

To,

Shri Shrawan Kumar Verma, IFS
Deputy Director General of Forests (C)
Integrated Regional Office, Gandhinagar,
Ministry of Environment, Forest and Climate Change,
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Subject: Six monthly compliance report (April, 2023 to September, 2023) of Environment Clearance (EC) for the project activities "VCM-2002 KTPA, PVC-2000 KTPA, Ethylene Glycol- 400 KTPA near village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat" by M/s Mundra Petrochem Limited.

Reference : 1). EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA II(I) dated 31/08/2022.
2). F.No.J-11011/149/2021 – IA – II(I) Dated 27/12/2022.
3). MPL/ENV/MoEF&CC/2023 – May/02 Dated 29/05/2023.

Respected Sir,

With reference to above subject, MoEF&CC vide above refer letter dated 31/08/2022 has granted environment clearance for the project activities "VCM-2002 KTPA, PVC-2000 KTPA, Ethylene Glycol- 400 KTPA near village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s Adani Enterprises Limited". Followed by, MoEF&CC vide above refer letter dated 27/12/2022 has transferred the Environment Clearance on the name of M/s Mundra Petrochem Limited from M/s Adani Enterprises Limited.

Presently, the coal to PVC Project is still under process design & detailed engineering stage. However, we are hereby submitting a soft copy of the six-monthly EC compliance report for the period April, 2023 to September, 2023.

The Six-monthly compliance report for the period October, 2022 to March, 2023 was submitted on 29th May, 2023 vide letter no. MPL/ENV/MoEF&CC/2023 – May/02.

We hope you will find the above in order.

Thanking you,
Yours faithfully,


Vinay Kumar Singh
Head – Environment & Sustainability

Copy to : 1. Reginal Directorates, CPCB, Vadodara : praseon.cpcb@nic.in
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Mundra Petrochem Limited

Introduction:

Mundra Petrochem Limited, wholly owned stepdown subsidiary of Adani Enterprises Limited (AEL) intends to setup a Coal to PVC Project at Mundra, Kachchh, Gujarat. The PVC Production capacity of the proposed project is 2000 KTPA (Kilo Tons Per Annum). PVC grades such as Suspension PVC (Resin), Chlorinated PVC (C-PVC), Mass PVC (bulk) and Emulsion PVC (paste) would be produced at the proposed Coal to PVC Project.

For implementation of this project, various plants such as Semi-Coke Plant, Calcium Carbide Plant, Acetylene Plant, Caustic Soda (Chlor-Alkali process) Plant, VCM Plant, PVC Plant, Ethylene Glycol Plant and Cement Plant are proposed to be established.

PVC Produced from the facility will cater to the domestic market and replace imports in the domestic market. By- Products from the plant would be marketed in either in domestic market or export market depending upon market conditions.

Ministry of Environment Forest and Climate Change has granted Environment Clearance for proposed project "Coal to Poly-Vinyl Chloride (PVC) comprising of IND-I projects i.e. Semi Coke- 2030 KTPA, Cement-6 MTPA; Clinker-4 MTPA, IND-II projects i.e. VCM- 2002 KTPA, PVC- 2000 KTPA, Ethylene Glycol- 400 KTPA and IND-III projects i.e. Acetylene-860 KTPA & Caustic Soda-1310 KTPA) and Calcium Carbide-2900 KTPA (Not Specified in EIA Notification)) in land notified as Industrial area of APSEZ, Ta-Mundra, Dist-Kachchh, Gujarat." vide –

Industry – I activity: EC identification no. EC22A009GJ154137 and file no. IA-J-11011/423/2021-IA-II(IND-I) dated 26/09/2022

Industry – II activity: EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022.

Industry – III activity: EC Identification No. - EC22A013GJ127411, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022

Considering the company's long term business strategy, the proposed project is transferred from M/s Adani Enterprises Limited (AEL) to M/s Mundra Petrochem Limited (MPL). MPL is a wholly owned stepdown subsidiary company of M/s Adani Enterprises Limited (AEL), incorporated under the provision of Company Act, 2013 for carrying out various business activities for Semi-Coke, Calcium

Carbide, Cement & Clinker, VCM, PVC, Ethylene Glycol, Chlor-alkali and acetylene plants and associated products in phased manner. Further above granted Environment Clearances have been transferred in the name of M/s Mundra Petrochem Limited (MPL) by Ministry of Environment Forest and Climate Change (MOEFCC) vide their letter no.

- 1. Industry – I activity: - File no. IA-J-11011/423/2021-IA-II(IND-I) Dated 23/12/2022.**
- 2. Industry – II activity: - File no. J-11011/149/2021-IA-II(I) Dated 27/12/2022.**
- 3. Industry – III activity: - File no. IA-J-11011/149/2021-IA-II(I) Dated 28/11/2022.**

Further, the Consent to Establish (CTE) is granted by the Gujarat Pollution Control Board (GPCB)

Presently, the Coal to PVC project is under basic & detailed engineering and process design stage, however, initial site preparation activities have been started at the project site & Financial Closure is yet to be achieved.

Point wise Compliance of Environmental Clearance for Industrial activity-II- Proposed VCM–2002 KTPA, PVC–2000 KTPA, Ethylene Glycol– 400 KTPA vide EC Identification No: EC22A020GJ133762 File No: IA-J-11011/149/2021-IA-II(I) Date: 31/08/2022 & subsequent EC Transfer vide File no. J-11011/149/2021-IA-II(I) Dated 27/12/2022

S. No	Conditions	Status
A	Specific Condition	
(i)	The project proponent shall abide by all orders and judicial pronouncements made from time to time in the case related to public hearing and land which is pending with Gujarat High court	Agreed with requirements
(ii)	3D studies of risk assessment shall be carried out for all hazardous chemicals and submitted to MoEF&CC within three (03) months. Recommendations of mitigation measures from possible accident shall be implemented based on advanced risk Assessment studies conducted for worst case scenarios using latest techniques.	<p>Noted and shall be complied with.</p> <p>Remark: Presently, various process units of Coal to PVC project are under development of basic & detail design and engineering stage. HAZOP review for the process plants is being carried out for all process units under Coal to PVC complex for identifying all potential hazard and operability Presently, Coal to PVC project various process units under development of basic & detail design and engineering stage. HAZOP review for the process plants is being carried out for all process units under Coal to PVC complex for identifying all potential hazard and operability problems and access the associated risks and safeguards along with risk reduction measures with help of guide words by structured review.</p> <p>Moreover, Quantitative Risk Assessment & 3D (Three-dimensional) Risk Assessment study for entire Green PVC Complex will also be carried out considering all scenarios for all hazardous chemicals using latest advance risk assessment techniques/tools to access the risk and associated mitigation measures and report will be submitted to MoEF&CC.</p>

