

**Reference:** Nayara CPP/32631/ENV/EC Compliance of 780 MW/2023/1184  
**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 780 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) Environmental Clearance No.J-110011/320/2006-IA-II (I) dated September 16, 2008.

Dear Sir,

This has reference to the Environmental Clearance (EC) issued by Ministry of Environment, Forests & Climate Change, Government of India vide letter referred above. As per General Condition No. B (VIII) of the Environmental Clearance, we hereby submit our six monthly compliance status report for the period 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 Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhawan, Sector 10 A, Gandhinagar-382 010
2. The Chairman, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, New Delhi – 110 032
3. Regional Officer, Gujarat Pollution Control Board, Rameshwar Nagar, Jamnagar – 361 008

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**Nayara Energy Limited (Formerly Essar Oil Limited)**  
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# EC COMPLIANCE REPORT AS ON 30<sup>th</sup> September, 2022

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

Compliance Report for 780 MW (Installed 77 MW + 220 MW) for period 1<sup>st</sup> April 2022 to 30<sup>th</sup> September 2022

Sr.No.	CONDITIONS	Compliance Status																																																																																				
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	Specific Conditions	Compliance Status																																																																																				
I	<p>The gaseous emissions (SO<sub>2</sub>, NO<sub>x</sub>,) from various power plant units shall conform to the standards prescribed by the concerned State Pollution Control Board.</p> <p>All the measures detailed in the Environment Management Plan (EMP) and response to the public hearing shall be taken to control the stack emissions from the proposed power plant for ensuring that the ambient air quality around the power plant complex maintained with in prescribed limits under the EPA, 1986.</p>	<p>Plant is operational only during emergency situation since 2012-13. 77 MW plant has been operational during few days of the month November 2022, monitoring reports for the parameters mentioned are provided as below.</p> <table><tr><th>Nov'22</th><th>PM</th><th>SO<sub>2</sub></th><th>NO<sub>x</sub></th><th>CO</th></tr><tr><td>Boiler-1</td><td>14</td><td>214</td><td>114</td><td>13</td></tr><tr><td>Boiler-2</td><td>11</td><td>417</td><td>231</td><td>21</td></tr><tr><td>Boiler-3</td><td>11</td><td>386</td><td>266</td><td>17</td></tr><tr><td>CC&amp;A limit</td><td>100</td><td>1700</td><td>450</td><td>200</td></tr></table> <p>Ambient air quality monitoring is carried out at five locations inside the refinery campus by third party on weekly twice basis and summary of the average ambient air monitoring data provided 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/m<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></table>	Nov'22	PM	SO <sub>2</sub>	NO <sub>x</sub>	CO	Boiler-1	14	214	114	13	Boiler-2	11	417	231	21	Boiler-3	11	386	266	17	CC&A limit	100	1700	450	200	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/m <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
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		780 MW (Installed 77 MW + 220 MW)										
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		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		
		The following are implemented as per EMP: - Low NOx burners to minimize NOx emissions. - Low sulphur fuel is being used in power plants. - Stack height of 100 m & 65 m are provided for 77 MW & 220 MW Power Plant respectively. - Ambient air quality with respect to PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub> , and CO is regularly monitored and records are maintained.										
		II	The gas generated from the 60MMTPA unit refinery process units and natural gas shall be used as fuel for the power project. In case of non-availability of gas, Liquid Fuel (LF), Light Cycle Oil (LCO), Clarified Slurry Oil (CSO) and High Speed Diesel (HSD) shall also be used.	Plant is being operated only during emergency requirement since 2012-13. We are using Fuel gas and Low Sulphur Fuel oil from the refinery for 77 MW and Natural Gas and Naphtha for 220 MW.								

