

EC COMPLIANCE REPORT FOR NAYARA ENERGY LIMITED (FORMERLY KNOWN AS ESSAR OIL LIMITED), VADINAR, GUJARAT

**Six-monthly compliance report of Environment Clearance for expansion of refinery from 9 MMTPA to 60MMTPA and Petrochemical Complex
(Ref.: File No. -J-110011/320/2006-IA-II (I) dated September 16, 2008, and validity extended for 5 years vide MoEF letter No. F. No: J-110011/320/2006-IA-II (I), dated 7th, March 2014)**

Status as on 1st April, 2021

Sr. No.	Specific Conditions	Compliance
I	<p>M/s Essar Oil Limited shall comply with new standards / norms for Oil Refinery Industry Under the Environment Protection Rule 1986 vide GSR 186 (E) dated 18th March 2008. The design of refinery unit shall incorporate process features and equipment's to comply with the emission and effluent standards for petroleum refinery.</p>	<p>Nayara Energy Limited (Formerly known as Essar Oil Limited) is in compliance with the conditions given for Oil & Gas Industries in GSR 186 (E) dated 18th March, 2008.</p> <p>The design of refinery units incorporates process features and equipment in such a manner to comply with all the norms prescribed in GSR 186 (E) dated 18th March 2008.</p> <p>Following features have been adapted at design stage to reduce air emission:</p> <p>Low Temperature Shell Claus off Gas Treating Units (LT SCOT) at sulfur recovery unit.</p> <p>Sulfur Recovery Unit having sulfur recovery efficiency of 99.9%.</p> <p>Multistage multiple Cyclone Separator in Fluidized Catalytic Cracking & Regeneration unit for particulate emission control.</p> <p>Amine Absorbers - The fuel gas produced in the refinery contains H₂S. This is removed in the Amine absorber columns and the sweet gas is routed to Refinery fuel gas system.</p> <p>Use of Low Sulfur Refinery fuel Gas and Fuel Oil in heaters / furnaces. Installed Low NOX burners in all heaters / furnaces.</p>

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		<p>Floating roof tanks are provided for storage of class A products; this reduces HC vapor loss. Double seal has been provided in order to minimize vapor leakage.</p> <p>All vent offs are connected to the flare to take care, emergency releases from refinery plant.</p>
<p>II</p>	<p>The gaseous emissions (SO₂, NO_x, H₂S, NH₃, NMHC, HC, VOC and Benzene) from various process units shall confirm 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 point / stack and fugitive gaseous emission from the proposed facilities for ensuring that the ambient air quality around the refinery due to the expansion is maintained within prescribed limit under the EPA, 1986.</p>	<p>The gaseous emissions parameters as prescribed by Gujarat Pollution Control Board in Consolidated Consent & Authorization (CC & A) from stacks attached to heaters / furnaces and to various process units are being complied. It may kindly be noted that the CC&A specifies only SO₂, NO_x, PM, CO, Ni+V, H₂S gases and there is no gaseous emission source for NH₃ & NMHC from process units.</p> <p>Refinery is operated in a closed loop, hence VOC emission is minimum. However, VOC are monitored as a part of LDAR programme as per GSR 186 (E) dated 18th March, 2008.</p> <p>Gaseous emissions monitoring results for the period of Oct'2020 to Mar'2021 are tabulated in Annexure-I</p> <p>Measures adopted are given in the detailed Environment Management Plan (EMP) attached as Annexure-II.</p> <p>No issues raised regarding control of the fugitive gaseous emission during the Public hearing. However, Adequate control measures as mentioned above have been taken to ensure that ambient air quality around the refinery is maintained within prescribed limit.</p> <p>The summary of the ambient air quality monitoring for the period of Oct'2020 to Mar'2021 are given in Annexure-III.</p> <p>All parameters are well below the limits prescribed by statutory authority.</p>

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<p align="center">III</p>	<p>The company shall confirm to the process vent standards for organic chemicals including non-VOCs and all possible VOC i.e. TOCs standards and process vent standards for top priority chemicals.</p> <p>Regular monitoring shall be carried out for VOC and HC and on-line monitors for VOC measurements may be installed.</p>	<p>We confirm to the process vent standards for organic chemical including non VOCs and all possible VOC. All process vents are connected to flare. The pilot burners on the flare are continuously on and therefore there is no chance of unburnt HC release to the atmosphere.</p> <p>Regular monitoring is being carried out for VOC as under:</p> <p>Manual monitoring for VOC are regularly carried out as per GSR 186 (E) dated 18th March, 2008. The company has well established procedure for leak detection and repair under which VOCs are monitored in all the units manually though photo-ionization VOC meters since 2010.</p> <p>VOC emissions are manually monitored in the vicinity of potential sources of VOC emissions.</p> <p>VOC emission monitoring results for the period of Oct'2020 to Mar'2021 are given in Annexure-IV.</p>																		
<p align="center">IV</p>	<p>The total SO₂ emission load for 32 MMTPA refinery capacity and petrochemical complex will be below 24.60 tons/ day and for III phase for 60 MMTPA production petrochemicals shall not exceed 38.69 tons /day.</p> <p>Regular record on sulfur emission shall be maintained as part of the environmental data record.</p>	<p>Presently, refinery is operating at 21 MMTPA capacity. Minimum Monthly average SO₂ emission load is 5.89 MT/day and maximum SO₂ emission load is 12.54 MT/day.</p> <p>Regular record on sulfur emission are being maintained as a part of environmental data record. Details are as shown below:</p> <p align="center">SO₂ emission from Stack (MT/day)</p> <table border="1" data-bbox="913 1161 1883 1406"> <tr> <td align="center" colspan="6">Sulfur emission record based on the monitoring carried out by NABL accredited laboratory are given as below.</td> </tr> <tr> <td align="center">Oct'20</td> <td align="center">Nov'20</td> <td align="center">Dec'20</td> <td align="center">Jan'21</td> <td align="center">Feb'21</td> <td align="center">Mar'21</td> </tr> <tr> <td align="center">5.89</td> <td align="center">12.54</td> <td align="center">7.45</td> <td align="center">10.45</td> <td align="center">12.12</td> <td align="center">7.85</td> </tr> </table>	Sulfur emission record based on the monitoring carried out by NABL accredited laboratory are given as below.						Oct'20	Nov'20	Dec'20	Jan'21	Feb'21	Mar'21	5.89	12.54	7.45	10.45	12.12	7.85
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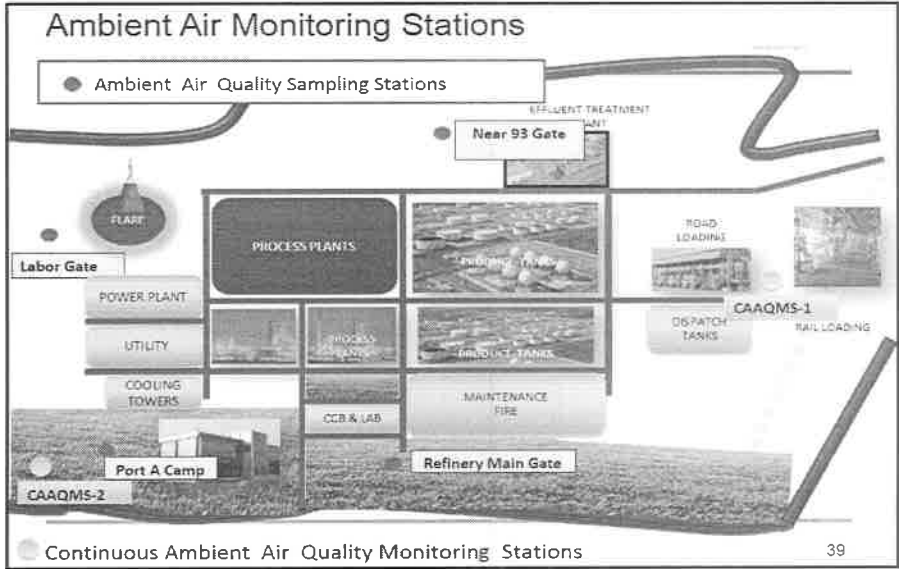
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	<p>SRU of 99% sulfur removal will be established and efficiency will be monitored at regular intervals.</p> <p>Performance evaluation will be done for all these activities on annual basis to check adequacies and improve on the deficiencies.</p>	<p>Refinery has three units of SRU. All SRU units are having LT-SCOT Technology with design efficiency of 99.9%.</p> <p>Performance evaluations of SRUs are done annually. Presently, all SRUs are operating at 99.9% sulfur recovery efficiency.</p>
V	<p>On-line monitoring shall be carried out for stack emission of SO₂ & NO_x contributed mainly from CDU, VDU, SRU, etc and data shall be transferred to CPCB and SPCB regularly.</p> <p>The instruments used for ambient air quality monitoring shall be calibrated regularly.</p> <p>The monitoring protocol shall ensure continuous monitoring of all the parameters.</p>	<p>Online monitoring is being carried out for stack emission of SO₂ & NO_x in all stacks including CDU, VDU and SRU. Online data are being transmitted to CPCB server since June' 2015. GPCB server is not active right now, hence separate login I'd credentials provided to GPCB through M/s N K Square solutions server for online analyzers data access.</p> <p>The Instruments used for ambient air quality are periodically calibrated by M/s Chemtrols.</p> <p>Two stations of Continuous Ambient Air Quality monitoring have been installed in upwind and downwind direction and on line data are being transmitted to CPCB server since March'2013.</p> <p>One of our Environment Engineer is assigned to check continuous operation of online analyzers, in case of any abnormality the concerned department is immediately informed and prompt action is being taken to rectify the problem.</p>
VI	<p>The existing plant is using low NO_x burners and the same or the one which are more efficient than the existing shall be used for the expansion of the projects too in all furnaces/ heaters.</p>	<p>Low NO_x burners has been provided in all the heaters.</p> <p>In expansion units, low NO_x Burners are provided, which are similar to the burners installed in the preexisting unit i.e. CDU, VDU, NHTCCR, FCCH, DHDS.</p>

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VII	The company shall install Hydro desulphurization and sulfur recovery unit with efficiency more than 99%	Hydro desulphurization & sulfur recovery unit with efficiency 99.9 % were installed and commissioned in refinery.
VIII	For additional LPG storages, refrigerated storage or mounded bullets shall be installed.	No additional LPG storages has been created after issuance of this EC & we confirm that refrigerated storage or mounded bullets will be installed for additional LPG storages, if required in future.
IX	Low sulfur internal fuel oil and fuel gas shall be fired in process heaters.	Low sulfur Internal fuel gas is being fired in all the process heaters except CDU, VDU, CDU-II, VGOHT and DHDT wherein mixture of low sulfur fuel oil and fuel gas is being fired.
X	Quarterly monitoring of fugitive emissions will be carried out by Fugitive Emission Detectors (GMI Leak Surveyor). Guidelines of CPCB shall be followed for monitoring fugitive emissions.	Monitoring of fugitive emissions is being carried out as per GSR (186) E, 2008. (Detailed compliance is covered under condition no XVI below). Guidelines of GSR (186) E, 2008 are being followed for monitoring fugitive emissions.
XI	Floating roof double seal tanks will be provided to reduce the VOC fugitives' emission. For management of fugitive emissions, all unsaturated hydrocarbons will be routed to the flare systems. The flare system shall be designed for smoke less burning.	Floating roof double seal tanks have been provided to reduce the VOC fugitive emission for all Class-A & B Hydrocarbons (HC). For management of fugitive emissions, all unsaturated hydrocarbons are being routed to the flare system which is designed for smokeless burning with steam.
XII	Flare Gas Recovery (FGR) system shall be installed for reduction of hydrocarbon loss and emission of VOCs, NO _x , N ₂ O, and SO _x & CO ₂ to the environment.	At present flare losses are minimal therefore it is flared directly. However, we have already made provision for installing Flare Gas Recovery System for reduction of hydrocarbon loss and to reduce emission of VOCs, NO _x , N ₂ O and SO _x & CO ₂ to the environment.



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<p>XIII</p>	<p>FCC shall be provided with an ESP and other sources of particulate will be controlled to meet E (P) Act standards.</p>	<p>FCC has been provided with high efficiency cyclone separator so as to ensure that the particulate emissions are within the limit. We are meeting the E (P) Act standards by installing cyclone separator.</p> <p>Monitoring report for the FCC stack emission parameter for the period of Oct'2020 to Mar'2021 is given in Annexure-I.</p>
<p>XIV</p>	<p>Regular Ambient Air Quality Monitoring shall be carried out.</p> <p>The location and results of existing monitoring stations will be reviewed in consultation with the concerned State Pollution control Board based on the occurrence of maximum ground level concentration and downwind direction of wind.</p> <p>Additional stations shall be set up, if required, It will be ensured that at least one monitoring station is set up in up wind & in down wind direction along with those in other direction.</p>	<p>Regular Ambient Air Quality Monitoring is being carried out at 5 nos. of Ambient air quality sampling stations installed within the Refinery premises one in up wind & one in down wind direction, 2 Nos in cross wind direction and 1 in COT area. Ambient Air Quality Monitoring is being carried out once a week at 5 locations. Reports are regularly submitted to GPCB.</p> <p>Apart from above sampling stations, 2 nos. of Continuous AAQM (One in upwind & one in downwind) installed within the Refinery premises.</p> <div data-bbox="907 842 1803 1412" data-label="Diagram">  <p>The diagram, titled "Ambient Air Monitoring Stations", shows a layout of a refinery with various units and monitoring points. A legend at the top indicates that black dots represent "Ambient Air Quality Sampling Stations" and grey circles represent "Continuous Ambient Air Quality Monitoring Stations".</p> <ul style="list-style-type: none"> Ambient Air Quality Sampling Stations (Black Dots): Located at "Near 93 Gate", "Port A Camp", and "Refinery Main Gate". Continuous Ambient Air Quality Monitoring Stations (Grey Circles): Located at "CAAQMS-1" (near Dispatch Tasks) and "CAAQMS-2" (near Port A Camp). <p>Other refinery units shown include: Labor Gate, Flare, Power Plant, Utility, Cooling Towers, Process Plants, Product Tanks, CCB & Lab, Maintenance Fire, Effluent Treatment Plant, Road Loading, and Rail Loading. The page number "39" is visible in the bottom right corner of the diagram.</p> </div>

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		<p>Real time data of CAAQMS are transmitted to CPCB through M/s Chemtrol server since March 2013.</p> <p>Ambient Air Quality monitoring for the month of Oct'2020 to Mar'2021 carried out by M/s Unistar Environment & Research Labs Pvt. Ltd. (NABL accreditation no. for Chemical & Biological: TC-7753 in lieu of T-2239, T-2240) are given in Annexure-III.</p>
<p>XV</p>	<p>The practice of acoustic plant design shall be adopted to limit noise exposure for personnel to an 8 hr time weighted average of 90 dB (A).</p>	<p>The practice of acoustic plant design is being adapted in refinery to limit noise exposure for personnel to an 8 hr time weighted average of 90 db (A), All the equipment have been designed and are operated with noise level of <90 dB (A).</p> <p>The design of project is such that the sound level in the work area is not exceeding 90 dB (A). Wherever practicable, attempts have been made to reduce the noise level below 90dB (A). However the areas where it is not reasonably practicable to reduce the noise level below the limit have been designated high noise area, where the movement is restricted and limited exposure is allowed to the working personnel.</p> <p>Following measures have been adapted to reduce the noise exposure:</p> <ul style="list-style-type: none"> ✚ The major areas of concern for noise generation has been addressed by considering it during procurement of the machinery from vendors, project implementation stage and by giving correct specification during tender floating. ✚ Periodic audiometric test is being conducted for employees working close to noise prone areas, such as compressors, DG Sets, the loading and unloading sections. ✚ PPE's are provided to ensure for eardrum protection of the employees, workers as well as visitors.