S. No	Conditions	Status
(iii)	PP shall conduct monitoring of site specific meteorological data & air quality modelling for winter season after commissioning of plant and submit the report to the Regional Office of MoEF&CC.	<p>Noted and shall be complied with the requirements.</p> <p>Remark: The project is under detailed design stage. Site specific meteorological data & air quality modelling for winter season will be conducted after commissioning of plant and same will be submitted to regional office of MoEF&CC.</p>
(iv)	SO ₂ emission standard from coal fired steam boilers within the projects is proposed to be within 100 mg/Nm ³ that shall be achieved by installing suitable APCD such as Flue Gas Desulphurization for reduction of SO _x emissions. The National Emission Standards for Petrochemical (Basic & Intermediates) issued by the Ministry vide G.S.R. 820 (E) dated 9th November 2012 as amended time to time shall be followed.	<p>Noted and shall be complied with the requirements.</p> <p>Remark: The project is under detailed design stage. However, suitable APCD will be installed to control the SO_x emission level within the stipulated norms.</p>
(v)	Incinerator of VCM Plant shall be constructed as per regulatory requirements under The Environment (Protection) Rules, 1986 for incinerator facility. VCM monitoring in ambient air shall be conducted online at 4-5 locations within plant and at AAQM monitoring locations within the study area also. Dioxins and furan emissions shall be controlled by providing proper control systems including chillers, carbon and lime dosing and running the process as per the CPCB guidelines. Monthly VOC monitoring shall be done at vulnerable points.	<p>Noted and shall be complied with the requirements.</p> <p>Remark: The project is under detailed design stage. However, Necessary arrangement will be done as per stipulated norms to construct the incinerator of VCM and controlling the Dioxins and furan emissions. The engineering design of VCM incinerator will be carried out in compliance with the applicable rules as amended in the Environment (Protection) Rules, 2010 (G.S.R.608 (E), dated 21st July 2010). Further, During operations, monitoring of VCM and Volatile organic compounds (VOCs) i.e. benzene and benzo(a)pyrene (BaP) will also be carried out on monthly basis as per requirement.</p>

S. No	Conditions	Status
(vi)	Properly designed and appropriate air pollution control equipment shall be attached to flue gas stacks of PVC plant, VCM plant and Ethylene Glycol Unit and flare stacks as mentioned in the environment management plan. Emission control measures shall be taken to ensure air emission standards and norms as prescribed by CPCB and SPCB are strictly followed.	Noted and shall be complied with. Remark: Presently, Coal to PVC project various process units under development of basic & detail design and engineering stage. Necessary APC equipment will be installed to flue gas stacks of PVC plant, VCM plant and Ethylene Glycol Unit and flare stacks as mentioned in the environment management plan for ensuring the emission level within the stipulated norms.
(vii)	The company/PP shall ensure that there will be no impact on mangroves plantation present in study area due to the construction and operation phase of the project activities.	Noted and shall be complied with. Remark: The project is under detailed design stage. However, It will be ensure that there will be no impact on mangroves plantations due to the construction and operation phase of the project activities.
(viii)	Conservation plan as submitted and approved by Chief Wildlife Warden, Gandhinagar vide letter no. WLP/32/C/297-298/2022-2023 dated 18/06/2022 shall be followed and budget earmarked shall be invested within the given time frame.	Noted and shall be complied with. Remark: The project is under detailed design stage. Consultation process with the Forest Department, Kachchh, Bhuj, is also initiated for implementation of wildlife conservation plan. Activities as proposed in the wildlife conservation plan have been initiated. Earmarked budget investment shall be aligned with project progress. Details of the activities performed as part of "Wildlife Conservation Plan" is attached as Annexure - I .
(ix)	10% of total power requirement with respect to PVC, VCM, & Ethylene glycol process in overall PVC project will be met by purchasing renewable energy through DISCOM from suitable renewable energy generator or alternate sources.	Noted and shall be complied with. Remark: The project is under detailed design stage. However, requisite arrangement shall be executed by purchasing renewable energy through DISCOM from suitable renewable energy generator or alternate sources.

S. No	Conditions	Status
(x)	<p>There will be no groundwater extraction for this project. The total water requirement for PVC, VCM, Ethylene Glycol process will be 29,040 m³/day and for other common utilities will be 65,948 m³/day and will be met from APSEZL Seawater Desalination plant. Necessary permission in this regard shall be obtained from the concerned regulatory authority. The project proponent will treat and reuse the treated water within the factory and no waste or treated water shall be discharged outside the premises. Also, company shall explore possibility of optimizing and reducing the water consumption during detailed engineering and operational stage to reduce the OPEX for De-saline water.</p>	<p>There will be no groundwater extraction for this project.</p> <p>Remark: The total water requirement will be fulfilled through Seawater Desalination plant. Further, this project is based on "Zero Liquid (Effluent) Discharge" concept. So, there will be no untreated water discharge outside the premises. Further, possibilities are being explored for optimizing and reducing the water consumption in detailed engineering based on technical feasibilities. Also, water conservation initiatives will further be explored during operational stage to reduce the OPEX for De-saline water.</p>
(xi)	<p>Comprehensive water audit to be conducted on annual basis and report to the concerned Regional Office of MOEF&CC. Outcome from the report to be implemented for conservation scheme. Performance assessment of pollution control systems/ devices shall be done annually.</p>	<p>Noted and shall be complied with.</p> <p>Remark: Comprehensive water audit will be conducted on annual basis during the plant operation phase and report for the same will be furnished to Regional Office, MoEF&CC. Further, outcomes of the water audit will be implemented for conservation scheme and also performance assessment of pollution control systems/ devices will be done annually during operation phase.</p>
(xii)	<p>Industrial waste water shall be treated in ETP followed by RO and MEE. Treated water shall be reused back as cooling tower make up water and boiler feed water. Domestic sewage shall be treated in STP, and treated water shall be reused in gardening. No any untreated water shall be disposed of outside the plant area to avoid impact on surface water quality and Zero effluent Discharge concept shall be followed. Online flow meters shall be installed at inlet and outlet of the ETPs. Use of PPE's shall be mandatory while handling the chemicals in ETP to avoid spillage</p>	<p>Noted and shall be complied with.</p> <p>Remark: This project is based on "Zero Liquid (Effluent) Discharge" Concept and there will be no untreated water discharge outside the plant premises. Further, adequate capacity of waste water treatment system will be installed to achieve the Zero Liquid (Effluent) Discharge" . Treated water will be reuse for cooling tower make up water and/or for other suitable activities inside the plant premises. Moreover, required online flow meters will be installed to measure the ETPs flow and adequate measures will be ensured while handling the chemicals and to avoid spillages. In addition to this, STP has been set up for</p>