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III	Adequate stack heights to meet the emission standards shall be provided with continuous online monitoring system installed. The instruments used for ambient air quality monitoring shall be calibrated regularly. The monitoring protocol shall ensure continuous monitoring of all the parameters.	<ul style="list-style-type: none"><li>The stack height of 100 m for 77 MW power plant and 65m for 220 MW power plant is provided.</li><li>Continuous online monitoring facility for PM, SO<sub>2</sub>, NO<sub>x</sub>, CO are installed.</li><li>Ambient air quality equipments are calibrated regularly.</li></ul>																
IV	The total SO <sub>2</sub> emissions shall not exceed 10.49 tones / day.	The fuel gas and fuel oil based power plant is being operated only during emergency requirement since 2012-13. Considering the above, SO <sub>2</sub> emission is negligible.																
V	Low No <sub>x</sub> burners shall be provided for control of No <sub>x</sub> emissions.	Low NO <sub>x</sub> burners have been provided in all boilers of the plants.																
VI	Closed Cycle Cooling system with cycles of concentration of at least 1.3 shall be provided. The sea water shall be used for cooling purpose.	Sea water is used for cooling purpose. NAYARA ENERGY LTD. (CPP) is maintaining COC as per the given condition. Monthly average, maximum & minimum COC is tabulated below. <table><tr><th>Month</th><th>Average COC</th></tr><tr><td>Oct'22</td><td>1.46</td></tr><tr><td>Nov'22</td><td>1.07</td></tr><tr><td>Dec'22</td><td>1.09</td></tr><tr><td>Jan'23</td><td>1.14</td></tr><tr><td>Feb'23</td><td>1.20</td></tr><tr><td>Mar'23</td><td>1.23</td></tr><tr><td>Average</td><td>1.20</td></tr></table>	Month	Average COC	Oct'22	1.46	Nov'22	1.07	Dec'22	1.09	Jan'23	1.14	Feb'23	1.20	Mar'23	1.23	Average	1.20
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VII	The effluent generation shall not exceed 140m <sup>3</sup> /hr. The effluent after treatment shall be recycled for process or other internal use. The combined cooling tower blow down shall be discharged into the sea through a well-designed diffuser at a location identified by National Institute of Oceanography. The return quantity of sea water is 3900 m <sup>3</sup> /hr.	<p>Boiler blow down generated from the power plant is used for cooling tower make up.</p> <p>Cooling Tower blow down is being discharged through the existing sea water return pipeline of M/s Nayara Energy Ltd. (Formerly known as Essar Oil Ltd.) at the location identified by NIO (National Institute of Oceanography).</p>
VIII	Adequate safety measures shall be provided to limit the impact within the limits of the plant, in case of an accident. Leak detection devices shall also be installed at strategic places for early detection and warning.	<p>Complied with.</p> <p>All the required safety measures are in place.</p>
IX	Regular mock drills for the On-site emergency management plan shall be carried out as per the Manufacture, storage and Import of Hazardous Chemical s Rules, 1989.	Regular mock drills for the On-site emergency management plan carried out as per the Manufacture, storage and Import of Hazardous Chemical Rules, 1989

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X	Regular monitoring of relevant parameters for the underground water in the surrounding areas will be undertaken and the results will be submitted to the relevant States pollution Control Boards.	Regular monitoring of ground water is being carried out in surrounding village, The copies of ground water monitoring reports carried out in last six months is attached here as <b><u>Annexure – 1</u></b> .
XI	The project authorities shall strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals rules, 1989 as amended in 2000 for handling of hazardous chemicals. Necessary approvals from Chief controller of explosives must be obtained before commissioning of the power project.	Provisions made in Manufacture, Storage and Import of Hazardous Chemicals rules, 1989 as amended in 2000 for handling of hazardous chemicals are strictly complied. PESO approval from Chief controller of explosives has been obtained.
XII	No solid waste will be generated. Used oil (40 KLPA) to be generated from the power project shall be disposed off as per CPCB guidelines.	Used oil generated will be disposed through authorized registered recyclers only.

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XIII	The Company shall harvest surface as well as rainwater from the rooftops of the buildings proposed power project and storm water drains to recharge the ground water and use the same water for the various activities of the project to conserve fresh water.	Captive Power Plant and Nayara Energy Limited (Formerly known as Essar Oil Ltd.) refinery are located within same premises, where there is common rain water harvesting system as per catchment area identified. Rain water collected from CPP area is routed through storm water channels to Rainwater Harvesting Pond situated in refinery for storage & recharge of ground water.
XIV	Green belt shall be raised in 33% of plant area in consultation with the DFO. Selection of plant species shall be as per the CPCB guidelines.	The CPP and Nayara Energy Limited (Formerly known as Essar Oil Ltd.) refinery are located in same premises. The green belt of the CPP is covered under the M/s Nayara Energy Limited green belt.
XV	Occupational Health Surveillance of the workers shall be done on regular basis and records be maintained as per the Factories Act.	Annual medical checkup is being carried out and records are maintained as per the provision of the Factories Act, 1948.
XVI	All the recommendations made in the EIA / EMP and Risk Assessment Reports in respect of environmental management and risk mitigation measures relating to power plant shall be implemented.	Recommendations made in the EIA / EMP and Risk assessment are implemented to safe guard the environment.