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		<ul style="list-style-type: none"> ✦ Acoustic barriers or acoustic enclosures and silencers are provided for the high noise generating equipment. ✦ Sound proofing / glass paneling have been provided at critical operating stations / control rooms. <p>Further Periodical Monitoring of the exposure to the person working in high noise is being done.</p>
<p>XVI</p>	<p>All the pumps and other equipment's where is a likelihood of HC leakages shall be provided with LEL indicators and Hydrocarbon detectors.</p> <p>Provision for immediate isolation of such equipment, in case of a leakage will also be made.</p> <p>The company shall provide a well-defined Leak Detection and Repair (LDAR) programme for quantification and control of fugitive emissions. The detector sensitivity will be in PPM levels.</p>	<p>All the pumps and other equipment where there is a likelihood of HC leakages are being provided with hydrocarbon detectors with LEL indicators. Around 669 nos. of Hydrocarbon detectors have been installed in all areas where there is a likelihood of HC leakages from pumps and other equipment.</p> <div style="display: flex; justify-content: space-around;">   </div> <p>The range of detector is 0-100% LEL of the Hydrocarbon of respective area and Alarm value is L1: 20% LEL and L2: 40% LEL.</p> <p>Standby pumps have been provided so that leaky pumps are immediately isolated and maintained.</p> <p>The company has well established procedure for leak detection and repair as per GSR 186 (E) dated 18th March, 2008 under which VOCs are monitored in all the units manually though photo-ionization VOC meters since 2010.</p>

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		<p>The detection limit of the instrument used for measurement of VOC is 0 to 10,000 PPM.</p> <p>VOC monitoring for the month of Oct'2020 to Mar'2021 is shown in Annexure-IV.</p>
XVII	<p>The product loading gantry shall be connected to the product sphere in closed circuit through the vapor arm connected to the tanker.</p> <p>Data on fugitive emission from here shall be regularly monitored and records will be maintained.</p>	<p>The LPG Loading gantry has been connected to the product sphere in closed circuit through the vapor arm connected to the tanker.</p> <p>Data on fugitive emission from product gantry & nearby area is as shown in Annexure-IV.</p>
XVIII	<p>The company shall ensure that no halogenated organic is sent to the flares.</p> <p>If any of the halogenated organic are present, then the respective streams may be incinerated, if there are no technically feasible or economically viable reduction/recovery options.</p> <p>Any stream containing organic carbon, other than halogenated shall be connected to proper flaring system, if not to a recovery device or an incinerator.</p>	<p>There is no halogenated organic presently handled at the Refinery.</p> <p>In case same is required to be handled it will be ensured that no halogenated organic is sent to the flares and suggested treatment will be implemented.</p> <p>All other streams containing organic carbon are routed to flare system.</p>
XIX	<p>Water requirement of the refinery and petrochemical complex shall be met from sea water desalination and no water shall be drawn either from the ground or from the surface.</p>	<p>Water requirement of refinery is being met through existing sea water desalination plant and no water is being drawn either from ground or from the surface.</p>

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<p>XX</p>	<p>No discharge of wastewater from sweet water ETP shall be carried out. The quantity of wastewater generation is 3726 m³/hr from the project.</p> <p>This effluent after appropriate treatment will be reused in process/ utilities or cooling or for green belt development.</p> <p>Only brine from desalination plant and cooling tower blow down will be discharged to sea through a well-designed diffuser at a location identified by National Institute of Oceanography (NIO).</p> <p>The quantity of sea water return is 26932 m³/hr.</p>	<p>Wastewater from ETP is being reused in Fire Water, Service Water & Cooling Towers make up, RO feed and horticulture.</p> <p>The quantity of wastewater from ETP for the month of Oct'2020 to Mar'2021 is as shown in Table below:</p> <p align="center">Wastewater from ETP</p> <table border="1" data-bbox="920 504 1883 735"> <thead> <tr> <th>Sr. No.</th> <th></th> <th>Oct' 2020</th> <th>Nov' 2020</th> <th>Dec' 2020</th> <th>Jan' 2021</th> <th>Feb' 2021</th> <th>Mar' 2021</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>Trade effluent, M³/hr*</td> <td>511</td> <td>826</td> <td>835</td> <td>786</td> <td>800</td> <td>806</td> </tr> </tbody> </table> <p>*Note: The quantity shown for wastewater from ETP is for 21 MMTPA refinery.</p> <p>The influent is being routed to Effluent Treatment Plant (ETP) for required treatment and the entire Treated Effluent is then reused as Fire Water, Service Water make-up, Cooling Tower make-up, horticulture water and as RO feed. Permeate of Reverse osmosis plant is used as boiler feed water after DM treatment.</p> <p>Brine from desalination plants and cooling tower blow down is being discharged to sea through well designed diffuser at a location identified by National Institute of Oceanography.</p> <p>The quantity of sea water return to sea is monitored daily and is well below the stipulated limits.</p>	Sr. No.		Oct' 2020	Nov' 2020	Dec' 2020	Jan' 2021	Feb' 2021	Mar' 2021	01	Trade effluent, M³/hr*	511	826	835	786	800	806
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01	Trade effluent, M³/hr*	511	826	835	786	800	806											
<p>XXI</p>	<p>Regular monitoring of relevant parameters for the underground water in the surrounding areas will be</p>	<p>Monitoring of relevant parameters for the underground water in the surrounding areas is being carried out six-monthly, recent monitoring was done in Dec'2020,</p>																

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	undertaken and the results will be submitted to the relevant States pollution Control Boards.	results of ground water quality monitoring is given in Annexure-VI . Copy of EC compliance report is being also submitted to the State pollution Control Board.
XXII	<p>All organic waste shall be sent to incinerator only. For potential of heat recovery, the possibility of installing incinerator at site shall be explored and plan may be submitted to the SPCB.</p> <p>Alternatively, it will be sent for use as fuel in the cement Kiln.</p>	<p>Refinery is already member of GPCB approved TSDF & Incinerator facility of M/s SEPPL located at Gandhidham.</p> <p>Organic waste (Oily Sludge) with high CV is being reprocessed in DCU or Co-processed in GPCB authorized Cement Plants.</p>
XXIII	<p>Solid waste generated as Pre-treater and Reformer Catalysts, Sulphur guard absorbent and Alumina Balls will be disposed off as the authorization from the State Pollution Control Board.</p> <p>Spent catalysts shall be regenerated and waste oil will be sold to the registered recycler only.</p>	<p>The company has obtained authorization from GPCB vide order no.: AWH-81987 issued in 2016 and valid till 2022 for collection, treatment, storage and disposal of hazardous waste, and conditions there under are being complied with.</p> <p>As per provisions of HW Rules 2016 the characterization of waste has been carried out. Those wastes categorized as HW, are disposed to authorized recyclers.</p> <p>Used/spent oil generated from equipment is being sold to GPCB authorized recyclers. Non-HW is disposed to end users.</p>
XXIV	<p>Oily sludge shall be sent to melting pit treatment for recovery of oil. The recovered oil shall be recycled into the refinery system.</p> <p>The residual sludge will be stored in HDPE lined pit for disposal after treatment. The sludge will be incinerated in the premises only.</p>	<p>Oily sludge is being reprocessed in Delayed Coker Unit or co-processed in GPCB authorized Cement Plants.</p> <p>Oily sludge is being stored in sludge drying pit with HDPE liner & leachate collection facility. Oily Sludge is being reprocessed in DCU or Co-processed in GPCB authorized Cement Plants.</p>



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XXV	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.	<p>We are in compliance with all the applicable conditions under MSIHC Rules 1989.</p> <p>The details of the compliance of the applicable conditions are as given below</p> <p align="center">Compliance of the applicable conditions of MSIHC</p> <table border="1"> <thead> <tr> <th data-bbox="902 411 983 491">Sr. No</th> <th data-bbox="983 411 1420 491">Condition</th> <th data-bbox="1420 411 1892 491">Compliance Status</th> </tr> </thead> <tbody> <tr> <td data-bbox="902 491 983 1401">1</td> <td data-bbox="983 491 1420 1401"> An occupier who has control of an industrial activity in term of sub-rule (I) shall provide evidence to show that he has,- (a) identified the major accident hazards; and (b) taken adequate steps to - (i) prevent such major accidents and limit their consequences to persons and the environment; (ii) Provide to the persons working on the site with the information, training and equipment including antidotes necessary to ensure their safely. </td> <td data-bbox="1420 491 1892 1401"> a) Refinery has identified all the hazards linked with all kinds of operational, administrative and technical activities. Each department and units have their Aspect Impact Risk Register as per the activities being carried out. This register is being updated timely. b) (i) Refinery has well established safety systems and procedures in place. It also has Emergency Response Disaster Management Plan for prevention of major accidents. Mock drills are carried out timely as a part of prevention plan. (ii)Refinery has dedicated training center known as Nalanda Knowledge Centre wherein Induction training including firefighting, first aider, safety system awareness is being allotted to all the employees and contractors. In addition to this, Emergency Response Disaster Management Plan training, first aider training and safety refresher training is </td> </tr> </tbody> </table>	Sr. No	Condition	Compliance Status	1	An occupier who has control of an industrial activity in term of sub-rule (I) shall provide evidence to show that he has,- (a) identified the major accident hazards; and (b) taken adequate steps to - (i) prevent such major accidents and limit their consequences to persons and the environment; (ii) Provide to the persons working on the site with the information, training and equipment including antidotes necessary to ensure their safely.	a) Refinery has identified all the hazards linked with all kinds of operational, administrative and technical activities. Each department and units have their Aspect Impact Risk Register as per the activities being carried out. This register is being updated timely. b) (i) Refinery has well established safety systems and procedures in place. It also has Emergency Response Disaster Management Plan for prevention of major accidents. Mock drills are carried out timely as a part of prevention plan. (ii)Refinery has dedicated training center known as Nalanda Knowledge Centre wherein Induction training including firefighting, first aider, safety system awareness is being allotted to all the employees and contractors. In addition to this, Emergency Response Disaster Management Plan training, first aider training and safety refresher training is
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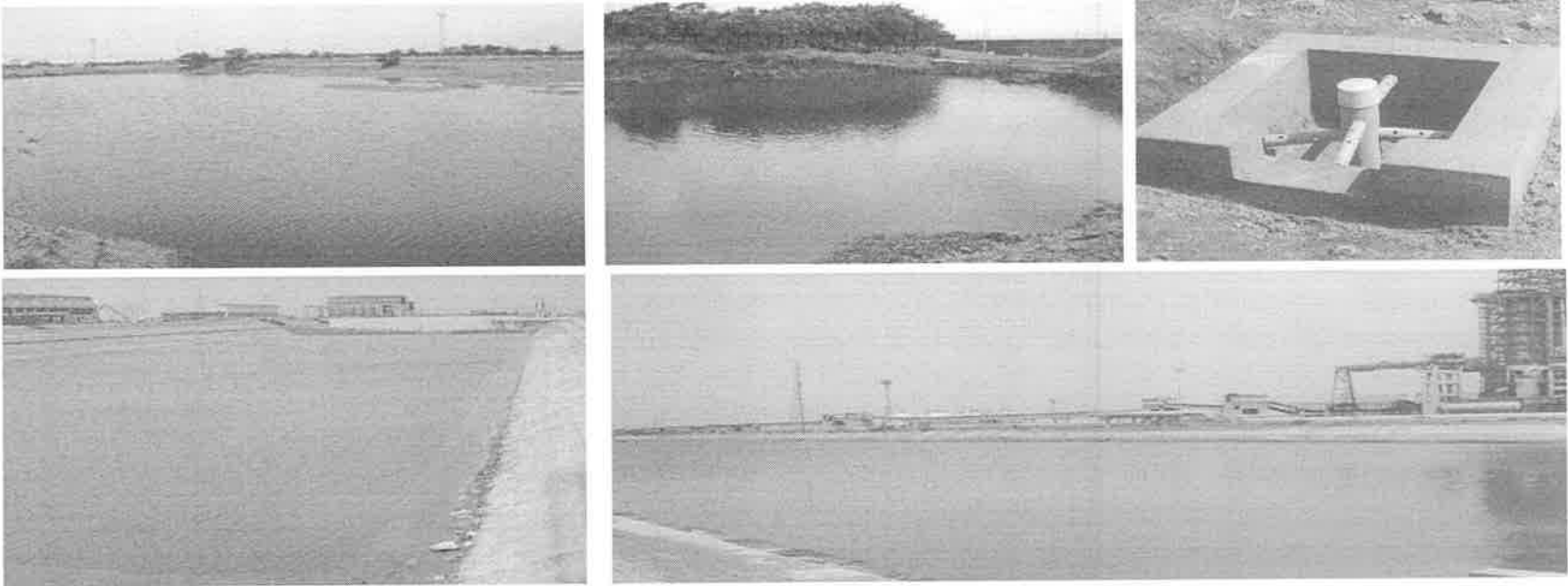
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			allotted every three years to all the personnel.	
		2	<p>An occupier shall prepare and keep up-to-date an on-site emergency plan detailing how major accidents will be dealt with on the site on which the industrial activity is carried on and that plan shall include the name of The person who is responsible for safety on the site and the names of those who are authorized to take action in accordance with the plan in case of an emergency.</p>	Refinery has Emergency Response Disaster Management Plan in line with the industrial activity as well as crude handling operations.
		3	<p>The occupier shall ensure that the emergency plan prepared in accordance with sub-rule (1) takes into account any modification made in the industrial activity and that every person on the site who is affected by the plan-is informed of its relevant provisions.</p>	Refinery has Emergency Response Disaster Management Plan in line with the industrial activity as well as crude handling operations.
		4	<p>An occupier, who has control of an industrial activity in term of sub-rule 1 of this rule, shall arrange to obtain or develop information in the form of safety data sheet as specified in Schedule 9. The information shall be accessible upon request for reference.</p>	Refinery has a separate portal known as Process Safety Management portal wherein all the MSDS as well as chemical database are available.