S. No	Conditions	Status
		necessary treatment of domestic wastewater during site preparation phase. Environment Monitoring Report is enclosed as Annexure - II .
(xiii)	Company shall provide extended aeration system in the ETP scheme for removal of total Ammonical nitrogen. The existing ammonia tower in ETP scheme shall be used only for removal of free ammonia from incoming effluent.	Noted and shall be complied with. Remark: requisite arrangement will be done in the ETP to control the Ammonical Nitrogen as well as free Ammonia in the effluent.
(xiv)	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond. Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises	Noted and shall be complied with. Remark: Project is under detailed designing stage. However, separate storm water drainage system will be provided to ensure the no mixing of wastewater with storm water. Adequate guard pond shall be provided for initial storm passing during rains. Further, Oil catchers / Oil traps will be provided at all possible locations in rain/ storm water drainage system inside the factory premises.
(xv)	For safety and control of risk of any leakage from Anhydrous HCl pipeline, the pipeline shall be built using a seamless pipe with no flanges in between. Periodic Leak check with ammonia torch shall be carried out to detect the leak point along the pipeline. Toxic Leak detectors shall be installed and regularly tested at appropriate detection levels as per industry norms. Regular pipeline thickness measurements and maintenance shall be ensured. Continuous monitoring of pressure of HCl pipeline with high priority alarms, Pressure drop detection shall be monitored for promptly addressing of any leak. SCADA system shall be installed for the pipelines and interlocking shall be done. Chlorine storage tank shall be provided with safety measures such as level indicators with alarm, chlorine gas detector, chlorine sensors and emergency blower suction hoods with storage tank, rupture disc and remotely operated auto valves.	Noted and shall be complied with. Remark: Project is under detailed designing stage. All mandatory sensors / leak detectors will be installed as per stipulated norms for safety and control of risk of leakages from anhydrous HCl Pipeline. Further, Continuous monitoring of pressure of HCl pipeline with high priority alarms, Pressure drop detection shall be installed and monitored for promptly addressing of any leak. SCADA system shall be installed for the pipelines and interlocking shall be done. Moreover, Chlorine storage tank will be provided with adequate safety measures including level indicators with alarm, chlorine gas detector, chlorine sensors and emergency blower suction hoods with storage tank, rupture disc and remotely operated auto valves.

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(xvi)	The total ash generated from the coal fired boilers shall be utilized in proposed inhouse cement manufacturing unit.	Noted and shall be complied with. Remark: Project is under detailed designing stage.
(xvii)	Public Hearing issues raised by the local people shall be addressed as per the budget and timeline submitted.	Noted and being complied with the requirements. Remarks – Presently, Coal to PVC project is under development of basic & detail design and engineering stage. Action plan proposed to address the issues raised during public hearing and socio-economic issues in the study area shall be implemented as project progresses at site. However, MPL has already initiated CER activities in all villages surrounding to project area and total CER expenditure incurred in various community welfare & eco-development activities during the period from April, 2023 to September, 2023 approx. INR 50.91 Lakhs with cumulative CER expenditure of approx. 500 Lakhs in line with project CAPEX incurred till September 2023. The detailed CER activities with expenditures are summarized in Annexure – III .
(xviii)	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.	Noted and shall be complied with. Remark: Presently, various process units of Coal to PVC project under development of basic & detail design and engineering stage and environmental protection measures & safeguards in line with the applicable regulatory requirements and best available technologies are being considered in the detailed project engineering design.

S. No	Conditions	Status
(xix)	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.	Noted and shall be complied with. Remark: Project is under detailed designing stage. Safe storage practices will be adopted to store the Hazardous chemicals. Further, considering risk management, flame arresters shall be provided on tank farm, and solvent transfer will be done through adequate equipment's/pumps.
(xx)	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.	Noted and shall be complied with. Remark: Project is under detailed designing stage. Disposal of hazardous waste /organic residue and spent carbon etc. will be done through co-processing in cement industries after obtaining necessary authorization. Further, evaporation salt will be disposed off to the TSDF during operation phase.
(xxi)	The oily sludge shall be subjected to melting pit for oil recovery and the residue shall be bio – remediated. The sludge shall be stored in HDPE lined pit with proper leachate collection system	Noted and shall be complied with. Remark: adequate arrangement shall be provided for collection, oil recovery and storage of oily sludge.
(xxii)	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 vapor recovery system. (f) Use of high-pressure hoses for equipment cleaning etc. to reduce wastewater generation.	Noted and shall be complied with the requirements. Remarks- Best available practices including suggested measures will be adopted for waste minimization.
(xxiii)	The green belt of 5-10 m width shall be developed in atleast 33% of the total project area of Pocket 1, mainly along the plant periphery, in downward wind direction, and along roadsides etc. Selection of plant species	Noted and shall be complied with the requirements. Remark: Project is under detailed designing stage. However, Green belt having requisite width will be developed

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	<p>shall be as per the CPCB guidelines in consultation with the State Forest Department. Total 33% of the greenbelt shall be design so that thickness of the greenbelt is increased on downwind side of the project in comparison to other sides. Additionally, 20-meter wide shall be developed in the plant side adjacent to the Mangrove Forest.</p>	<p>in phased manner, mainly along the plant periphery, in downward wind direction, and along roadsides etc. Selection of plant species will be done in consultation with the State Forest Department. Further, adequate width of greenbelt will be developed in the plant side adjacent to the Mangrove Forest.</p> <p>Moreover, community tree plantation activities of selected plant species in consultation with the Forest department have been started at near by villages. Report of the same is enclosed as Annexure - IV.</p>
(xxiv)	<p>As per the Ministry's OM dated 30.09.2020 superseding the OM dated 01.05.2018 regarding the Corporate Environmental Responsibility, and as per the action plan proposed by the project proponent to address the socio-economic and environmental issues in the study area, the project proponent, as committed, shall provide education funds in technical training centers/ support in nearby village's schools, support in health care facilities, drinking water supply and funds for miscellaneous activities like solar street lights, battery, solar panel etc., in the nearby villages. The action plan shall to be completed within time as proposed.</p>	<p>Noted and being complied with the requirements.</p> <p>Remarks – Presently, Coal to PVC project is under development of basic & detail design and engineering stage. Action plan proposed to address the issues raised during public hearing and socio-economic issues in the study area shall be implemented as project progresses at site.</p> <p>However, MPL has already initiated CER activities in all villages surrounding to project area and total CER expenditure incurred in various community welfare & eco-development activities during the period from April, 2023 to September, 2023 approx. INR 50.91 Lakhs with cumulative CER expenditure of approx. 500 Lakhs in line with project CAPEX incurred till September 2023. The detailed CER activities with expenditures are summarized in Annexure - III.</p>
(xxv)	<p>The project proponent shall ensure 70% of the employment to the local people, as per the applicable law. The project proponent shall set up a skill development center/provide skill development training to village people</p>	<p>Noted and shall be complied with the requirements.</p> <p>Remark: priority will be given to local people on skill basis as per the applicable law for employment.</p>