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XVII	The company shall undertake all relevant measures, as indicated during the public Hearing for improving the Socio-economic conditions of the surrounding area. CSR activities will be undertaken by involving local village and administration.	<p>Captive Power Plant of 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. Company has taken all relevant measures, as indicated during the public Hearing for improving the Socio-economic conditions of the surrounding area.</p> <p>Details of CSR activities is attached here with as <u><b>Annexure - 2</b></u></p>
<b>Sr.No.</b>	<b>GENERAL CONDITIONS</b>	
I	The project authorities must strictly adhere to the stipulations made by the concerned State pollution Control Board (SPCB) and the State Government.	M/s. NAYARA ENERGY LTD. (CPP) is strictly adhering to the stipulations made by the Gujarat State Pollution Control Board (GPCB) and the Gujarat Government.
II	No further expansion or modifications in the power plant shall be carried out without prior approval of the Ministry of Environment and Forests.	Noted.

Sr.No.	CONDITIONS	Compliance Status
		780 MW (Installed 77 MW + 220 MW)
III	At no time, the emissions should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the units, the respective unit should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved.	Noted.
IV	Regular monitoring shall be carried out for relevant parameters for both surface and ground water.	To monitor the quality of ground water in surrounding villages, six monthly sampling & analysis is carried out. The copies of ground water monitoring reports carried out recently is attached here as <u>Annexure – 1</u> .

Sr.No.	CONDITIONS	Compliance Status				
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V	The overall noise levels in and around the plant area shall be limited within the prescribed standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise level shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	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 Min    Max		Noise Level, dB(A) during Night Time 10:00 pm to 06:00 am 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)		
VI	Authorization from the State Pollution Control Board must be obtained for collection / treatment /storage /disposal of Hazardous wastes.	Consolidated Consent & Authorization No AWH- 105449 with letter no. PC/CCA-JMN-496(4)/ID-32631/529604 dated 09.12.2019 has been obtained from GPCB for storage and disposal of Hazardous waste.				

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		780 MW (Installed 77 MW + 220 MW)
VII	The project authorities will provide RS. 272.00 Crores to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. Adequate funds for recurring expenditure shall also be provided. The funds so provided shall not be diverted for any other purposes.	<p>The Required amount to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government has already been spent.</p> <p>Adequate funds for recurring expenditure has been provided.</p>
VIII	The stipulated conditions will be monitored by the concerned Regional Office of this Ministry / Central pollution Control Board/State Pollution Control Board. A six monthly compliance report and the monitored data shall be submitted to them regularly. It will also be displayed on the website of the Company.	<p>Six monthly compliance report and the monitored data are being submitted to the concerned Regional Office of Ministry of Environment Forest &amp; Climate Change / Central pollution Control Board/ Gujarat Pollution Control Board regularly</p> <p>Last EC compliance report for the period Apr'22 to Sep'22 has been submitted to MoEF &amp; CC office vide letter no: Nayara CPP/ENV/32631/EC Compliance 780 MW/2022/1138, dated. 16.11.2022</p>
IX	The date of financial Closure and final approval of the project by the concerned authorities and the date of commencing the land development work as well as the commissioning of the project will be informed to the Ministry and its regional Office.	Date of financial closure and commissioning of plant was communicated with the concern authorities.

Sr.No.	CONDITIONS	Compliance Status
		780 MW (Installed 77 MW + 220 MW)
X	Proper Housekeeping and adequate occupational health program shall be taken up. Regular Occupational Health Surveillance program for the relevant diseases shall be carried out and the records shall be maintained properly.	<p>Proper Housekeeping and occupational health program has been taken up &amp; carried out regularly.</p> <p>Records of Regular Occupational Health Surveillance program are maintained.</p>
XI	A separate environment management cell with full fledged laboratory facilities to carry out various management and monitoring functions shall be set up under the control of Senior Executive.	Environment Cell is in place since inception of the company and headed by qualified person.
6	Ministry may revoke or suspend the clearance, if implementation of the above conditions is not satisfactory.	Noted.
7	The Ministry reserves right to stipulate additional environmental conditions if found necessary. The company will implement these conditions in a time bound manner.	Noted.