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	<p>Necessary approvals from Chief controller of explosives must be obtained before commissioning of the expansion project.</p> <p>Requisite On-site and off-site Disaster Management plans will be prepared and implemented.</p> <p>Regular mock drill shall be carried out for both On-Site and Off-site plans.</p>	<p>All necessary approvals from Chief Controller of Explosives have been obtained prior commissioning of the expansion project.</p> <p>Emergency Response Disaster Management Plan (ERDMP) for onsite and offsite has been prepared.</p> <p>Regular mock drills on ERDMP are conducted. Off-site emergency plan is implemented by the district administration in association with neighboring industries, mock drills are carried out regularly for the off -site emergency plan as well.</p>
XXVI	<p>Green belt shall be provided to mitigate the effects of fugitive emissions all around the plant in a minimum of 33% of the plant area in consultation with DFO as per CPCB guidelines.</p>	<p>Green Belt has been developed in area of 410 Ha around the periphery and in vacant area*.</p> <div style="display: flex; justify-content: space-around;">   </div> <p>Apart from this we have also done voluntary mangrove afforestation in area of 175 Ha.</p> <p>*Note : currently 21 MMTPA refinery is established in 1171 Ha area out of total project area of 2275 Ha. As per the current establishment, we have developed green belt in 410 Ha area which is 35 % of the plant area.</p>

EC COMPLIANCE REPORT FOR NAYARA ENERGY LIMITED (FORMERLY KNOWN AS ESSAR OIL LIMITED), VADINAR, GUJARAT

XXVII	The company shall strictly follow all the recommendations mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP).	CREP compliance status is given in a separate report as Annexure-VII .
XXVII I	The Company shall harvest surface as well as rainwater from the rooftops of the buildings proposed in the expansion 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.	Six reservoirs / ponds have been created within refinery premises for storage and recharging of ground water. Total capacity of these ponds is 6,25,000 m3. Four ground water recharge wells have been made at strategic locations within refinery.
		
XXIX	Occupational Health Surveillance of the workers shall be done on regular basis and records be maintained as per the Factories Act.	Occupational health Surveillance of the worker is being done six monthly and records are maintained at Occupational Health Centre (OHC) at refinery site as per Factory Act.

EC COMPLIANCE REPORT FOR NAYARA ENERGY LIMITED (FORMERLY KNOWN AS ESSAR OIL LIMITED), VADINAR, GUJARAT

XXX	<p>All the recommendations made in the EIA / EMP and Risk Assessment Reports in respect of environmental management and risk mitigation measures relating to refinery and petrochemical complex shall be implemented. In respect of activities in the marine national park, the recommendations of NIO shall be followed for protection of marine national park.</p>	<p>All recommendations of EIA / EMP have been implemented. Details are given in Annexure-II.</p> <p>In respect of activities in the marine national park, the recommendations of NIO have been implemented for protection of marine national park. Details are given in Annexure-VIII.</p>
XXXI	<p>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>	<p>During public hearing various points have been discussed and the compliance status of public hearing points on Socio-economic & CSR activities are given in Annexure-IX as submitted in GPCB.</p> <p>Apart from that we are committed to making positive impact in communities in surrounding village of Vadinar. We are committed to maintaining the highest standards of CSR in its business activities. This facilitates development initiatives in line with provisions under the Companies' Act, 2013, and aligns its vision with Nayara's philosophy of 4Ps – PEOPLE at the core, PROGRESS towards aspirations, POWER of synergy, and PASSION with compassion.</p> <p>The initiatives are strategically designed on the basis of community needs assessment, mapping, participatory planning and considering local feasibility. In all locations, the local Government's effort in development is supplemented with the company's resources and facilitation.</p> <p>According to this philosophy whatever amount is needed as a part of CSR is spent for surrounding villagers.</p> <p>Local people is being trained for technical skill required for plant operation and maintenance. These local trained people are appointed in plant.</p> <p>CSR activities undertaken during Oct'2020 to Mar'2021 are given as Annexure-X.</p>

EC COMPLIANCE REPORT FOR NAYARA ENERGY LIMITED (FORMERLY KNOWN AS ESSAR OIL LIMITED), VADINAR, GUJARAT

Sr. No.	General Conditions	Compliance
I	The project authorities must strictly adhere to the stipulations made by the concerned State pollution Control Board (SPCB) and the State Government.	We are in compliance with the stipulations made by the concerned Gujarat Pollution Control Board (GPCB) and the State Government.
II	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	We confirm that No further expansion or modifications in the plant will be carried out without prior approval of the Ministry of Environment, Forest and Climate Change.
III	At no time, the emissions should go beyond the prescribed standards. In the event of failure any pollution control system adopted by the units, the respective until should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved.	<p>It is ensured that the emission does not go beyond the prescribed standard as per CCA. For the same continuous emission monitoring of stacks (source of emissions) are provided with online monitoring analyzers.</p> <p>Alarm has been set in each stack for each parameter at the 90% value of emission standards mentioned in CC&A to ensure corrective action in well advance. Operators are 24X7 watching pollutants emission level of all stacks and immediately actions will be taken in case of failure of any pollution control device/ system.</p>
IV	<p>Adequate number of influent and effluent quality monitoring stations shall be set up in consultation with the SPCB.</p> <p>Regular monitoring shall be carried out for relevant parameters for both surface and ground water.</p>	<p>All effluent from plants is being collected in effluent collection tanks provided & required treatment is being given to achieve the norms prescribed in CCA for the Effluent Treatment Plant (ETP). Influent / effluent's quantities & qualities are being monitored on daily basis in the ETP. Treated effluent monitoring results are given in Annexure-V. Apart from this online effluent quality monitoring systems have been established & hooked up with CPCB server.</p> <p>Ground water quality of the surrounding villages is monitored six-monthly which was monitored in Dec'2020, results of the same are given in Annexure-VI. Surface water (sea water) is monitored by third parties like NIO and Gujarat Institute of Desert Ecology.</p>

EC COMPLIANCE REPORT FOR NAYARA ENERGY LIMITED (FORMERLY KNOWN AS ESSAR OIL LIMITED), VADINAR, GUJARAT

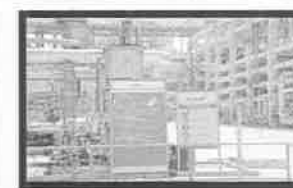
V	<p>Industrial wastewater shall be properly collected and treated so to conform to the standards prescribed under GSR 422 (E) dated 1st May 1993 and 31st December, 1993 or as amended from time. The treated wastewater shall be utilized for plantation purpose.</p>	<p>Industrial wastewater is being collected at effluent treatment plant having primary, secondary and tertiary treatment system for treatment of effluent to meet the standards prescribed. Effluent quality parameter is within the prescribed limit mentioned in GSR 186 (E) dated 18th March, 2008. Treated water quality for the month of Oct'20 to Mar'21 is given in Annexure-V.</p> <p>The entire Treated Effluent is then reused as Fire Water, Service Water , Cooling Tower make up, horticulture, RO feed and green belt.</p>
VI	<p>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.</p> <p>The ambient noise level shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).</p>	<p>The design of project is such that the sound pressure level in the work area is not exceeding 90 dB (A). Restricted areas are those locations where it is not reasonably practicable to reduce the noise level below the work area limit. Wherever practicable, attempts have been made to reduce the noise level below 90 dB (A). The noise level is not exceeding 70 dB (A) during day time and 65 dB (A) during night time at the boundary of the project site. The equipment have been chosen in such a way that the above noise limit is never exceeded.</p> <ul style="list-style-type: none"> ✦ The major areas of concern for noise generation has been addressed by considering it during procurement of the machinery from vendors, project implementation stage and by giving correct specification during tender floating. ✦ Periodic audiometric test is being conducted for employees working close to noise prone areas, such as compressors, DG Sets, the loading and unloading sections. ✦ PPE's are provided to ensure for eardrum protection of the employees, workers as well as visitors. ✦ Acoustic barriers or acoustic enclosures and silencers are provided for the high noise generating equipment. ✦ Sound proofing / glass paneling have been provided at critical operating stations / control rooms. <p>The ambient noise level are monitored during day and night in the periphery of refinery and found to be well within the prescribed standards. The ambient Noise level monitoring reports is given in Annexure-XI. All results are within limit.</p>

EC COMPLIANCE REPORT FOR NAYARA ENERGY LIMITED (FORMERLY KNOWN AS ESSAR OIL LIMITED), VADINAR, GUJARAT

VII	Authorization from the State Pollution Control Board must be obtained for collection / treatment /storage /disposal of Hazardous wastes.	Consolidated Consent & Authorization has been obtained from Gujarat Pollution Control Board vide Ref. No AWH-81987 dated 13.10.2016 which is valid till 16.09.2022.
VIII	The project authorities will provide RS. 3853.00 Crore 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.	Funds as stipulated have already been ear-marked and implemented for the identified actions as per the EMP. Adequate funds for recurring expenditure is provided dedicatedly.
IX	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.	Six monthly compliance and data monitoring report is regularly submitted to MoEF&CC- Bhopal, CPCB-New Delhi and GPCB - Gandhinagar. Last six monthly EC compliance report has been submitted vide letter no. Nayara/ENV/EC compliance report/2020/993 dated 17/11/2020 to The Regional Office, MoEF&CC, Bhopal. Report is also displayed on company website.
X	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.	The proposed expansion of 60 MMTPA is not complete yet. Presently we are operating our refinery at 21 MMTPA. All the necessary approval for the same are in place.
XI	Proper House-keeping and adequate occupational health program shall be taken up.	We have implemented 5S work place management systems for continuous improvement in workplace.

EC COMPLIANCE REPORT FOR NAYARA ENERGY LIMITED (FORMERLY KNOWN AS ESSAR OIL LIMITED), VADINAR, GUJARAT

Regular Occupational Health Surveillance program for the relevant diseases shall be carried out and the records shall be maintained properly for at least 30-40 years.



Occupational Health Center has been established which takes care of surveillance program and maintain the records.

1) Frequency of Medical Examination of Employees as well as Contract Staff

Employees:

- Employees working in hazardous process – Once in six month
- Employees not working in hazardous process – >40 days once in year, <40 days once in two year

Contract staff:

- Person working in hazardous process – Once in six month
- Person not working in hazardous process – once in year

2) Summary of the Tests Carried out in brief

Once in six months

1. Physical Examination,
2. Vision examination
3. PFT,
4. Blood investigation {CBC, FBS, kidney profile, Liver profile}
5. Urine Routine.

Once in year above + ECG + lipid profile + X ray chest

Sufficient preventive measures shall be adopted to avoid direct exposure to emission and other Hydrocarbons etc.

EC COMPLIANCE REPORT FOR NAYARA ENERGY LIMITED (FORMERLY KNOWN AS ESSAR OIL LIMITED), VADINAR, GUJARAT

Hydrocarbon and H₂S detectors have been installed at strategic locations in all the units. Timely H₂S and hydrocarbon awareness training is being given to all the contract workman as well as employees.

XII 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.

The Environment Management Cell is in position, headed by senior executive and reports directly to the Director. Technical qualification of staff is in table below.

Head HSEF Directly reports to Director Refinery.

Details Environment Management Cell

Sr. No.	Name of the Person	Designation	Technical Qualification
1	P. R. Dixit	VP & Head- HSEF	M. Tech Environment
2	Jay Pandya	Head Environment	M. Tech Environment
3	Asmita Patel	DGM Environment	M. Tech Environment
4	Priya Ayengar	Sr. Manager Environment	B.E Electrical & PG Diploma in Environment & Sustainability
5	Harshit Shah	Sr. Manager Environment	B.E Electrical & PG Diploma in Environment & PG Diploma Safety
6	Ravirajsinh Gohil	Manager Environment	M. Tech Environment
7	Jaymin Joshi	Dy. Manager Environment	M. Sc. Environmental Science.

Annexure – I
Stacks Emissions Monitoring Data

Period: Oct'2020 to Mar'2021

Frequency of monitoring: Monthly

(A) Emission through heater's/furnace's stacks:

Sr. No.	PLANT	Parameters monitored					
		PM (mg/Nm3)	SO ₂ (mg/Nm3)	NO _x (mg/Nm3)	CO(mg/Nm3)	Ni(mg/Nm3)	Vanadium (mg/Nm3)
		Min-Max	Min-Max	Min-Max	Min-Max	Min-Max	Min-Max
1	CDU	38-64	19-405	26-314	10-74	BDL	BDL
2	VDU	16-59	13-234	36-182	16-56	BDL	BDL
3	CDU - II	11-67	22-576	22-97	6-20	BDL	BDL
4	DHDT	BDL	BDL-28	5-77	22-58	NA	NA
5	VGOMHC	BDL-8	BDL-78	10-60	19-35	NA	NA
GPCB Limit (for Sr. No. 1 to 5 above)		100	1700	450	200	5	5
6	NHT/CCR	BDL	BDL-16	10-34	6-107	NA	NA
7	DHDS	BDL	BDL-35	7-96	28-43	NA	NA
8	FCC Feed heater	BDL-4	BDL-30	12-38	7-15	NA	NA
9	HMU – 1	BDL-3	BDL-8	21-48	10-37	NA	NA
10	HMU-2	BDL	BDL-20	BDL-24	8-56	NA	NA
11	DCU - 1	BDL	5-7	10-34	3-32	NA	NA
12	DCU - 2	BDL-2	BDL-25	10-34	12-26	NA	NA
13	DCU - 3	BDL	BDL-12	14-28	7-32	NA	NA
GPCB Limit (for Sr. No. 6 to 13)		10	50	350	150	-	-

Annexure – I
Stacks Emissions Monitoring Data

(B) Emission through processes stacks:

Sr. No.	Plant	Parameters monitored			
		Sulfur recovery (%)	H ₂ S (mg/Nm ³)	NO _x (mg/Nm ³)	CO (mg/Nm ³)
			Min-Max	Min-Max	Min-Max
1	SRU	99.9	BDL	21-36	67-88
2	SRU - 1	99.9	BDL-5	16-210	51-67
3	SRU-2	99.9	BDL	11-17	26-77
GPCB Limit (for Sr. No. 1 to 3)		98.7	15	350	150

Sr. No.	Plant	Parameters monitored					
		PM (mg/Nm ³)	SO ₂ (mg/Nm ³)	NO _x (mg/Nm ³)	CO (mg/Nm ³)	Ni (mg/Nm ³)	V (mg/Nm ³)
		Min-Max	Min-Max	Min-Max	Min-Max	Min-Max	Min-Max
4	FCC Regenerator	49-95	9-43	17-58	27-236	BDL	BDL
GPCB Limit (for Sr. No. 4)		100	500	400	400	2	2

Legends:

CDU/VDU	Crude Distillation Unit / Vacuum Distillation Unit
CDU - II	Crude Distillation Unit - II
NHT/CCR	Naphtha Hydro Treater/ Continuous Catalytic Reforming
DHDS	Diesel Hydro de Sulfurization
FCCU	Fluidized Catalytic Cracking Unit
HMU	Hydrogen Manufacturing Unit
DHDT	Diesel Hydro Treater
VGOMHC	VGO Mild hydrocracker
DCU	Delayed Coker Unit
SRU	Sulfur Recovery Unit
PM	Particulate Matter
SO ₂	Sulfur Dioxide
NO _x	Oxides of Nitrogen
H ₂ S	Hydrogen Sulfide
CO	Carbon Monoxide
Ni	Nickel
V	Vanadium

NA: Not applicable

Annexure-II Environmental Management Plan

Environmental Management Plan for mitigation of adverse impacts on environment due to Refinery operations is as follows:

Air Pollution Prevention / Control Measures:

Air pollution prevention / Control measures adopted at site are as following:

- ✚ Installed Low Temperature Shell Claus off Gas Treating Units (LT SCOT) at sulfur recovery unit.
- ✚ Installed Multistage multiple Cyclone Separator in Fluidized Catalytic Cracking & Regeneration unit for particulate emission control.
- ✚ Installed Amine Absorbers - The fuel gas produced in the refinery contains H₂S. This is removed in the Amine absorber columns and the sweet gas is routed to Refinery fuel gas system. Subsequently H₂S is stripped out from rich amine in amine regeneration unit. Lean amine is reused while H₂S is sent to sulfur recovery unit.
- ✚ Use of Low Sulfur Fuel - Refinery Fuel Gas, Natural Gas and Fuel Oil are used as fuel in heaters / furnaces.
- ✚ Installed Low NOX burners in all heaters / furnaces.
- ✚ Installed Sulfur Recovery Units having sulfur recovery efficiency of 99.9%.
- ✚ Floating roof tanks: Floating roof tanks are provided for storage of class A products; this reduces HC vapor loss. Double seal has been provided in order to minimize vapor leakage.
- ✚ Good Flare Management- all vent offs are connected to the flare to take care emergency releases from refinery plant.
- ✚ All access roads (internal as well as external) which is being used are paved either with concrete or bitumen to suppress the dust generation along the roads.