S. No	Conditions	Status
		Skill development activities have already been started to impart necessary trainings to village people as part of Corporate Environmental Responsibility.
(xxvi)	A separate Environmental Management Cell (having qualified person with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. EMC head shall report directly to Head of Organization/ Managing Director/CEO as per company hierarchy	A separate Environmental Management Cell having qualified persons with specialization in Environmental Science / Engineering has been developed in which EMC head is directly reporting to Head of Organization/ CEO as per company hierarchy. Further, full-fledged environment laboratory will be developed at site to carryout environmental monitoring activities during operational phase.
(xxvii)	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.	Noted and shall be complied with the requirements. Remark: adequate Firefighting system / arrangement for protection of possible fire hazards during manufacturing process in material handling will be done as per the norms.
(xxviii)	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. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet	Noted and shall be complied with the requirements. Remark: Continuous online (24x7) monitoring system for stack emissions will be installed for measurement of flue gas discharge and the pollutants concentration as per CPCB Guideline and necessary arrangements will be made for transmission of data to the CPCB / SPCB server during operation phase. Further, as this project is on "Zero Liquide Discharge" Concept, real time monitoring system will be installed at the ETP outlet as per CPCB Guideline.

S. No	Conditions	Status
(xxix)	PP to set up occupational health Centre for surveillance of the worker's health within and outside the plant on a regular basis. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.	Noted and shall be complied with the requirements. Remark: mandatory Occupational Health Center will be set up for surveillance of the worker's health within plant premises. Further, it will be ensured that workmen are equipped with all necessary PPEs for Personal protection during construction as well as operation phase.
(xxx)	PP shall sensitize and create awareness among the people working within the project area as well as its surrounding area on the ban of Single Use Plastic in order to ensure the compliance of Notification published by MOEFCC on 12th August 2021. A report along with photographs on the measures taken shall also be included in the six-monthly compliance report being submitted to concerned authority.	Noted and being complied with the requirements. Remarks: Awareness program on "Ban on Single use plastic" among the people working within the project area as well as its surrounding villages are being organized in a regular interval. A Summery report along with photographs is enclosed as Annexure - V .
B	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.	Noted and agreed with requirements.
(ii)	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.	Noted and shall be complied with the requirements. Remark: best available practices will be adopted for 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	Noted and shall be complied with the requirements. Remark: Adequate noise control measures including acoustic hoods, silencers, enclosures etc. as applicable will be provided on all sources of noise

S. No	Conditions	Status
	<p>the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (Day time) and 70 dBA (Night time).</p>	<p>generation for maintaining the ambient noise levels within the prescribed norms.</p> <p>Necessary monitoring of ambient noise level (ANQM) at selected locations in project area and nearby villages also being carried out through third party NABL approved laboratory and Environment Monitoring report is enclosed as Annexure - II</p>
(iv)	<p>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.</p>	<p>Noted and being complied with the requirements.</p> <p>Remark: To improve the socio-economic conditions of the study area, various eco-developmental measures including community welfare activities are initiated in phased manner under Corporate Environmental Responsibility in consultation with local villages and administration.</p> <p>In order to know the present social status and needs of the local community, a "Baseline & Need Assessment Study" is also carried out through third party professional agency involving various stakeholders- local villagers, administration etc. and the recommendation of the study is further included in the CER plan for implementation in phased manner.</p> <p>MPL has already initiated CER activities in all villages surrounding project area and total CER expenditure approx.. INR 50.91 Lakhs incurred in various community welfare & eco-development activities for the period from April, 2023 to September, 2023 with cumulative CER expenditure of approx. 500 Lakhs in line with project CAPEX incurred till date. The detailed CER activities with expenditures are summarized as Annexure - III.</p>

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(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.	Noted and shall be complied with the requirements. adequate EMP/environment management / pollution control measures funds toward CAPEX & OPEX have been kept to implement and / OR complying the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the state Government.
(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.	Environmental Clearance letter has been submitted to concerned panchayats (all 15 villages) & The Taluka Development Officer (Rural Local Body), The District Development Officer, District Industries Center, and the local NGO / trust from whom suggestions / representations received during public hearing. Letters no. are as under and reference Ack. copy of submission is enclosed as Annexure - VI. 1). AEL/MPL/ENV/EC/2022-September/01 Dated 02/09/2022. 2). AEL/MPL/ENV/EC/2022-September/03 Dated 02/09/2022. 3). AEL/MPL/ENV/EC/2022-September/06/01 to 15 Dated 02/09/2022.
(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.	As per MoEF&CC Office Memorandum dated 14th June, 2022, Six monthly compliance report of stipulated environment clearance conditions including results of monitored data being uploaded on PARIVESH Portal & company's website i.e https://www.adanienterprises.com .
(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	Project is under detailed design stage and Environmental Statement for the year 2022-2023 have been Submitted to Gujarat Pollution Control Board through vide our letter no. MPL/ENV/GPCB – Form – V/ 2023 – June/01 dated

S. No	Conditions	Status
	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.	29/06/2023 i.e within stipulated time period and same is also available on Company's Website i.e https://www.adanienterprises.com . Copy of the same is enclosed as Annexure - VII .
(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.	The advertisement stating " <i>the project has been accorded environmental clearance by MoEF&CC and also displayed on company website</i> " have been published on following news papers on 5th September, 2022. (i.e within 7 days of grant of Environmental Clearance). 1. Kutch Mitra (Gujarati Language) 2. Gujarat Samachar (Gujarati Language) 3. The Times of India (English Language). Copies of the same have already been submitted to concerned authorities through vide our letter no. AEL/MPL/ENV/MoEF&CC/2022 - September/05 dated 06/09/2022. Copy enclosed as Annexure - VIII ."
(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.	Noted and shall be complied with the requirements. Remarks: Presently, the Coal to PVC project is under stage of detailed engineering & design and initial preparatory activities have been started at the project site & Financial Closure of the project is yet to achieved. Status of project and financial closure of the same once attained, will be submitted to the regional office as well as to the MoEF&CC along with Six monthly Compliance report.
(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.	Agreed with requirement.

Annexures

Annexure No.	Name
I	Activities as per approved Wild Life Conservation Plan.
II	Environment Monitoring Report
III	CER Activities
IV	Tree Plantation Activities
V	Awareness Program on "Ban on Single use Plastic"
VI	Letter for submission of EC to Local Authorities.
VII	Environment Statement – Form – V.
VIII	Letter for submission of EC and News Paper to concern authorities.

Annexure – I Activities for Wildlife Conservation Plan

Awareness program for "Wildlife conservation" for surrounding area has been conducted at near by village. These awareness program comprises the need of wild life conservation, definition, importance, methods of wildlife conservations and actions taken by Adani foundations for at near by villages.

On July 26th, Mundra Petrochemical Limited has celebrated Mangrove Day with spreading awareness over 9th & 10th Grade students and fisherfolk. The session ended with Mangrove plantation. Approximately more than 150 participants were participated.