Sr.No.	CONDITIONS	Compliance Status
		780 MW (Installed 77 MW + 220 MW)
8	Any appeal against this environmental clearance shall lie with the National Appellate Authority, if preferred, within a period of 30 days as prescribed under section 11 of the National Environment Appellate Authority Act, 1997.	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.	Noted.

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

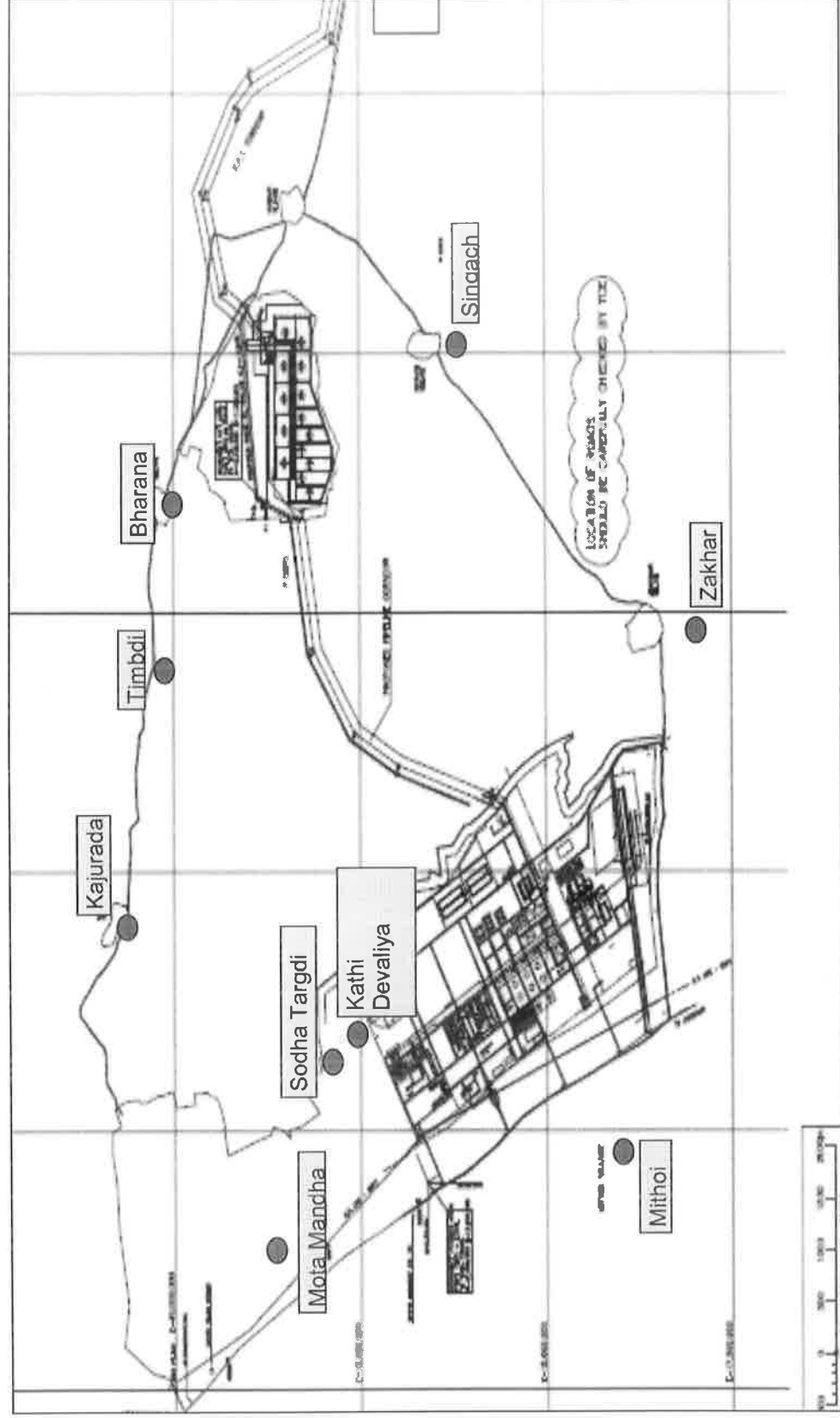
#### Parameters analyzed

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 - 2

### **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>