Air Environment:

The major sources of air emission is process emissions from FCCU, SRU and emissions from fuel burning in the different heaters / furnaces of refinery's plant operations. To minimize impacts, major steps taken are following:

- ✚ Regular monitoring and record keeping of emission at refinery as part of environmental data records.
- ✚ Monitoring the Performance of Sulfur Recovery Units (SRU) on monthly basis.

Annexure-II Environmental Management Plan

- ✚ Energy conservation schemes have been launched, for instance, steam traps management, variable speed control drive.
- ✚ Leak Detection and Repair Program (LDAR) has been implemented in the refinery. The program includes leak detection of valves, flanges, pumps, floating & fixed roof top of tanks etc. Total 49057 nos. of components were monitored during period of Oct'2020 to Mar'2021.
- ✚ Stack Monitoring Facility (SMF) have been provided at proper location in all stacks.
- ✚ Ambient air quality is being monitored simultaneously at 5 locations within refinery premises once a week.
- ✚ Two Continuous On-line Ambient Air Quality Monitoring stations (CAAQMS) have been installed. The same has been hooked up with CPCB server since March 2013.
- ✚ Continuous Emission Monitoring has been hooked up with CPCB server since June 2015.
- ✚ To minimize occupational exposure / hazards, the practice of using personal protective equipment like helmets, safety (gas) masks/ safety dress, shoes etc. is followed, they are provided to all workers, engaged in operation of process units within the refinery complex.
- ✚ The health checkup (diagnostic) for all regular employees at the refinery complex at scheduled intervals is carried out and the corresponding health records are maintained.

Noise Environment:

The design of project is such that the sound pressure level in the work area is not exceeding 85 dB (A). Restricted areas are those locations where it is not reasonably practicable to reduce the noise level below the work area limit. Wherever practicable, attempts have been made to reduce the noise level below 85dB (A). The noise level is not exceeding 70 dB (A) during day time and 65 dB (A) during night time at the boundary of the project site. The equipment have been chosen in such a way that the above noise limit is never exceeded. The noise levels at the nearest habitation after refinery expansion is less than the stipulated standards of CPCB. Good Standard Operational Procedure, the following generic measures have been implemented in base refinery and same will be implemented in addition to the existing green belt, in the future expansion of the project:

- ✚ The major areas of concern for noise generation has been addressed by considering it during procurement of the machinery from vendors, project implementation stage and by giving correct specification during tender floating.

Annexure-II

Environmental Management Plan

- ✚ Monitoring of job and location specific noise levels for compliance with HSE regulations by verifying acceptability of noise levels caused by the project activities and comparison with noise criteria.
- ✚ Periodic audiometric test is being conducted for employees working close to noise prone areas, such as compressors, DG Sets, the loading and unloading sections.
- ✚ PPE's are provided to ensure for eardrum protection of the employees, workers as well as visitors.
- ✚ Acoustic barriers and silencers have been used in equipment wherever necessary.
- ✚ Sound proofing / glass paneling have been provided at critical operating stations / control rooms.
- ✚ Either acoustic barriers/ shelters shall be developed in noisy workplaces or acoustic enclosures are provided for the high noise generating equipment
- ✚ Monitoring of ambient noise levels is carried out regularly inside the refinery area.

Water & Waste water Environment:

- ✚ **Water:** The main source of water requirement of refinery is sea water. Sea water is drawn from Gulf of Kutchh by a 44 inch pipeline laid from Gulf of Kutchh to refinery site. Sea water is mainly used as cooling media in cooling towers and for producing sweet water by desalination plant. Cooling Tower blow down, desalination plant reject and RO reject are sent back to sea via a 52 inch pipeline and diffuser system. Sweet water is used for producing DM water, steam and potable water and in process / operation. There is no withdrawal of groundwater for refinery operation.
- ✚ **Wastewater:** Main source of wastewater generation is refinery operations. Wastewater is treated in the wastewater treatment plant. Full quantity of treated waste water, is reused / recycled for cooling towers, fire water make-up, green belt and feed to RO plant.
The quality of treated water is daily monitored to ensure that treated water quality is always in compliance with statutory limits.
- ✚ Continuous Effluent Monitoring has been hooked up with CPCB server since November'2015.

Land Environment:

- ✚ Soils in the adjoining areas are sandy loam to silty loam with moderate infiltration rates. Considering this fact, every precaution have been taken to avoid spillage of oils and other petroleum products on soils to protect groundwater and to avoid any danger to other soil microbial groups which are sensitive to oil pollution.
- ✚ Green belt coverage inside the refinery is well maintained.

Annexure-II Environmental Management Plan

- ✚ Adequate storage facility for temporary storage of hazardous and non-hazardous wastes has been created within refinery premises.

Green Belt Development:

Along the periphery of the refinery at Vadinar, a large green belt has been developed. 410 Ha area is covered under thick Green Belt in refinery and associated facilities.

Annexure – III
Monitoring Results of Ground Water Quality of Surrounding Village

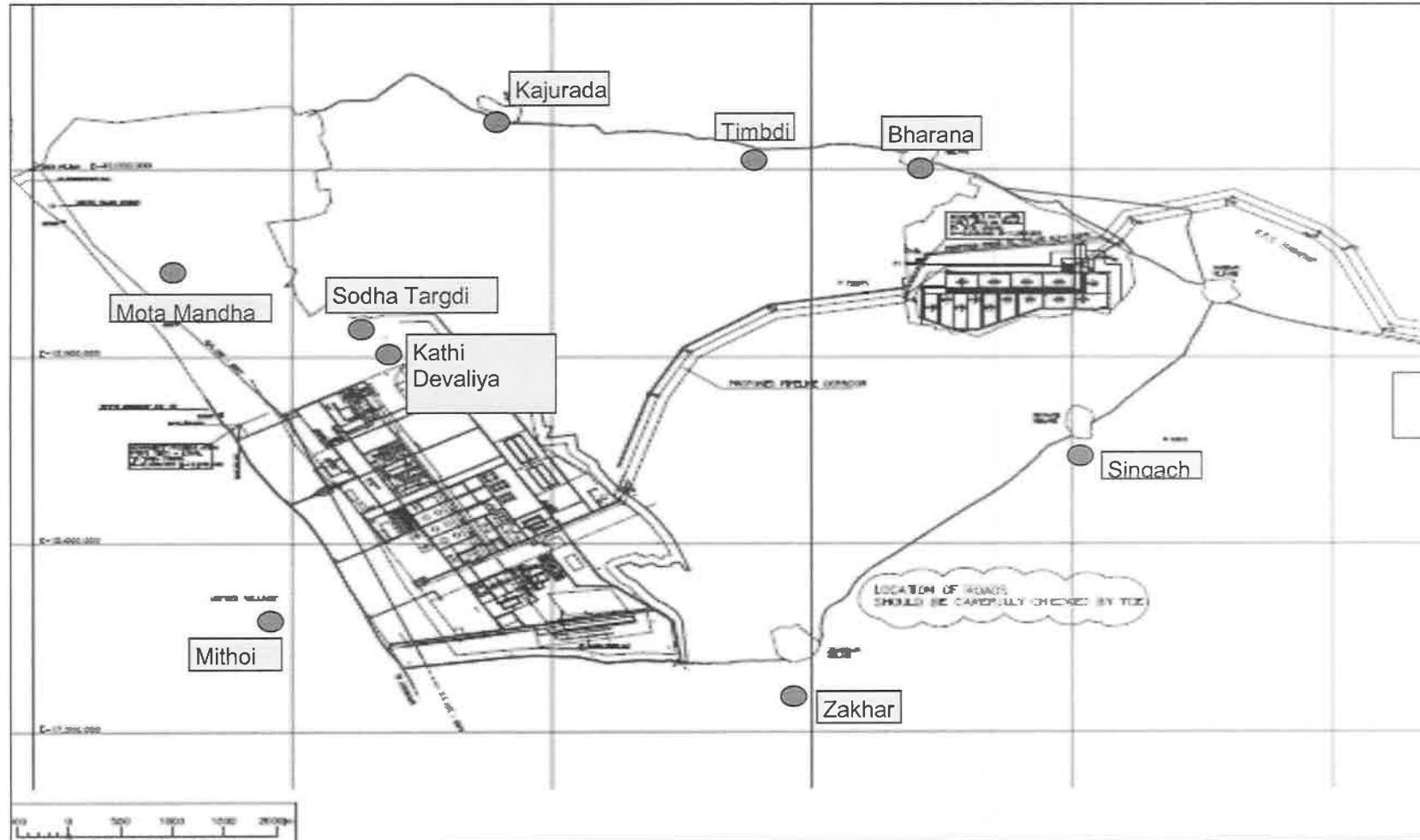
Monitoring Results of Ground Water Quality of Surrounding Villages

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	7.39	1086	497	<4	73	290
2	Bharana	7.05	340	209	<4	35	30
3	Kathi Devaliya	7.18	990	627	<4	145	280
4	Zakhar	7.02	1600	1150	<4	205	680
5	Singach	7.08	340	209	<4	298	30
6	Kajurada	6.97	3820	2190	<4	224	2020
7	Sodha Taragadi	7.26	680	348	<4	54	68
8	Timbadi	7.71	1120	706	<4	98	410
9	Mithoi	8	830	417	<4	92	237

*** Well water samples collected and analyzed in December, 2020**

Annexure – III
Monitoring Results of Ground Water Quality of Surrounding Village



Location of Villages

Annexure - IV
Volatile Organic Compound (VOC) Monitoring

Sampling period: Oct'2020 to Mar'2021

Frequency of monitoring: monthly

Sr. No.	VOC monitoring area / unit / plant	Unit	VOC Min-Max
1	Near Truck Gantry (HC Truck Loading)	ppm	213-242
2	Primary Treatment Unit of Truck Dispatch Area	ppm	59-89
3	Expansion ETP	ppm	131-172
4	Hazardous waste storage sites	ppm	0
5	Primary Treatment Unit of ISBL-1 process	ppm	42-134
6	At Battery Limit in CDU/VDU	ppm	0
7	At Battery Limit in CDU – II	ppm	0
8	Downwind of Oil Separation Basin Unit-8400 of base ETP	ppm	119-266
9	Primary Treatment Plant of Crude Tank Storage (COT) Area	ppm	10-13.4
10	Sludge Pit 1	ppm	0-0.8
11	Sludge Pit 2	ppm	1-3.2
12	Sludge Pit 3	ppm	0-1.4

Note: Monitoring is carried out in the areas where probability of hydrocarbon presence is high. Monitoring is done by hand held (portable meter – detection limit 10000 ppm) VOC meter on monthly basis.

Legends:

VOC: Volatile Organic Compounds

PIT: Product Intermediate Tank

CDU/VDU: Crude Distillation Unit / Vacuum Distillation Unit

CDU - II: Crude Distillation Unit - II

ETP: Effluent Treatment Plant

COT: Crude Oil Tank

Annexure – V
Treated water quality monitoring data

Period: Oct'2020 to Mar'2021

Frequency of monitoring: Monthly

Pollutant Parameters	Unit	Limit specified by SPCB in CCA	Quality of Treated Effluent* Min-Max
pH	-	6.5 – 8.5	6.72-7.62
Suspended Solids	mg/l	20	16-18
Oil & Grease	mg/l	5	<2
Phenol (as C ₆ H ₅ OH)	mg/l	0.35	<0.1
Sulphide (as S)	mg/l	0.50	0.24-0.31
BOD (3 days, 27 °C)	mg/l	15	5-10
COD	mg/l	125	28.2-41.6
Cyanide (as CN)	mg/l	0.2	<0.05
Ammonia as N	mg/l	15	<2
TKN	mg/l	40	<2
P	mg/l	3	0.021-0.12
Cr (Hexavalent)	mg/l	0.1	<0.05
Cr (Total)	mg/l	2	<0.05
Pb	mg/l	0.1	<0.01
Hg	mg/l	0.01	<0.001
Zn	mg/l	5	<0.05
Ni	mg/l	1	0.026-0.041
Cu	mg/l	1	0.062-0.072
V	mg/l	0.2	<0.01
Benzene	mg/l	0.1	<0.001
Benzo(a)- Pyrene	mg/l	0.2	<0.001

*Third party monitoring results.