Photo: Mangrove species awareness and plantation program.

Annexure - II



SIX MONTHLY ENVIRONMENTAL MONITORING REPORT,
MUNDRA PETROCHEM LIMITED



M/S. MUNDRA PETROCHEMICAL LIMITED (MPL)

**Six Monthly Environmental Monitoring Report
Mundra Petrochemicals Limited (MPL) Located at near
Village Vandh & Tunda, Taluka Mundra, District Kachchh,
Gujarat**

Month: April to September - 2023

Submitted By



**UniStar Environment & Research Labs Pvt. Ltd.
White House, Near GIDC Office, Char Rasta, Vapi,
Gujarat, India – 396195**

M/S. MUNDRA PETROCHEM LIMITED (MPL)

Six Monthly Environment Monitoring Report for Coal to PVC Project near Village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat

This report is released for the use of Mundra Petrochem Limited (MPL), Regulators and relevant stakeholders solely as part of the subject project’s Environmental Compliance Process. Information provided, unless attributed to referenced third parties, is copyrighted, and shall not be used for any other purpose without the written consent from Mundra Petrochemical Limited (MPL).

QUALITY CONTROL							
Name of Publication	Six Environmental Monitoring Report for Coal to PVC Project near Village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat						
SO No.	Service Order	Issue No.	1	Revision No.	01	Released	October, 2023
Prepared & Managed By	Mr. Deelip Brahmin		Approved by		Mr. Jaivik Tandel		
Released By	Unistar Environment and Research Labs Pvt. Ltd.						

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LIST OF ANNEXURES

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ABBREVIATIONS AND ACRONYMS

MPL	:	Mundra Petrochemicals Limited
APL	:	Adani Power Limited.
APSEZL	:	Adani Ports & Special Economic Zone Limited
UERL	:	UniStar Environment and Research Labs Private Limited
CPCB	:	Central Pollution Control Board
EIA	:	Environment Impact Assessment
EMP	:	Environmental Management Plan
ETP	:	Effluent Treatment Plant
KLD	:	Kilo Liter Day
MOEFCC	:	Ministry of Environment, Forest & Climate Change
C ₂ H ₂	:	Acetylene
CaC ₂	:	Calcium Carbide
C ₂ H ₃ Cl	:	Vinyl chloride
GoI	:	Government of India
GPCB	:	Gujarat Pollution Control Board
PVC	:	Polyvinyl chloride
VCM	:	Vinyl Chloride Monomer

1 EXECUTIVE SUMMARY

1.1 Introduction

1.1.1 About ADANI Group

Adani Group is India's fastest growing corporate catering to a billion aspirations. Adani Group is a diversified organization comprising of 7 publicly traded companies in India. Adani Group has headquartered in Ahmedabad, in the state of Gujarat, India. Over the years, Adani Group has positioned itself to be the market leader in its transport logistics and energy utility portfolio businesses focusing on large scale infrastructure development in India with O & M practices benchmarked to global standards, with key businesses across Resources -Coal mining & trading, Logistics – shipping, rail and airport terminals, Energy – Gas (LNG, City Gas), Thermal power generation, Renewables (Solar & Wind) and transmission energy infrastructure, Agro commodities, Ancillary industries and Real estate etc. Adani Group is the largest private power producer in India.

Adani owes its success and leadership position to its core philosophy of 'Nation Building' driven by '*Growth with Goodness*' - a guiding principle for sustainable growth. Adani is committed to improve its ESG footprint by re-aligning its businesses with emphasis on climate protection and increasing community outreach through its CSR programme based on the principles of sustainability, diversity and shared values.

Adani group is now executing green PVC project (Coal to PVC) at near Village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat

1.1.2 About UniStar Environment and Research Labs Private Limited (UERL)

UniStar Environment and Research Labs Private Limited is a company which provide efficient and economical services in the areas of environmental pollution control/monitoring and chemical analysis & research activities to various industries and institutions. UniStar provides technical consultancy backed by well-established sophisticated analytical laboratories, to comply with Statutory requirements and directives of the Pollution Control Board/ Committees under various Environment Pollution Control Acts. and Rules. We also carry out post Environmental Clearance monitoring and assist our valued customers in preparation of Half-yearly Environmental Clearance Compliance report.

- Ministry of Environment, Forest and Climate Change (MOEFCC), GOI recognized the Laboratory under the Environment Protection Act-1986 which is valid up to – 22/09/2024.
- ISO/IEC 17025 Accredited Laboratory by National Accreditation Board for Testing and Calibration Laboratories (NABL) which is valid up to – 22/09/2024.
- Recognized Environmental Auditor Laboratory by Gujarat Pollution Control Board, Gandhinagar, Gujarat, India which is valid up to 31/12/2023.

Copy of relevant certificates are attached as Annexure I.

1.2 Brief Description of Project

The proposed Green PVC Project is having various major units such as, Semi-coke Plant, Calcium Carbide Plant, Acetylene Plant, VCM Plant, PVC Plant, Caustic Soda Plant, Ethylene Glycol Plant & Cement Plant. The associated infrastructure facilities such as boiler, final/intermediate product storages etc, utilities, pipelines, ancillary facilities for interconnecting /transferring of materials between pockets, loading/unloading, roads, drainages, pipe racks, trenches, cable trays, non-plant buildings, laboratories, fabrication yards, batching Plant, dispatch section, general stores/warehouse, fire & safety department, maintenance workshop, occupational health centre etc. will also be established.

2 ENVIRONMENTAL MONITORING

2.1 General Philosophy & Scope of Work

The environmental monitoring encompassed various disciplines and environmental attributes, including air quality, water quality, noise levels, and soil conditions. As per the given scope of work for environmental monitoring by MPL, we have prepared Environmental Monitoring Plan as per below.

Sr. No	Discipline	Location	Parameter	Frequency
1.	Ambient Air Quality Monitoring	Five Locations	As per NAAQMS, 2009	Monthly
2.	Ambient Noise Monitoring	Five Locations	Day Time & Nighttime - Noise Levels in Leq dB(A)	Monthly
3.	Treated Sewage water	One Location	pH, Bio-Chemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), Faecal Coliform (FC) (Most Probable Number per 100 millilitre, MPN/100ml, Nitrogen-Total, Phosphorus-Total	Monthly
4.	Ground water	Two Location	pH, Temperature, Turbidity, conductivity, Total Dissolved Solids, Bio-Chemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Salinity, Ammonical Nitrogen, Total Alkalinity, Total Hardness, Calcium, Magnesium, Chloride, Sulphate, Nitrate, Fluoride, Phenolic Compound, Sodium, Potassium, Calcium Hardness, Magnesium Hardness, Lead, Iron, Cadmium, Manganese, Copper, Arsenic, Chromium, Mercury, Nickel, Zinc, Total Nitrogen, Cyanide, Total Phosphorous, Sodium Absorption Ratio (SAR)	Half Yearly
5.	Surface Water	Two Location	pH, Colour, Conductivity, Total Dissolved Solids, Bio-Chemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Dissolved Oxygen, Total Hardness, Calcium Hardness, Magnesium Hardness, Chloride, Sulphate, Nitrate, Fluoride, Phenolic Compound, Ammonical Nitrogen, Lead, Iron, Cadmium, Manganese, Copper, Arsenic, Chromium, Boron, Mercury, Zinc, Cyanide, Sodium Absorption Ratio (SAR)	Half Yearly
6.	Surface Water (Marine)	Two Location	pH, Colour, Odour, turbidity, Total Suspended Solids, Total Dissolved Solids, Bio-Chemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Dissolved Oxygen, Oil & Grease, Lead, Iron, Cadmium, Manganese,	Half Yearly

