply through water tankers to 6 villages	19156 persons	0.60
Rural Development Projects (Small Grants / Infrastructure Development)	* Renovation of community centre at Vadaliya Sinhan Village. * Renovation of Gaushala at Mota Lakhiya Village. * Civil repair work at Timbdi Old School.	0.16
<b>Total in Cr</b>		<b>1.24</b>