Annexure – VI
Monitoring Results of Ground Water Quality of Surrounding Village



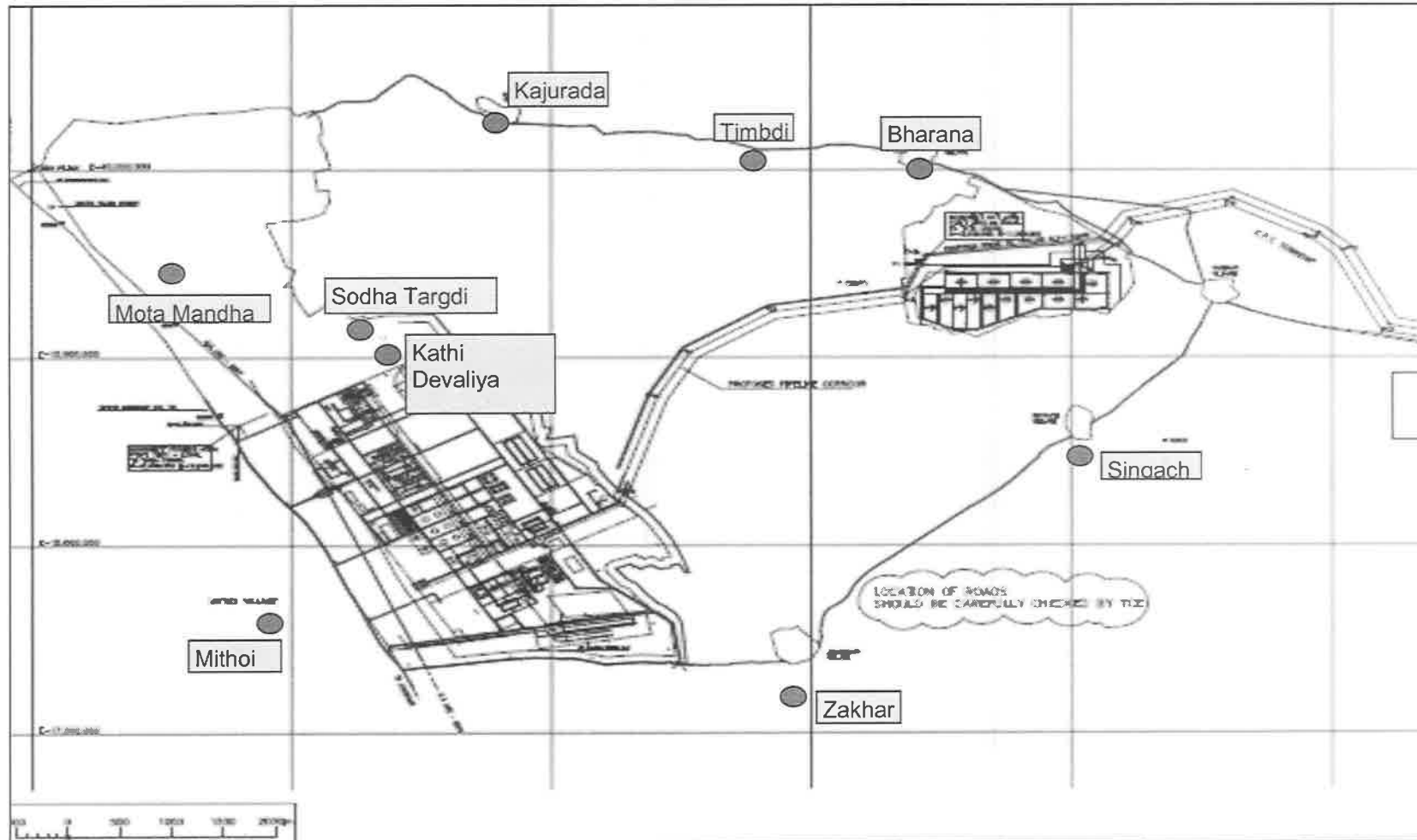
Monitoring Results of Ground Water Quality of Surrounding Villages

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*** Well water samples collected and analyzed in December, 2020**

Annexure – VI
Monitoring Results of Ground Water Quality of Surrounding Village



Location of Villages

Annexure – VII

CHARTER ON CORPORATE RESPONSIBILITY FOR ENVIRONMENTAL PROTECTION

Sector: Petroleum Crude Oil Refineries
March 2003

Name of Industry: **Nayara Energy Limited**
(Formerly known as Essar Oil Limited),
Address: Essar Oil Limited, Post Box 24
PO: Khambhalia, Jamnagar – Okha
Highway, Dev bhumi Dwarka-361005

Code: 09

Sr. No./ Activity code No	Action Point (in brief)	Action Taken Report
A	AIR POLLUTION MANAGEMENT	
1.	All the refineries located in the critically polluted areas, identified by CPCB, will submit an action plan (within six months) for phase wise reduction of SO ₂ emission from the present level	<i>Not Applicable:(Our refinery is neither identified by CPCB nor located in critically polluted area, hence condition is not applicable to us)</i>
2.	Future refineries will have Sulphur Recovery Unit (SRU) with minimum 99% efficiency	<i>Sulphur Recovery Units are operating at 99.9% efficiency.</i>
3.	To enhance the efficiency of SRUs in the existing refineries, an expert committee will be constituted to look into various aspects and suggest a road map within six months.	<i>Sulphur Recovery Units are operating at 99.9% efficiency.</i>
4.	With regard to NO _x emission, the new refineries/process units will install low NO _x burners. For retrofitting of low NO _x burners in existing units, the expert committee will suggest the strategies and action plan within six months including NO _x standard.	<i>All Heaters / boilers are equipped with Low NO_x burners.</i>
5.	The flare losses will be minimized and monitored regularly	<i>Flare loss is being estimated based on material balance and immediate actions are being taken to minimize losses.</i>
6.	Refineries will install continuous emission monitoring systems for SO _x and NO _x in major stacks with proper calibration facilities. Action plan for this will be submitted within six months	<i>Stacks are already provided with continuous on-line emission monitoring systems for parameters SO₂ and NO_x since start-up of refinery in 2006. Coninuous Emission Monitoring data has been sent to CPCB server since June 2015.</i>

Sr. No./ Activity code No	Action Point (in brief)	Action Taken Report
7.	Refineries will also monitor total HC and Benzene in the premises (particularly at loading / un-loading operations and ETP). The status and action plan will be submitted within six months.	<p>VOC monitoring is carried out in the vicinity of all potential sources of HC emission such as Primary ETP, Secondary ETP, Truck Loading Gantry, and Rail Loading Gantry. This is being done on monthly basis. VOC emission monitoring results are attached as Annexure-IV.</p> <p>The detection limit of the instrument used for measurement of VOC is 0 to 10,000 PPM.</p>
8.	The expert committee will also suggest an action plan, within six months, for control and monitoring of hydrocarbon loss & VOC emissions, leak detection and repair (LDAR) program and vapor recovery systems (for loading & unloading operations within refineries only).	<p>We have established LDAR program. Under this program, total 49057 points were monitored during Oct'2020 to Mar'2021. The maximum TVOC concentration was 3500 PPM at 161P-221G discharge isolation valve gland in PIT area which was attended and the concentration came to 41 PPM.</p>
B	WASTE WATER MANAGEMENT	
1.	Refineries will prepare action plan for conservation of water resources and maximizing reuse/ recycling of treated effluent within six months. The treated effluent discharge quantity (excluding once through cooling water) will be limited to 0.4 m ³ /per Ton (for 90% of time) except for the monsoon season.	<p>During period of Oct'2020 to Mar'2021, 88% (approx) of treated effluent was reused / recycled within refinery for the fire water make up, service water, feed to cooling tower make up and as a RO feed.</p>
2.	Oil spill response facilities at coastal refineries will be in position within two years. To facilitate this, MoEF will coordinate with Coast Guards, Port Trust and other departments	<p>Oil Spill Disaster Contingency Plan Tier-1 response has been approved by Indian Coast Guard (ICG). Regular Oil spill mock drills (once in 6 month Tier-1 mock drill) are conducted with ICG & Dindayal Port Trust (Formerly known as Kandla Port Trust KPT).</p>
C	SOLID WASTE MANAGEMENT	
1.	Refineries will explore new technologies for reduction in the generation of oily sludge. Strategy and action plan for liquidation of existing sludge will be submitted within six months	<p>ETP Oily sludge is recycled in Delayed Coker Unit(DCU), apart from that oily sludge is sent to M/s Digvijay Cement for co-processing in their cement industry.</p>

Sr. No./ Activity code No	Action Point (in brief)	Action Taken Report
2.	The petroleum coke having high sulphur content will only be sold to/ reused by organized industries (having consent from SPCBs), which have systems to control SO ₂ emissions. This will be ensured by June 2003.	<i>Pet coke is sold to reputed Cement Manufactures such as ACC, Ambuja, Shree Cement, JK Cement, Ultratech Cement, Diamond Cement, Manglam Cement, Orient Cement etc.</i>
NEW ACTION POINTS AS PER FIRST MEETING ON REVISED NATIONAL TASK FORCE HELD ON OCTOBER 09, 2009		
1	Refineries will carry out monitoring and survey to assess HC loss and concentration of VOC in Ambient Air/ Wastewater treatment plant. (Action plan was to be submitted by Jan 2010)	<i>Same as Sr. No. 8 above.</i>
2	Refineries will assess the quantity of flare gas. (Install the measurement system if the same is not possible) (Action plan was to be submitted by March 2010)	<i>The flare loss is being assessed on monthly basis and monthly avg. flare loss for the period of Oct'2020 to Mar'2021 is 0.37% of crude processed.</i>
3	Assessment of Potential leakages from petroleum storage tanks. (Action plan was to be submitted by Jan 2010)	<i>All tanks are above grounds. The highly volatile products / crudes are stored in floating roof tanks which are monitored regularly; so far we did not find any leakages from these tanks.</i>
4	Cleaner Technology options and information to be provided to CPCB. (to be submitted by Feb 2010)	<i>In addition of FO and FG, we are using NG as fuel in heaters / furnaces to the extent of NG available in the market.</i>

Abbreviations:

FO: Fuel Oil

FG: Fuel Gas

LDAR: Leak Detection & Repair

VOC: Volatile Organic Compounds

KPT: Kandla Port Trust

SPCB: State Pollution Control Board

CPCB: Central Pollution Control Board



Annexure – VIII

NIO'S RECOMMENDATIONS & THEIR COMPLIANCE STATUS

NIO carried out Environment Impact Assessment (EIA) sequential studies for marine facilities of M/s Essar Oil Ltd (Now Nayara Energy Limited), Vadinar from 1994 onwards. The compliance status of the salient recommendations stipulated in those studies is given below:

- 1. Diffuser for discharge of return sea water into Gulf of Kutch:**
Diffuser has been installed as per the design and recommendations of NIO.
- 2. Overall Risk Assessment of Marine Facility:**
Risk assessment was carried out through the third party, viz. M/s Enviro-Software, Bangalore.
- 3. Contingency plan for Oil Pollution Control:**
Based on overall risk assessment, Oil Spill Disaster Contingency Plan has been prepared, vetted by Indian Coast Guard and then implemented.
- 4. Translocation of Corals:**
Coral transplantation was carried out by NIO in consultation with Department of Forests, Government of Gujarat.
- 5. Periodic Monitoring of Corals and Mangroves:**
Initially, monitoring were carried out on ½ yearly basis for couple of years and thereafter it were undertaken on yearly basis as per NIO's recommendation and GoG's directives. Latest comprehensive marine monitoring along with the monitoring of Corals & Mangroves was done by NIO in November 2020.
- 6. Monitoring of Marine Environment:**
Marine environment is being monitored for water and sediments quality every month by third party – M/s Gujarat Institute of Desert Ecology (GUIDE), Bhuj from November'2010 onward.
- 7. Erection and Installation of all Marine Structures:**
Erection and installation of all Marine Structure was carried out as per the recommendation of CWPRS (Central Water Power Research Station) and NIO.
- 8. Periodic Inspection and Replacement of Flexible Hoses:**
Periodic inspection and replacement of hoses are carried out as per schedule and maintained as per OEM, OCIMF and requirements of our Class ABS. The flexible hoses were tested in Oct'2020 for their integrity as per international norms and were found satisfactory after pressure test. The safety breakaway couplings have been provided in the system.

During public hearing following point has been discussed and the compliance of the same as submitted in GPCB is given below.

Sr. No.	Public Queries	PH coordinating Officer's Reply
Shri Jitubhai Bhatt local villager, stated		
1	<p>Due to any Industrial activity people get direct employment as well as indirect employment. This company should therefore keep local village people in direct employment.</p> <p>Skilled category people are being recruited from outside the State. Company should make necessary arrangement to see that locals are made skilled and then recruited these locally skilled people within the company.</p>	<p>Company already complying with the GR of Government of Gujarat regarding 85% of local employment. Since the definition of the local as stated earlier is restricted to state of Gujarat as whole and so it is not within the purview of this company to change the definition of "locals".</p> <p>The company officials further informed that if qualified persons are available from nearby area the company is committed to give top priority to them.</p>
Shri Dilipbahi Jadeja, Ex Sarpanch of Vadinar, stated		
2	Each farmer whose land has been acquired should be given employment within the company.	At present no additional land is going to be acquired. The present land was acquired way back in 1993. Also that preference would be given to people of the nearby village as per their skills.
3	Fodder for the cattle of nearby villages should be provided by the company	Fodder distribution in nearby villages is being done; Infrastructures - Gaushalas of nearby area have been upgraded.
	 <p style="text-align: center;">Gaushala Construction</p>	 <p style="text-align: center;">Gaushala Renovation</p>
4	Pipelines for water supply in vadinar village should be provided by the company.	Water supply Pipeline has been laid to 4 villages namely Mithoi, Zankhar, Singach & Vadinar and rest 6 villages are provided with drinking water by road tankers.

Annexure - IX

Compliance status of Public Hearing points on Socio-economic & CSR activities.



Shri Chandubhai Jadeja of village Vadinar, stated		
5	The company should give preference in employing people of nearby area so that socio economic status of the nearby area also as upgraded. He further added that company should initiate for an ITI center in coordination with Government, so that youth of the nearby village can take necessary advantage.	They welcome the suggestion for setting up an ITI center and would try to support such institute, if the government proposal in this regard comes to it. Separate budget is allocated under CSR.
Shri Kishorsinh Jadeje of Jankhar village, stated		
6	The company should give employment to people whose land has been acquired.	At present no additional land is going to be acquired. The present land was acquired way back in 1993. However company has taken 300 people of nearby area for greenbelt development purpose.
Shri Mahesh Pandya from Paryavaran Mitra, stated		
7	Government GR of 85% local employment should be implemented.	Government GR of 85% local employment has been already implemented.
8	Nearby villagers should be given preference for new recruitment.	If qualified person are available in nearby area, company is giving priority to them.

Annexure-X
CSR Activities of Nayara Energy Limited



Nayara Energy Limited is committed to maintaining the highest standards of Corporate Social Responsibility (CSR) in its business activities and aims to make a difference to the communities around. Nayara Energy Limited 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'2020 to Mar'2021 are as under:

Nayara Energy Limited CSR Expense			
Sr. No.	Sector		Total Expenditure In Cr (Oct'2020 to Mar'2021)
1	Health & Sanitation	Community Health Programme	2.11
		Mobile Medical Unit	0.22
		Project Tushti	1.34
		Waste collection & disposal in 5 villages	0.41
		UNICEF	2.00
2	Sustainable Livelihoods	Livelihood Project (WRD, Smart Agri. AH, WE) including community radio	4.50
		Sustainable Livelihoods (Wardha)	0.16
3	Education and Employability	NIOS	0.08
		Vocational Education and Soft Skill in schools	0.50
		School support program (Wardha)	0.10
4	Environment Sustainability	Plastic Recycling (New)	4.49
5	Small Grants (Covid 19) / Infrastructure Development/ Rural Development Projects/ Contingency	Small Grants (Covid 19) / Infrastructure Development/ Rural Development Projects/ Contingency	0.40
		Navtar Project	0.15
6	Monitoring and Evaluation of CSR Projects, Third Party Assessment	External Assessment, Monitoring and Evaluation, Training and capacity building	0.04
Total Expenditure in Oct'2020 to Mar'2021			16.51

**Annexure - XI
Noise Monitoring Results**

Period: Oct'2020 to Mar'2021

Frequency of monitoring: Monthly

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
Ambient Station at Port A Camp	52-53	48.2-51.8
Ambient Station at Labour Gate	52.4-53.2	50.2-52.2
Ambient Station at West side of Main Flare1	52.2-53.2	48-52.4
Nr. Batching Plant	52-53	50-52.4
Ambient Station at 93 Gate	51.8-52.4	49.4-51.8
Storm water drain outlet	53-53.8	50.8-52.6
Ambient Station at Refinery Main Gate	52-53.2	48.2-52.2
Petrol Pump (Near Delhi Darbar)	53.4-54.6	50.6-53.2
Ambient Station at Pet Coke Rail Loading Yard	52.2-53.2	49.2-52.6
Ambient Air Quality standards in terms of Noise for industrial area	75 dB(A)	70 dB(A)

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

Environment Clearance for expansion of refinery capacity from 20 MMTPA to 46 MMTPA with Petrochemical Complex