2.2 Sampling & Analysis

The selection of methods for sampling, preservation, and analysis holds significant importance in environmental monitoring. To ensure the highest quality in environmental sampling and analysis, the Central Pollution Control Board (CPCB) has established guidelines for these processes. Adhering to these guidelines, specific methods for sampling and analysis of environmental samples have been chosen and implemented. Instrument used in sampling are calibrated from NABL accredited Laboratory. Details are as follows:

Sr. No	Name of Instrument Used	ID No./Sr. No	Make/Model	Calibration Date	Cal. Valid up to
1.	Respirable Dust Sampler PM 10	UERL/AIR/RDS/47/1816-DTJ-2013	Envirotech/ APM 460-BL	27/06/2023	26/06/2024
2.	Fine Particulate Sampler PM 2.5	UERL/AIR/FPS/22/ 44-DTC-2012	Envirotech/ APM 550-MINI	27/06/2023	26/06/2024
3.	Respirable Dust Sampler PM 10	UERL/AIR/RDS/34/1768-DTB-2013	Envirotech/ APM 460-BL	02/08/2023	01/08/2024
4.	Fine Particulate Sampler PM 2.5	UERL/AIR/FPS/21/ 20-DTC-2012	Envirotech/ APM 550-MINI	02/08/2023	01/08/2024
5.	Sound Level Meter	UERL/AIR/SLM/09C	Extech / SDL 600	26/06/2023	25/06/2024

***Calibration certificates are attached in Annexure II**

2.2.1 Ambient Air Quality Sampling and Analytical Techniques

The techniques used for ambient air quality monitoring and its permissible limit are given in following table.

Sr. No.	Parameter	Technique	Technical protocol	Permissible Limit (As per NAAQS)
1.	Particulate Matter as PM10	Respirable Dust Sampler (Gravimetric method)	IS - 5182, Part - 23	100
2.	Particulate Matter as PM2.5	fine particular Sampler (Gravimetric method)	IS - 5182, Part - 24	60
3.	Sulphur Dioxide as SO2	Modified West and Gaeke	IS - 5182, Part - 2	80
4.	Nitrogen Dioxide as NO2	Jacob &Hochheiser	IS - 5182, Part - 6	80
5.	Carbon Monoxide as CO	Gas Analyser (CO)	IS - 5182, Part - 10	4.0
6.	Ozone as O3	UV Spectrophotometer	IS - 5182, Part - 9	180
7.	Ammonia as NH3	Titrimetric Method	IS - 5182, Part - 25	400
8.	Lead as Pb	AAS Method	IS - 5182, Part - 22	1.0
9.	Nickel as Ni	AAS Method	IS - 5182, Part - 26	20
10.	Arsenic as As	AAS Method	IS - 5182, Part - 22	6.0
11.	Benzene as C6H6	GC Method	IS - 5182, Part - 11	5.0
12.	Benzo (a) Pyrene (BaP)	GC Method	IS - 5182, Part - 12	1.0

2.2.2 Ambient Noise Level Sampling Techniques

The techniques used for ambient air quality monitoring and its permissible limit are given in following table.

Sr. No.	Parameter	Technique	Technical protocol	Permissible Limit (As per CPCB)
1.	Ambient Noise Level Monitoring at Industrial Area	Noise Meter (Leq)	IS : 9989 : 1981	Day Time – 75 dB Night Time – 70 dB
2	Ambient Noise Level Monitoring at Residential Area	Noise Meter (Leq)	IS : 9989 : 1981	Day Time – 55 dB Night Time – 45 dB

2.2.3 Ground Water Sampling & Analysis Techniques

Sr. No.	Parameter	Technical protocol	IS 10500 Standard Limits for drinking water	
			Desirable limit	Per. Limit in the Abs. of Alt. Source
1	pH	IS 3025(Part 11):2022	6.5-8.5	NR
2	Temp	IS 3025(Part 9):1984	NS	NS
3	Turbidity	IS 3025(Part 10):1984	1	5
4	TDS	IS 3025(Part 14):1984	500	2000
5	Electrical Conductivity	IS 3025(Part 16):2023	NS	NS
6	COD	IS 3025(Part 58): 2006	NS	NS
7	BOD	IS 3025(Part 44): 1993	NS	NS
8	Phenol	IS 3025(Part 43): 2020	0.001	0.002
9	Chlorides	IS 3025(Part 32): 1988	250	1000
10	Sulphate	IS 3025(Part 24): 2022	200	400
11	Total Hardness	IS 3025(Part 21): 2009	200	600
12	Ca++ Hardness	APHA 23rd Ed,2017,3500 Ca. B	NS	NS
13	Mg++ Hardness	APHA 23rd Ed,2017,3500 Mg. B	NS	NS
14	Total Alkalinity	IS 3025(Part 23): 1986	200	600
15	Nitrate	APHA 23rd Ed,2017,4500 NO3-B	45	NR
16	Fluoride	IS 3025(Part 60): 2008	1	1.5
17	Sodium	APHA 23rd Ed,2017,3500 Na. B	NS	NS
18	Potassium	APHA 23rd Ed,2017,3500 Mg. B	NS	NS
19	Calcium	APHA 23rd Ed,2017,3500 Ca. B	75	200
20	Magnesium	APHA 23rd Ed,2017,3500 Mg. B	30	100
21	Salinity	APHA 23rd Ed,2017,2520-B, 2-60	NS	NS
22	Total Nitrogen	APHA 23rd Ed,2017,4500 NH3 - B	0.5	NR
23	Total Phosphorous	APHA 23rd Ed,2017,4500-P, D	NS	NS
24	Dissolved Oxygen	APHA 23rd Ed,2017,4500-O, B	NS	NS
25	Ammonical Nitrogen	IS 3025(Part 34) (ISE Method):1988	NS	NS
26	SAR	By Calculation	NS	NS
	Heavy Metals			
27	Arsenic (as As)	APHA 23rd Ed,2017,3114-C	0.01	0.05
28	Cadmium (as Cd)	IS 3025(Part 41): 1992	0.003	NR
29	Chromium (as Cr)	APHA 23rd Ed,2017,3111-B	0.05	NR
30	Copper (as Cu)	APHA 23rd Ed,2017,3111-B	0.05	1.5
31	Cyanide (as CN)	IS 3025(Part 27): 1986	0.05	NR
32	Iron (as Fe)	IS 3025(Part 53): 2003	0.3	NR
33	Lead (as Pb)	IS 3025(Part 47): 1994	0.01	NR
34	Mercury (as Hg)	APHA 23rd Ed,2017,3112-B	0.001	NR