(Ref.: File No. J-11011/320/2006-IA-II (I) dated 05th January, 2021)

Status as on 01st April 2021

Sr. No.	Specific Conditions	Current Status
I	<p>The environmental clearance is subject to obtaining prior clearance from the wildlife angle, including clearance from the Standing Committee of the National Board for Wildlife, as applicable, as per the Ministry's OM dated 8th August, 2019. Grant of environmental clearance does not necessarily imply that Wildlife Clearance shall be granted to the project and that their proposal for Wildlife Clearance will be considered by the respective authorities on its merit and decision taken.</p>	<p>At present, project construction is yet to start.</p> <p>The proposed expansion will take place at the land available within the existing refinery premises only.</p>
II	<p>The project proponent shall prepare a site specific conservation plan and wildlife management plan in case of the presence of Schedule-1 species in the study area, as applicable to the project, and submit to Chief Wildlife Warden for approval. The recommendations shall be implemented in consultation with the State Forest/Wildlife Department in a time bound manner.</p>	<p>The project construction and execution is yet to start.</p> <p>Site specific Conservation plan will be implemented upon start of the project execution</p> <p>Site specific conservation plan covering Schedule-1 species 'Indian Peafowl' has been prepared & approved by Chief Wild Life Warden.</p> <p>As per the Wildlife conservation Plan, budgetary provision in the tune of INR. 40 Lacs has been made for 10 years period for the activities mentioned in conservation plan @ INR. 4 lacs per year for next 10 years. Details of activities covered under the</p>

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

		Conservation plan and cost break-up is included in approved Peafowl conservation plan.
III	<p>The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry.</p> <p>All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.</p>	<p>At present, project construction is yet to start .</p> <p>We assure to comply all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry.</p>
IV	<p>The treated effluent of 536.5 MLD Desalination/RO Reject & 36.5 MLD shall be sent for deep sea discharge through diffuser recommended by NIO.</p>	<p>The project construction and execution is yet to start.</p> <p>This is an expansion project and the treated effluent of 536.5 MLD Desalination/RO Reject & 36.5 MLD shall be sent for deep sea discharge through diffuser recommended by NIO. Will be complied with after carrying out necessary studies in this regard.</p>
V	<p>The National Emission Standards for Petroleum Oil Refinery issued by the Ministry vide G.S.R. 186(E) dated 18th March, 2008 and G.S.R. 595(E) dated 21st August, 2009 as amended from time to time, shall be followed.</p>	<p>We assure to comply with the stipulated condition.</p>
VI	<p>Volatile organic compounds (VOCS)/Fugitive emissions shall be controlled at 99.997% with effective chillers/modern technology. For emission control and management, use of FG/NG in heater as fuel, adequate stack height, use of Low NOX burners in heater & boiler, continuous stack monitoring, Sulphur recovery plant, etc. shall be installed/ensured.</p>	<p>We assure to comply with the condition</p>

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

VII	Total fresh water requirement for the proposed project shall not exceed 724 MLD to be met from Sea water. Necessary permission in this regard shall be obtained from the concerned regulatory authority.	Necessary clearances will be obtained in this regard.
VIII	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.	We assure to comply with the condition.
IX	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.	We assure to comply with the condition.
X	Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.	We assure to comply with the condition.
XI	Fly ash should be stored separately as per CPCB guidelines so that it should not adversely affect the air quality, becoming air borne by wind or water regime during rainy season by flowing along with the storm water. Direct exposure of workers to fly ash & dust should be avoided. The ash from boiler shall be sold to brick manufacturers/cement industry.	The condition is not applicable as ours is a Refinery and Petrochemical project.
XII	The company shall undertake waste minimization measures as below: - a. Metering and control of quantities of active ingredients to minimize waste. b. Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. c. Use of automated filling to minimize spillage. d. Use of Close Feed system into batch reactors.	At present, project construction is yet to start . We assure to undertake measures for waste minimization.

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

	<p>e. Venting equipment through vapour recovery system.</p> <p>f. Use of high pressure hoses for equipment clearing to reduce wastewater generation.</p>	
XIII	<p>The green belt of 5-10 m width shall be developed in the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. The project proponent shall ensure 33% greenbelt area vis-à-vis the project area through afforestation in the degraded area. The Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.</p>	<p>At present, project construction is yet to start .</p> <p>Total 33% greenbelt area vis-à-vis the project area will be developed.</p>
XIV	<p>The CER allocation shall be spent mainly for addressing the issues raised during public consultation/hearing including medical, education/skill development, potable water supply, solar lights, village roads, and scholarship for higher education, support to farmers & fishermen with better machinery, fodder for cattle, animal husbandry, and other miscellaneous development works etc., and shall be completed within 5 years. The amount proposed if any in CER shall be spent during execution of the project and shall not be linked with the CSR.</p>	<p>At present, project construction and execution is yet to start.</p> <p>Committed CER amount will be utilized as per the details submitted.</p>
XV	<p>For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.</p>	<p>We assure to comply with the condition.</p>
XVI	<p>The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.</p>	<p>We assure to comply with the condition.</p>
XVII	<p>Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of</p>	<p>At present, project construction is yet to start</p> <p>Continuous Online (24 x7) monitoring system for stack emissions and effluent monitoring have been installed</p>

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

	<p>effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.</p>	<p>for existing refinery and the data are being transferred to CPCB and SPCB server.</p> <p>The effluent generated from the process units is being received in ETP through closed pipelines.</p> <p>For Online Continuous effluent monitoring, We have installed flow meter at ETP outlet.</p> <p>We will continue the same practices during proposed expansion project also</p>
XVIII	<p>Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.</p>	<p>At present, project construction is yet to start .</p> <p>We assure to comply with the condition</p>
XIX	<p>Process safety and risk assessment studies shall be further carried out using advanced, models, and the mitigating measures shall be undertaken/implemented accordingly.</p>	<p>Risk assessment study with 3D modeling has already been done as a part of EIA studies & Submitted to MoEF & CC and the mitigation measures will be implemented accordingly.</p>
XX	<p>The PP should improve the efficiency of ETP Plant and the water discharge should be as per prescribed CPCB Norms. They should also install 24x7 hours monitoring system (of the discharge) and the same should be connected to the server of SCPB/CPCB.</p>	<p>At present, project construction is yet to start</p> <p>All Effluent Quality Monitoring Analyzers have been connected with SPCB / CPCB server for existing refinery.</p> <p>We assure to comply with the condition for proposed expansion.</p>

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

Sr. No.	General Conditions	Current Status
I	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	We will comply with the provision of EIA Notification, 2006 and amendments made thereunder. At present, project construction is yet to start
II	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.	We assure to comply with the condition. At present, project construction is yet to start.
III	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	At present, project construction is yet to start. Overall noise level in and around the plant area is being kept well within the standard by provision of noise control measures. The ambient noise level is being monitored for existing refinery and will be complied during proposed expansion project.
IV	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	At present, project construction is yet to start. Relevant measures for improving the socio-economic conditions of the surrounding area will be undertaken in line with integral part of the business strategy. CER activities shall be undertaken as per the details submitted.

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

V	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	At present, project construction is yet to start. We assure to comply with the condition. Sufficient funds of Capital & recurring cost provision for environment protection measures have been considered and will be utilized for the Environment Management only and will not be diverted for other purposes.
VI	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad /Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.	The copy of Environment Clearance order has been submitted to the District Collector Office Jamnagar & Devbhoomi Dwarka and the Regional office ,of Gujarat Pollution Control Board (GPCB).
VII	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MOEF&CC, the respective Zonal Office of CPCB and SPCB, A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.	Being complied. We assure to comply with the condition for proposed expansion.
VIII	The environmental statement for each financial year ending 31 st March in Form-V as is mandated shall be submitted 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 MOEF&CC by e-mail.	At present, project construction is yet to start. We assure to comply with the condition.

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

IX	<p>The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at https://parivesh.nic.in/. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.</p>	<p>Complied with.</p> <p>The advertisement within seven days from the date of issue of the clearance letter has been published in two local newspapers and has been forwarded to the concerned Regional Office of the Ministry/GPCB. Copy of the intimation to MoEF&CC, Regional Office, Bhopal regarding compliance of the same is attached herewith as Annexure-I.</p>
X	<p>The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.</p>	<p>Construction of the Project not started yet. However, Pre Project activities like Detailed Feasibility and Configuration selection and Soil investigation etc. has been already started. However we will inform the date of financial closure and final approval of the project to Regional Office of the Ministry once Project starts.</p>
XI	<p>This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.</p>	<p>Noted.</p>



Reference No. Nayara Energy/ENV/MoEF&CC/2021/1007
12th January, 2021

To,

Ministry of Environment, Forests and Climate Change,

Regional Office, Kendriya Paryavaran Bhavan,

E-5, Area Colony, Ravi Shankar Nagar, Link Road No. 3

BHOPAL – 462016

Subject : Regarding advertisement of Environmental Clearance in Newspapers.

Reference: Environmental clearance issued for Expansion of Refinery Capacity from 20 MMTPA to 46 MMTPA with Petrochemical Complex to M/s Nayara Energy Limited vide letter no Letter no. F. No. J-11011/320/2006-IA - II (I), dated: 05.01.2021

Dear Sir,

We are pleased to inform you that, M/s Nayara Energy Limited has been accorded Environmental Clearance for Expansion of Refinery Capacity from 20 MMTPA to 46 MMTPA with Petrochemical Complex at Vadinar, Devbhumi Dwarka, Gujarat. The copy of Environmental Clearance is attached herewith as **Annexure-1** for your kind reference.

As per the General Condition no. IX of Environmental Clearance, which states as under:

“The project proponent shall inform the public that the project has been accorded environment clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at <https://parivesh.nic.in/>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.”

Complying with above mentioned condition, we have published advertisement stating grant of Environment Clearance to Expansion of Refinery Capacity from 20 MMTPA to 46 MMTPA with Petrochemical Complex in two local newspapers (Gujarat Samachar & Times of India) dated



09.01.2021, which are widely circulated in region. Copy of Newspaper advertisement cutting is attached *herewith* as **Annexure-2**.

Request your good self to kindly acknowledge the advertisement published in widely circulated newspapers in this region and consider the General Condition as complied with.

Thanking You,

For **Nayara Energy Ltd.**

A handwritten signature in black ink, appearing to read "P. R. Dixit", is written over a horizontal line.

P. R. Dixit

Head HSEF

Enclosures:

- 1) Annexure-1 (Environmental Clearance issued by MoEF&CC for Expansion of Refinery Capacity from 20 MMTPA to 46 MMTPA with Petrochemical Complex to Nayara Energy Limited)
- 2) Annexure-2 (Advertisement on Grant of Environment clearance in two widely circulated local newspapers.)



Indira Paryavaran Bhawan,
Jal Wing, 3rd Floor, Aliganj,
Jor Bagh Road, New Delhi-110 003

Dated: 05th January, 2021

To,

M/s Nayara Energy Limited,
Vadinar, Devbhumi Dist. Dwarka,
Gujarat

Sub: Expansion of Refinery Capacity from 20 MMTPA to 46 MMTPA with Petro-Chemical Complex, M/s Nayara Energy Limited located at Vadinar, District: Devbhumi Dwarka, Gujarat - Consideration of Environment Clearance regarding.

Sir,

This has reference to your online proposal No. IA/GJ/IND2/175608/2018 dated 27th September, 2020 for environmental clearance to the above mentioned project.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance to expansion of Refinery Capacity from 20 MMTPA to 46 MMTPA with Petro-Chemical Complex, M/s Nayara Energy Limited located at Vadinar, District: Devbhumi Dwarka, Gujarat.

3. The details of products and capacity are as under:

Product Slate for Existing & Proposed Refinery

Sr. No.	Products	Capacity (KTPA)	
		Existing Refinery (20 MMTPA)	Ultimate Refinery (46 MMTPA)
1.	LPG	938	785
2.	Naphtha /MS	4,200	10,726
3.	Gasoline	872	624
4.	SKO/ATF	9,706	22,775
5.	Diesel/ HSD	220	-
6.	Furnace Oil/VGO	318	1,610
7.	Sulphur	2,247	2,191
8.	Petcoke	377	337
9.	Bitumen	-	110
10.	Ethanol	-	-
11.	Fuel & Losses	-	-
	a. Fuel	1,009	4,316
	b. Losses	111	476
	c. Propylene	-	2,050 *

*450 KTPA out of these are covered in ADP1 Project clearance

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Product Slate for the Proposed 10.75 MMTPA Petro-chemicals Complex

Sr. No.	Products	Capacity (KTPA)
1.	Propylene/Polypropylene (PP)	1000*
2.	Butadiene	180
3.	MTBE/ETBE	150
4.	Benzene	500
5.	PX	1400
6.	PTA	2,400
7.	LAB	200
8.	Polypropylene	1050
9.	HDPE	500
10.	LLDPE	550
11.	LDPE/ EVA	200
12.	MEG/DEG	800
13.	SM	500
14.	Phenol	200
15.	Acetone	125
16.	Bisphenol -A (BPA)	35
17.	Polycarbonate	130
18.	N-Butanol	50
19.	i- Butanol	10
20.	2 Ethyl Hexanol	120
21.	Neo Pentyl Glycol (NPG)	40
22.	Acrylic acid	10
23.	Acrylates (Butyl, Methyl, Ethyl)	300
24.	SAP	100
25.	Propylene Oxide (PO)/PG/Polyols	200

4. Total land area available is 22750000 m² (2275 Ha). Existing refinery is in 11710000 m² (1171 Ha) and proposed expansion will be in 11040000 m² (1104 Ha) area. No additional land will be acquired. Industry has already developed 410 Ha greenbelt areas for existing refinery and will develop 340 Ha for the proposed project; the total green belt area after proposed expansion will be 750 Ha which will be 33 % of total 2275 Ha project area. The estimated project cost of proposed expansion (Refinery plus petro chemical complex) is Rs. 1,30,000 Cr. Total capital cost earmarked towards environmental pollution control measures is Rs. 3923 Cr for expansion and the Recurring cost (operation and maintenance) will be about Rs. 30.4 Cr. per annum. Total Employment will be 2000 persons as direct & 12000 - 15000 persons indirect during expansion. Industry proposes to allocate Rs 74.58 Cr for next

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five years towards Corporate Social Responsibility however the budget numbers may vary depending on company's year on year financial performance.

- 5.** Total water requirement of 928 MLD will be met from Sea Water which includes 204 MLD for existing and 724 MLD for proposed expansion project. Effluent of 93 MLD quantity will be treated through effluent treatment plant and entire treated effluent will be utilized for service water, fire water make up, RO feed and horticulture. 536.5 MLD Desalination/RO Reject & 36.5 MLD sea water based cooling tower blow down will be sent for deep sea discharge through diffuser recommended by NIO.
- 6.** Power requirement after expansion will be 927 MW including existing 160 MW and will be met from CPP (Captive Power Plant). Existing unit has 27 DG sets of (125 kVA to 2000 kVA) capacity, additional 50 DG sets (125 kVA to 2000 kVA) will be used as standby during power failure. Stack (vary between 6 to 30 m) will be provided as per CPCB norms to the proposed DG sets.
- 7.** The project/activity is covered under category A of items 4(a) "Petroleum Refining Industry", 5(c) "Petro-chemical complexes" of the Schedule the Environment Impact Assessment (EIA) Notification, 2006 and requires appraisal at Central Level by the Expert Appraisal Committee (EAC) in the Ministry.
- 8.** The project proposal was considered by the Expert Appraisal Committee (Industry-2) in its 38th meeting held during 25-27th June 2018 and recommended Terms of References (ToR) for the Project. The ToR has been issued by Ministry vide letter No. J-11011/320/2006-IA-II(I); dated 03/08/2018.
- 9.** The proposal was considered by the EAC in its 24th meeting held on 19th October, 2020 in the Ministry, wherein the project proponent and their consultant M/s. National Environmental Engineering Research Institute presented made a detailed presentation on the salient features of the project.
- 10.** The EAC, constituted under the provision of the EIA Notification, 2006 and comprising of Experts Members/domain experts in various fields, have examined the proposal submitted by the Project Proponent in desired form along with PFR report prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the Project Proponent. The EAC noted that the Project Proponent has given undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the PFR report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.
- 11.** The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has found the baseline data and incremental GLC due to the proposed project within NAAQ standards. The Committee has also deliberated on the CER plan and found to be addressing the issues in the study area. Certified report on compliance of existing EC conditions also found to be satisfactory. The Committee also found the additional studies and information submitted and presented by the project proponent to be satisfactory. The EAC has deliberated the proposal and has made due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC have found the proposal in order and have recommended for grant of environmental clearance.



12. The environmental clearance granted to the project/activity is strictly under the provisions of the EIA Notification 2006 and its amendments. It does not tantamount/construe to approvals/consent/ permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The project proponent shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

13. Based on the proposal submitted by the project proponent and recommendations of the EAC (Industry-2), Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to the project for **expansion of Refinery Capacity from 20 MMTPA to 46 MMTPA with Petro-Chemical Complex, M/s Nayara Energy Limited located at Vadinar, District: Devbhumi Dwarka, Gujarat**, under the provisions of the EIA Notification, 2006, and the amendments therein, subject to compliance of the terms and conditions as under:-

A. Specific Conditions:

- (i). The environmental clearance is subject to obtaining prior clearance from the wildlife angle, including clearance from the Standing Committee of the National Board for Wildlife, as applicable, as per the Ministry's OM dated 8th August, 2019. Grant of environmental clearance does not necessarily imply that Wildlife Clearance shall be granted to the project and that their proposal for Wildlife Clearance will be considered by the respective authorities on its merit and decision taken.
- (ii). The project proponent shall prepare a site specific conservation plan and wildlife management plan in case of the presence of Schedule-1 species in the study area, as applicable to the project, and submit to Chief Wildlife Warden for approval. The recommendations shall be implemented in consultation with the State Forest/Wildlife Department in a time bound manner.
- (iii). The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.
- (iv). The treated effluent of 536.5 MLD Desalination/RO Reject & 36.5 MLD shall be sent for deep sea discharge through diffuser recommended by NIO.
- (v). The National Emission Standards for Petroleum Oil Refinery issued by the Ministry vide G.S.R. 186(E) dated 18th March, 2008 and G.S.R.595(E) dated 21st August, 2009 as amended from time to time, shall be followed.
- (vi). Volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.997% with effective chillers/modern technology. For emission control and management, use of FG/NG in heater as fuel, adequate stack height, use of Low NOX burners in heater & boiler, continuous stack monitoring, Sulphur recovery plant, etc. shall be installed/ensured.
- (vii). Total fresh water requirement for the proposed project shall not exceed 724 MLD to be met from Sea water. Necessary permission in this regard shall be obtained from the concerned regulatory authority.
- (viii). Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.

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- (ix). Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.
- (x). Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.
- (xi). Fly ash should be stored separately as per CPCB guidelines so that it should not adversely affect the air quality, becoming air borne by wind or water regime during rainy season by flowing along with the storm water. Direct exposure of workers to fly ash & dust should be avoided. The ash from boiler shall be sold to brick manufacturers/cement industry.
- (xii). The company shall undertake waste minimization measures as below: -
- Metering and control of quantities of active ingredients to minimize waste.
 - Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
 - Use of automated filling to minimize spillage.
 - Use of Close Feed system into batch reactors.
 - Venting equipment through vapour recovery system.
 - Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- (xiii). The green belt of 5-10 m width shall be developed in the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. The project proponent shall ensure 33% greenbelt area vis-à-vis the project area through afforestation in the degraded area. The Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- (xiv). The CER allocation shall be spent mainly for addressing the issues raised during public consultation/hearing including medical, education/skill development, potable water supply, solar lights, village roads, and scholarship for higher education, support to farmers & fishermen with better machinery, fodder for cattle, animal husbandry, and other miscellaneous development works etc., and shall be completed within 5 years. The amount proposed if any in CER shall be spent during execution of the project and shall not be linked with the CSR.
- (xv). For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
- (xvi). The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.
- (xvii). Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.
- (xviii). Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

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- (xix). Process safety and risk assessment studies shall be further carried out using advanced models, and the mitigating measures shall be undertaken/implemented accordingly.
- (xx). The PP should improve the efficiency of ETP Plant and the water discharge should be as per prescribed CPCB Norms. They should also install 24x7 hours monitoring system (of the discharge) and the same should be connected to the server of SCPB/CPCB.

13.1. General conditions:

- (i) No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- (ii) The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
- (iii) The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- (iv) The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- (v) The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.
- (vi) A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- (vii) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- (viii) The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted 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 MoEF&CC by e-mail.

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environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at <https://parivesh.nic.in/>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.

- (x) The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
- (xi) This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.

14. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.

15. 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.

16. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

17. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 read with subsequent amendments therein.

18. This issues with the approval of the competent authority.

Ashok Kr. Pateshwary
05/01/2021

(Ashok Kr. Pateshwary)
Director

Copy to: -

1. The Principal Secretary, Forests & Environment Department, Government of Gujarat, Sachivalaya, 8th Floor, Gandhi Nagar - 382 010 (Gujarat)
2. The Chief Conservator of Forests (Western Zone), Ministry of Environment & Forests, Regional Office, E-5, Arera Colony, Link Road -3, Bhopal - 462 016 (M P)
3. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi -32

4. The Member Secretary, Gujarat State Pollution Control Board, Paryavaran Bhawan, Sector 10 A, Gandhi Nagar-382 043 (Gujarat)
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi
6. The District Collector, District Dwarka, Gujarat
7. Guard File/Monitoring File/Parivesh portal/Record File

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05/01/2021

(Ashok Kr. Pateshwary)
Director

Environment Clearance Advertisement:

PUBLICATION NAME : TIMES OF INDIA (English Daily)
CITY : Ahmedabad edition
DATE : 09-01-2021 (Saturday)
PAGE NO. : 08

TITLE: Public Notice for the Environment Clearance granted by MoEF&CC on 05.01.2021 for Expansion of Refinery capacity from 20 MMTPA to 46 MMTPA with petro chemical complex to M/s Nayara Energy Ltd.

PUBLIC NOTICE

This is to bring to the Public Notice that Government of India, Ministry of Environment, Forest and Climate Change has accorded Environment Clearance for the 'Expansion of Refinery Capacity from 20 MMTPA to 46 MMTPA with Petro-Chemical Complex by M/s Nayara Energy Limited located at Vadinar, District: Devbhumi Dwarka, Gujarat with specific and general conditions on date 05.01.2021 under the provisions of EIA Notification, 2006 and amendments/circulars issued thereon.

Copies of Environmental Clearance letter are available with the Gujarat Pollution Control Board and may also be seen at Website of the Ministry of Environment, Forest & Climate Change at <https://parivesh.nic.in/>.

Head Projects,
Nayara Energy Limited

Environment Clearance Advertisement:

PUBLICATION NAME : Gujarat Samachar (Gujarati Daily)
CITY : Rajkot edition
DATE : 09-01-2021 (Saturday)
PAGE NO. : 11

TITLE: Public Notice for the Environment Clearance granted by MoEF&CC on 05.01.2021 for Expansion of Refinery capacity from 20 MMTPA to 46 MMTPA with petro chemical complex to M/s Nayara Energy Ltd.

જાહેર નોટિસ

આથી જાહેર જનતા ના ધ્યાને લાવવા માં આવે છે કે, ભારત સરકાર, પર્યાવરણ, વન અને આબોહવા પરિવર્તન મંત્રાલયે ઇ.આઇ.એ. સૂચન, 2006 અને તેમાં જારી સુધારા / પરિપત્રોની જોગવાઈ ઓ હેઠળ વાડીનાર, દેવભૂમિ દ્વારકા સ્થિત મેસર્સ નયારા એનર્જી લિમિટેડ દ્વારા પેટ્રો-કેમિકલ કોમ્પ્લેક્સ સાથે રિફાઇનરી ક્ષમતા 20 એમએમટીપીએ થી 46 એમએમટીપીએ સુધીના વિસ્તરણ પ્રોજેક્ટને વિશિષ્ટ અને સામાન્ય શરતો સાથે તા. ૦૫/૦૧/૨૦૨૧ ના રોજ પર્યાવરણીય મંજૂરી આપીદીધી છે.

પર્યાવરણીય મંજૂરી પત્ર ની નકલો ગુજરાત પ્રદૂષણ નિયંત્રણ બોર્ડ પાસે ઉપલબ્ધ છે અને પર્યાવરણ, વન અને આબોહવા પરિવર્તન મંત્રાલયની વેબસાઇટ <https://parivesh.nic.in/> પર પણ જોઇ શકાય છે.

હેડ પ્રોજેક્ટ્સ,
નયારા એનર્જી લિમિટેડ

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

Environment Clearance for Expansion of Refinery (Asset Development Project-1) through modernization

(Ref.: File No. J-11011/320/2006-IA-II (I) dated 05th November, 2020)

Status as on 1st April, 2021

Sr. No.	Specific Conditions	Current Status
I	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	At present, project construction activities are yet to start. We assure to comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry.
II	The treated effluent of 108.4 MLD (Desalination/RO Reject) & 36.5 MLD shall be sent for deep sea discharge through diffuser recommended by NIO.	At present, project construction activities are yet to start. For existing refinery, Brine from desalination plants / RO Reject and cooling tower blow down is being discharged to sea through well designed diffuser at a location identified by National Institute of Oceanography. The quantity of sea water return to sea is monitored daily and is well below the stipulated limits.
III	The National Emission Standards for Petroleum Oil Refinery issued by the Ministry vide G.S.R. 186(E) dated 18 th March, 2008 and G.S.R. 595(E) dated 21 st August, 2009 as amended from time to time, shall be followed.	Nayara Energy Limited (Formerly known as Essar Oil Limited) is in compliance with the conditions given for Oil & Gas Industries in GSR 186 (E) dated 18 th March, 2008. The design of refinery units incorporates process features and equipment in such a manner to comply with all the norms prescribed

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

		in GSR 186 (E) dated 18 th March 2008 and G.S.R. 595(E) dated 21 st August, 2009.
IV	<p>Volatile organic compounds (VOCS)/Fugitive emissions shall be controlled at 99.997% with effective chillers/modern technology. For emission control and management, use of FG/NG in heater as fuel, adequate stack height, use of Low NOX burners in heater & boiler, continuous stack monitoring, Sulphur recovery plant, etc. shall be installed/ensured.</p>	We assure to comply with the condition
V	<p>Total fresh water requirement for the proposed project shall not exceed 17.3 MLD to be met from Sea water. Necessary permission in this regard shall be obtained from the concerned regulatory authority.</p>	<p>At present, project construction activities are yet to start.</p> <p>Total fresh water requirement for the proposed project will be met from sea water. Existing sea water intake facility will be sufficient for ADP-1 project. Necessary permission for existing sea water intake facility is already in place.</p>
VI	<p>Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.</p>	We assure to comply with the condition.
VII	<p>Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.</p>	We assure to comply with the condition.
VIII	<p>Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.</p>	We assure to comply with the condition.

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

IX	<p>Fly ash should be stored separately as per CPCB guidelines so that it should not adversely affect the air quality, becoming air borne by wind or water regime during rainy season by flowing along with the storm water. Direct exposure of sworkers to fly ash & dust should be avoided. The ash from boiler shall be sold to brick manufacturers/cement industry.</p>	<p>The condition is not applicable as ours is a Refinery and Petrochemical project.</p>
X	<p>The company shall undertake waste minimization measures as below:</p> <ul style="list-style-type: none"> a. Metering and control of quantities of active ingredients to minimize waste. b. Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. c. Use of automated filling to minimize spillage. d. Use of Close Feed system into batch reactors. e. Venting equipment through vapor recovery system. f. Use of high pressure hoses for equipment clearing to reduce wastewater generation. 	<p>We assure to undertake measures for waste minimization.</p>
XI	<p>The green belt of 5-10 m width shall be developed in the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. The project proponent shall ensure 33% greenbelt area vis-à-vis the project area through afforestation in the degraded area. The Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.</p>	<p>At present, project construction activities are yet to start. Total 33% green belt area will be developed.</p>

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

XII	As proposed 0.25% of the total project cost shall be allocated towards Corporate Environmental Responsibility (CER). As proposed, the CER allocation shall be spent mainly for addressing the issues raised during public consultation/hearing including education/skill development/solar lights, etc., and shall be completed within 5 years. The amount proposed in CER shall be spent during execution of the project and shall not be linked with the CSR.	At present, project construction activities are yet to start. Committed CER amount will be utilized as per the details submitted.
XII	For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.	We assure to comply with the condition.
XIV	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.	We assure to comply with the condition.
XV	Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.	Continuous Online (24 x7) monitoring system for stack emissions and effluent monitoring have been installed for existing refinery and the data are being transferred to CPCB and SPCB server. The effluent generated from the process units is being received in ETP through closed pipelines. For Online Continuous effluent monitoring, We have installed flow meter at ETP outlet. We will continue the same practices during proposed expansion project also

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

XVI	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	At present, project construction activities are yet to start. Occupational health surveillance of the workers shall be done on a regular basis and records will be maintained as per the Factories Act. We will continue the same practices during proposed expansion project also.
XVII	Process safety and risk assessment studies shall be further carried out using advanced, models, and the mitigating measures shall be undertaken/implemented accordingly.	Risk assessment study with 3D modeling has already been done as a part of EIA studies and the mitigation measures will be implemented accordingly.
XVIII	The PP should improve the efficiency of ETP Plant and the water discharge should be as per prescribed CPCB Norms. They should also install 24x7 hours monitoring system (of the discharge) and the same should be connected to the server of SCPB/CPCB.	At present, project construction activities are yet to start. All Effluent Quality Monitoring Analyzers have been connected with SPCB / CPCB server for existing refinery. We assure to comply with the condition for proposed expansion.
Sr. No.	General Conditions	Current Status
I	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Noted. We assure to comply with the provision of EIA Notification, 2006 and amendments made thereunder. We confirm that No further expansion or modifications in the plant will be carried out without prior approval of the Ministry of Environment, Forest and Climate Change.