Sr. No.	Parameter	Technical protocol	IS 10500 Standard Limits for drinking water	
			Desirable limit	Per. Limit in the Abs. of Alt. Source
35	Manganese (as Mn)	APHA 23rd Ed,2017,3500 Mn. B	0.1	0.3
36	Nickel (as Ni)	IS 3025(Part 54): 1994	0.02	NR
37	Zinc (as Zn)	IS 3025(Part 49): 1994	5	15
38	Total Coliform	IS 1622:1981	Shall not be detectable	
39	Faecal Coliforms	IS 1622:1981	Shall not be detectable	

2.2.4 Surface Water Sampling & Analysis Techniques

Sr. No.	Parameter	Technical protocol	Classification for Inland Surface Water (CPCB)
			Class E
1	pH	IS 3025(Part 11):2022	6.5 to 8.5
2	Dissolved Oxygen	APHA 23rd Ed,2017,4500-O, B	NA
3	TDS	IS 3025(Part 14):1984	2100
4	Electrical Conductivity	IS 3025(Part 16):2023	2250
5	BOD	IS 3025(Part 44): 1993	NA
6	Colour	IS 3025(Part 4):2021	-
7	Total Hardness	IS 3025(Part 21): 2009	NA
8	Ca++ Hardness	APHA 23rd Ed,2017,3500 Ca. B	NA
9	Mg++ Hardness	APHA 23rd Ed,2017,3500 Mg. B	NA
10	Chlorides	IS 3025(Part 32): 1988	600
11	Sulphate	IS 3025(Part 24): 2022	1000
12	Nitrate	APHA 23rd Ed,2017,4500 NO3-B	NA
13	Fluoride	IS 3025(Part 60): 2008	-
14	Phenol	IS 3025(Part 43): 2020	NA
15	Ammonical Nitrogen	IS 3025(Part 34) (ISE Method):1988	NA
16	SAR	By Calculation	26
17	Copper (as Cu)	APHA 23rd Ed,2017,3111-B	NA
18	Iron (as Fe)	IS 3025(Part 53): 2003	NA
19	Manganese (as Mn)	APHA 23rd Ed,2017,3500 Mn. B	NA
20	Mercury	APHA 23rd Ed,2017,3112-B	NA
21	Cadmium (as Cd)	IS 3025(Part 41): 1992	NA
22	Arsenic (as As)	APHA 23rd Ed,2017,3114-C	NA
23	Cyanide	IS 3025(Part 27): 1986	NA
24	Lead (as Pb)	IS 3025(Part 47): 1994	NA
25	Zinc	IS 3025(Part 49): 1994	NA
26	Chromium (as Cr)	APHA 23rd Ed,2017,3111-B	NA
27	Boron	IS 3025(Part 49): 1994	NA
28	Total Coliform	IS 1622:1981	2
29	COD	IS 3025(Part 57): RA 2021	-

2.2.5 Surface Water (Marine) Sampling & Analysis Techniques

Sr. No.	Parameter	Technical protocol	Classification for Coastal marine water (CPCB)
			SW-I
1	pH	IS 3025(Part 11):2022	6.5 to 8.5
2	Dissolved Oxygen	APHA 23rd Ed,2017,4500-O, B	5

Sr. No.	Parameter	Technical protocol	Classification for Coastal marine water (CPCB)
			SW-I
3	Colour & Odour	IS 3025(Part 4):2021 & IS 3025(Part 5):1983	No Colour No Odour
4	Floating Matters	-	None
5	Total Suspended Solid	APHA 23rd Ed,2017,2540-D	None from Sewage or Industrial waste Origin
6	Turbidity	IS 3025(Part 10):1984	-
7	BOD	IS 3025(Part 44): 1993	-
8	Oil & Grease	IS 3025(Part 39): 1991	0.1
9	Mercury as Hg	APHA 23rd Ed,2017,3112-B	0.001
10	Lead (as Pb)	IS 3025(Part 47): 1994	0.001
11	Cadmium (as Cd)	IS 3025(Part 41): 1992	0.01
12	Iron (as Fe)	IS 3025(Part 53): 2003	-
13	Manganese (as Mn)	APHA 23rd Ed,2017,3500 Mn. B	-
14	Total Coliform	IS 1622:1981	-
15	Sludge Deposits, Solid refuse floating Solids, Oil Grease and Scum	-	-
16	COD	IS 3025(Part 57): RA 2021	-

2.2.6 Treated Water Sampling & Analysis Techniques

The techniques used for waste water Sampling and analysis its permissible limit is given in following table.

Sr. No.	Parameter	Technical protocol	Permissible Limit (As per CPCB)
1.	Treated Effluent from STP		
	pH	IS 3025(Part 11):2022	6.5 to 9.0
	BOD	APHA 23 rd Ed,2017,5210-B	<30
	COD	IS 3025(Part 58): 2006	-
	TSS	APHA 23rd Ed.,2017, 2540 – D	<50
	Nitrogen Total	APHA 23rd Ed,2017,4500-B, C	--
	Phosphorous Total	APHA 23rd Ed,2017,4500-P, D	--
	Faecal Coliform	IS 1622:1981	<1000

2.3 Location (map showing general location, Monitoring location and project boundary) with coordinates & Monitoring details.