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

II	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.	At present, project construction is yet to start. We assure to comply with the condition.
III	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	At present, project construction is yet to start. Overall noise level in and around the plant area is being kept well within the standard by provision of noise control measures. The ambient noise level is being monitored for existing refinery and will be complied during proposed expansion project.
IV	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	At present, project construction is yet to start. All relevant measures for improving the socio-economic conditions of the surrounding area will be undertaken. CER activities will be undertaken as per the documents submitted.
V	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	At present, project construction is yet to start. We assure to comply with the condition.

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

VI	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad /Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal.	The copy of Environment Clearance order has been submitted to the District Collector Office Jamnagar & Devbhoomi Dwarka and the Regional office ,of Gujarat Pollution Control Board (GPCB).
VII	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MOEF&CC, the respective Zonal Office of CPCB and SPCB, A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.	Being complied. We assure to comply with the condition for proposed expansion.
VIII	The environmental statement for each financial year ending 31 st March in Form-V as is mandated shall be submitted 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 MOEF&CC by e-mail.	We assure to comply with the condition.
IX	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at https://parivesh.nic.in/ . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language	Complied with. The advertisement within seven days from the date of issue of the clearance letter has been published in two local newspapers and has been forwarded to the Regional Office of the Ministry/GPCB. Copy of the intimation to MoEF&CC, Regional Office, Bhopal regarding compliance of the same is attached herewith as Annexure-I.

EC CONDITIONS CURRENT COMPLIANCE STATUS OF NAYARA ENERGY LIMITED, VADINAR, GUJARAT

	of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	
X	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Construction of the Project not started yet. However, Pre Project activities like Detailed Feasibility and Configuration selection and Soil investigation etc. has been already started. We will inform the date of financial closure and final approval of the project to Regional Office of the Ministry once Project starts.
XI	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.	Noted.



Reference No. Nayara Energy/ENV/GPCB/2020/992

11th November, 2020

To,

Ministry of Environment, Forests and Climate Change,

Regional Office, Kendriya Paryavaran Bhavan,

E-5, Area Colony, Ravi Shankar Nagar, Link Road No. 3

BHOPAL – 462016

Subject : Regarding advertisement of Environmental Clearance in Newspapers.

Reference : Environmental clearance issued for Asset Development Project-1 (ADP-1) by M/s Nayara Energy Limited vide letter no. F. No. J-11011/320/2006-IA II (I), dated: 05.11.2020.

Dear Sir,

We are pleased to inform you that, M/s Nayara Energy Limited has been accorded Environmental Clearance for Asset Development Project-1 (ADP-1) for the expansion of refinery through modernization at Vadinar, Devbhumi Dwarka, Gujarat. The copy of Environmental Clearance is attached herewith as **Annexure-1** for your kind reference.

As per the General Condition no. IX of Environmental Clearance, which states as under:

“The project proponent shall inform the public that the project has been accorded environment clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at <https://parivesh.nic.in/>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.”

Complying with above mentioned condition, we have published advertisement stating grant of Environment Clearance to our Asset Development Project-1 in two local newspapers (Gujarat Samachar & Times of India) dated 11.11.2020, which are widely circulated in region. Copy of Newspaper advertisement cutting is attached *herewith* as **Annexure-2**.

Registered Office:

Khambhalia, Post Box No.24, Dist. Devbhumi Dwarka, Gujarat 361 305, India
T +91 2833 661444 | F +91 2833 662929

CIN: U11100GJ1989PLC032116
www.nayaraenergy.com

Nayara Energy Limited (Formerly Essar Oil Limited)

5th 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



Request your good self to kindly acknowledge the advertisement published in widely circulated newspapers in this region and consider the General Condition as complied with.

Thanking You,

For **Nayara Energy Ltd.**

A handwritten signature in blue ink, appearing to read "P. R. Dixit", is written over a horizontal line.

P. R. Dixit

Head HSEF

Enclosures:

- 1) Annexure-1 (Environmental Clearance issued by MoEF&CC for Asset Development Project-1 by Nayara Energy Limited)
- 2) Annexure-2 (Advertisement on Grant of Environment clearance in two widely circulated local newspapers.)



F.No. J-11011/320/2006- IA II (I)
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

By Speed Post/Online

Indira Paryavaran Bhawan
 Jorbagh Road, New Delhi - 110003

Dated: 5th November, 2020

To

M/s Nayara Energy Limited,
 Khambhalia, PO Box.24
 District Devbhumi Dwarka
 Gujarat - 361 305

Email: priya.ayengar@nayaraenergy.com

Sub: Expansion of Refinery (Asset Development Project-1) through modernization by M/s Nayara Energy Limited located at Vadinar, Devbhumi Dwarka, Gujarat - Environmental Clearance regarding

Sir,

This has reference to your proposal No. IA/GJ/IND2/152329/2020 dated 20th July, 2020 for environmental clearance to the above mentioned project.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance to the project for Expansion of Refinery (Asset Development Project-1) through modernization by M/s Nayara Energy Limited located at Vadinar, Devbhumi Dwarka, Gujarat.

3. The details of products and capacity as under:

S. No.	Products	Production Capacity (KTPA)	
		Existing (20 MMTPA)	Post ADP1(20 MMTPA)
1.	LPG	938	1208
2.	Naphtha	4200	3540
3.	Gasoline		
4.	SKO/ATF	872	732
5.	Diesel/ HSD	9706	10245
6.	Furnace Oil/VGO	220	35
7.	Sulphur	318	319
8.	Petcoke	2247	2287
9.	Bitumen	377	-
10.	Polypropylene	-	450
11.	Fuel & Losses		
	a. Fuel	1009	1066
	b. Losses	111	117

4. Total land area of the project is 2,27,50,000 sqm. Out of which 4,00,000 sqm land will be utilized for the proposed project. Industry has already developed Greenbelt in an area of 34% i.e. 41,00,000 sqm out of total area of the project. The

EC for M/s Nayara Energy Limited

estimated project cost is Rs. 6,200 Crores. Total capital cost earmarked towards environmental pollution control measures is Rs.10 Crore and the Recurring cost (operation and maintenance) will be about Rs.14 Lakh/annum. Total Employment will be 150 persons as direct & 7000 persons indirect after modernization.

5. Total water requirement of 221.3 MLD will be met from Sea Water which includes 204 MLD for existing and 17.3 MLD for proposed modernization project. Effluent of 27.1 MLD will be treated through effluent treatment plant and entire treated effluent will be utilized for service water, fire water make up, horticulture and as RO Feed. 108.4 MLD Desalination/RO Reject & 36.5 MLD sea water based cooling tower blow down will be sent for deep sea discharge through diffuser recommended by NIO.

6. Power requirement after modernization will be 199 MW including existing 160 MW and will be met from CPP (Captive Power Plant). Existing unit has 27 DG sets of (125 kVA to 2000 kVA) capacity used as stand by during power failure. Proposed ADP-1 will add 2 DG sets of capacity 1250 kVA and 1 DG set of capacity 1000 kVA. Stack (Height 30 m) will be provided as per CPCB norms to the proposed DG sets.

7. The project/activity is covered under category A of items 4(a) "Petroleum Refining Industry", 5(c) "Petro-chemical complexes" of the Schedule the Environment Impact Assessment (EIA) Notification, 2006 and requires appraisal at Central Level by the Expert Appraisal Committee (EAC) in the Ministry.

8. The proposal has been submitted under para 7 (ii) of the EIA Notification, 2006 requesting exemption from ToR, public hearing and EIA report.

9. The proposal was considered by the EAC in its 22nd meeting held on 20th August, 2020 in the Ministry, wherein the project proponent and their consultant M/s. National Environmental Engineering Research Institute presented made a detailed presentation on the salient features of the project.

10. The EAC, constituted under the provision of the EIA Notification, 2006 and comprising of Experts Members/domain experts in various fields, have examined the proposal submitted by the Project Proponent in desired form along with PFR report prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the Project Proponent. The EAC noted that the Project Proponent has given undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the PFR report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

11. The Committee noted that the Form 1/PFR report is in compliance of the notification/guidelines/OMs issued by the Ministry for such projects, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has also deliberated on the CER plan and found to be addressing the issues in the study area. The compliance of the existing EC conditions found to be satisfactory. The EAC has deliberated the proposal and has made due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC have found

the proposal in order and have recommended for grant of Environmental Clearance as per para 7(ii) of the EIA Notification, 2006 exempting fresh public hearing.

12. The environmental clearance granted to the project/activity is strictly under the provisions of the EIA Notification 2006 and its amendments. It does not tantamount/construe to approvals/consent/ permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The project proponent shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

13. Based on the proposal submitted by the project proponent and recommendations of the EAC (Industry-2), Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to the project for **Expansion of Refinery (Asset Development Project-1) through modernization by M/s Nayara Energy Limited located at Vadinar, Devbhumi Dwarka, Gujarat**, under the provisions of the EIA Notification, 2006, and the amendments therein, subject to compliance of the terms and conditions as under:-

A. Specific Conditions:

- (i). The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.
- (ii). The treated effluent of 108.4 MLD (Desalination/RO Reject) & 36.5 MLD shall be sent for deep sea discharge through diffuser recommended by NIO.
- (iii). The National Emission Standards for Petroleum Oil Refinery issued by the Ministry vide G.S.R. 186(E) dated 18th March, 2008 and G.S.R.595(E) dated 21st August, 2009 as amended from time to time, shall be followed.
- (iv). Volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.997% with effective chillers/modern technology. For emission control and management, use of FG/NG in heater as fuel, adequate stack height, use of Low NOX burners in heater & boiler, continuous stack monitoring, Sulphur recovery plant, etc. shall be installed/ensured.
- (v). Total fresh water requirement for the proposed project shall not exceed 17.3 MLD to be met from Sea water. Necessary permission in this regard shall be obtained from the concerned regulatory authority.
- (vi). Process effluent/any waste water shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- (vii). Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.
- (viii). Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.
- (ix). Fly ash should be stored separately as per CPCB guidelines so that it should not adversely affect the air quality, becoming air borne by wind or water

regime during rainy season by flowing along with the storm water. Direct exposure of workers to fly ash & dust should be avoided. The ash from boiler shall be sold to brick manufacturers/cement industry.

- (x). The company shall undertake waste minimization measures as below: -
 - a) Metering and control of quantities of active ingredients to minimize waste.
 - b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
 - c) Use of automated filling to minimize spillage.
 - d) Use of Close Feed system into batch reactors.
 - e) Venting equipment through vapour recovery system.
 - f) Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- (xi). The green belt of 5-10 m width shall be developed in the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. The project proponent shall ensure 33% greenbelt area vis-à-vis the project area through afforestation in the degraded area. The Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- (xii). As proposed 0.25% of the total project cost shall be allocated towards Corporate Environment Responsibility (CER). As proposed, the CER allocation shall be spent mainly for addressing the issues raised during public consultation/hearing including education/skill development/solar lights, etc., and shall be completed within 5 years. The amount proposed in CER shall be spent during execution of the project and shall not be linked with the CSR.
- (xiii). For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
- (xiv). The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- (xv). Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.
- (xvi). Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- (xvii). Process safety and risk assessment studies shall be further carried out using advanced models, and the mitigating measures shall be undertaken/implemented accordingly.
- (xviii). The PP should improve the efficiency of ETP Plant and the water discharge should be as per prescribed CPCB Norms. They should also install 24x7 hours monitoring system (of the discharge) and the same should be connected to the server of SCPB/CPCB.

13.1. General conditions:

- (i). No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- (ii). The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
- (iii). The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- (iv). The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- (v). The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.
- (vi). A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- (vii). The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- (viii). The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted 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 MoEF&CC by e-mail.

- (ix). The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at <https://parivesh.nic.in/>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.
- (x). The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
- (xi). This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.
14. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.
15. 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.
16. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
17. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 read with subsequent amendments therein.
18. This issues with the approval of the competent authority.

R
05/11/2020

(Dr. R. B. Lal)

Scientist 'E'/Additional Director

(Dr. R. B. LAL)
वैज्ञानिक 'ई'/Scientist 'E'
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min. of Environment, Forest and Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New Delhi

Copy to: -

1. The Deputy DGF (C), MoEF&CC Regional Office (WZ), E-5, Kendriya Paryavaran Bhawan, E-5 Arera Colony, Link Road-3, Ravishankar Nagar, Bhopal -16
2. The Secretary, Forests and Environment Department, Government of Gujarat, Block 14, 8th Floor, Sachivalaya, Gandhinagar (Gujarat) -10

3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
4. The Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhavan, Sector-10A, Gandhinagar (Gujarat) - 10
5. The District Collector, District Devbhumi Dwarka (Gujarat)
6. Guard File/Monitoring File/Website/Record File

(Dr. R. B. Lal)
Scientist 'E'/Additional Director
Tele-fax: 011-24695362
Email-rb.lal@nic.in

ADP-1 Environment Clearance Advertisement:

PUBLICATION NAME : TIMES OF INDIA (English Daily)
CITY : Ahmedabad edition
DATE : 11-11-2020 (Wednesday)
PAGE NO. : 08

TITLE: *Public Notice for the Environment Clearance granted by MoEF&CC on 05.11.2020 to the Asset Development Project-1 by Nayara Energy Limited.*

Public Notice

This is to bring to the Public Notice that Government of India, Ministry of Environment, Forest and Climate Change has accorded Environment Clearance to the 'Asset Development Project-1 (ADP-1)' by M/s Nayara Energy Limited with specific and general conditions on date 05.11.2020, under the provisions of EIA Notification, 2006 and amendments/circulars issued thereon.

Copies of Environmental Clearance letter are available with the Gujarat Pollution Control Board and may also be seen at website of the Ministry of Environment, Forest & Climate Change at <https://parivesh.nic.in/>.

- Head Projects, Nayara Energy Limited

ADP-1 Environment Clearance Advertisement:

PUBLICATION NAME : Gujarat Samachar (Gujarati Daily)
CITY : Rajkot edition
DATE : 11-11-2020 (Wednesday)
PAGE NO. : 09

TITLE: *Public Notice for the Environment Clearance granted by MoEF&CC on 05.11.2020 to the Asset Development Project-1 by Nayara Energy Limited.*

::: જાહેર નોટીસ :::

આથી જાહેર જનતાના ધ્યાને લાવવામાં આવે છે કે, ભારત સરકાર, પર્યાવરણ, વન અને આબોહવા પરિવર્તન મંત્રાલયે ઈ.આઈ.એ. સુચન, ૨૦૦૬ અને તેમાં જારી સુધારા/પરિપત્રોની જોગવાઈઓ હેઠળ મેસર્સ નયારા એનર્જી લિમિટેડ દ્વારા 'એસેટ ડેવલપમેન્ટ પ્રોજેક્ટ-૧ (એડીપી-૧)'ને વિશિષ્ટ અને સામાન્ય શરતો સાથે તા.૫-૧૧-૨૦૨૦ના રોજ પર્યાવરણીય મંજૂરી આપી દીધી છે.

પર્યાવરણીય મંજૂરી પત્રોની નકલો ગુજરાત પ્રદુષણ નિયંત્રણ બોર્ડ પાસે ઉપલબ્ધ છે અને પર્યાવરણ, વન અને આબોહવા પરિવર્તન મંત્રાલયની વેબસાઈટ <https://parivesh.nic.in/> પર પણ જોઈ શકાય છે.

હેડ પ્રોજેક્ટસ, નયારા એનર્જી લીમિટેડ