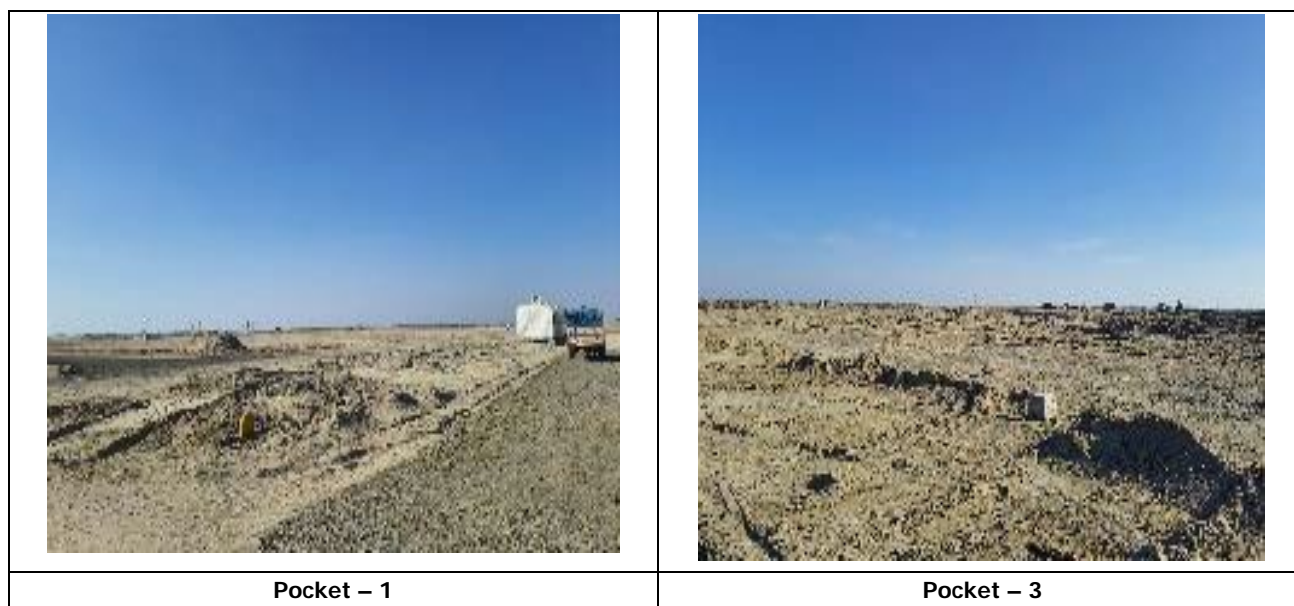
The general location of the project is shown in *Map 2-1* shows the study area of 10 Km radius around the project site on Google Earth downloaded image.

The sampling location used for monitoring purpose is taken after due consideration with baseline monitoring location, availability of power & weather condition etc. Also In order to evaluate the quality of sewage water, samples were acquired from the sewage water treatment plant for comprehensive analysis. These analyses encompassed physico-chemical, general-chemical, and microbiological parameters.

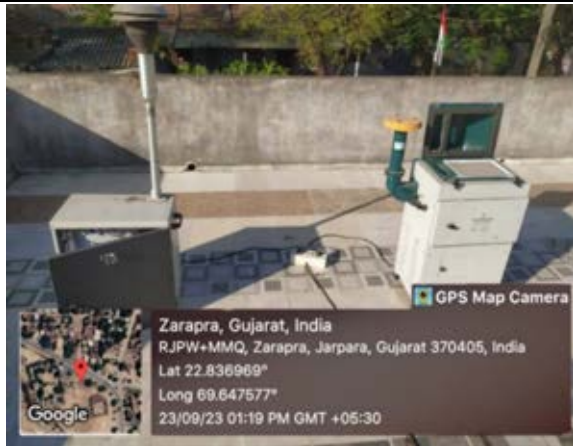
Sr. No.	Sampling Type	Sampling Location	Type of Area	Coordinates
1.	Ambient Air & Noise	Village - Zarpara	Rural Area	22.837942° N, 69.646225° E
2.	Ambient Air & Noise	Village - Navinal	Rural Area	22.829246° N, 69.598332° E

3.	Ambient Air & Noise	Village - Vandh	Rural Area	22.809106° N, 69.53562° E
4.	Ambient Air & Noise	Outside Fabrication & Batching Plant	Industrial Area	22.807563° N, 69.704170° E
5.	Ambient Air & Noise	Project Site (Pocket – 1)	Industrial Area	22.785943° N, 69.566645° E
6.	Ground Water (GW-5)	Navinal	Rural Area	22.829246° N, 69.598332° E
7.	Ground Water (GW-7)	Nana Bhadiya	Rural Area	22.833943° N, 69.486339° E
8.	Surface Water (SW-4)	Nagavanti Nadi	Rural Area	22.836757° N, 69.486339° E
9.	Surface Water (SW-7)	Siracha	Rural Area	22.835496° N, 69.621600° E
10.	Surface Water (Marine) (SW-2)	Kotdi Creek	Industrial Area	22.806976° N, 69.559314° E
11.	Surface Water (Marine) (SW-3)	Bardi Mata Creek	Industrial Area	22.812261° N, 69.561134° E
12.	Trade Effluent - STP	Project Site (Pocket – 1)	Industrial Area	22.784881° N, 69.566798° E

Photograph 2-1: Proposed Project Site (Current Status of Land)



Photograph 2-2: Photographs of monitoring



Zarapra Village



Navinal Village



Vandh Village



Project Site (Pocket - 1)



Outside Fabrication & Batching Plant



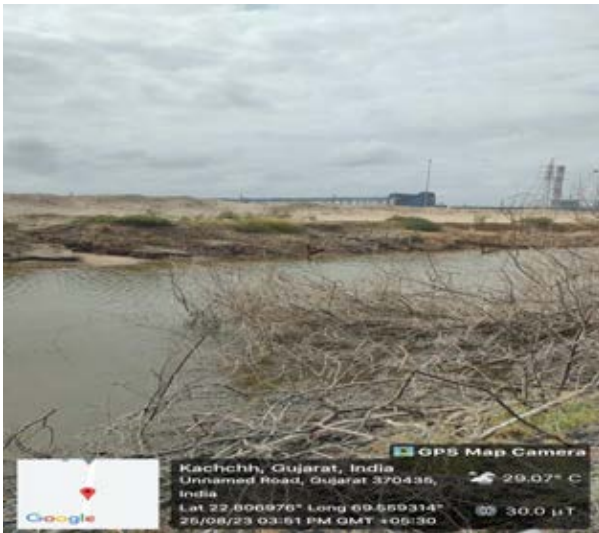
Ground Water (GW-7) Nana Bhadiya



Surface Water (Marine) (SW-3) - Baradi mata creek



Surface Water (SW-4) - Nagavanti Nadi



Surface Water (Marine) (SW-2) - Kotadi Creek water



STP Treated Water Sample Collection

Map 2-1: Project site and Study Area of 10 Km radius on Google Earth Downloaded Images



3 CLIMATIC CONDITON

3.1 Climatic data from secondary sources

For the coal to PVC project secondary data for weather conditions in the region is available for the period of April 2023 to September 2023. This table gives useful information about a region's weather condition. Meteorological data was analysed/reviewed for important parameters like Temperature, Humidity, BP, Wind speed, Wind direction, Solar radiation and Rainfall.

Average meteorological condition recorded at is as given in below table.

Table 3-1: Average meteorological condition

Weather Monitoring Data							
Month	Scale	Temp. (°C)	RH (%)	BP (mmHg)	Wind Direction	Wind speed (Km/ Hr.)	Total Rainfall (mm)
April - September 2023	Max.	44.1	100.3	760.2	360.0	82.0	690.5
	Min	21.2	10.6	737.0	0.0	0.1	
	Average/ Total	31.3	75.6	751.6	238.8	10.3	

4 ANALYSIS & INTERPRETATION

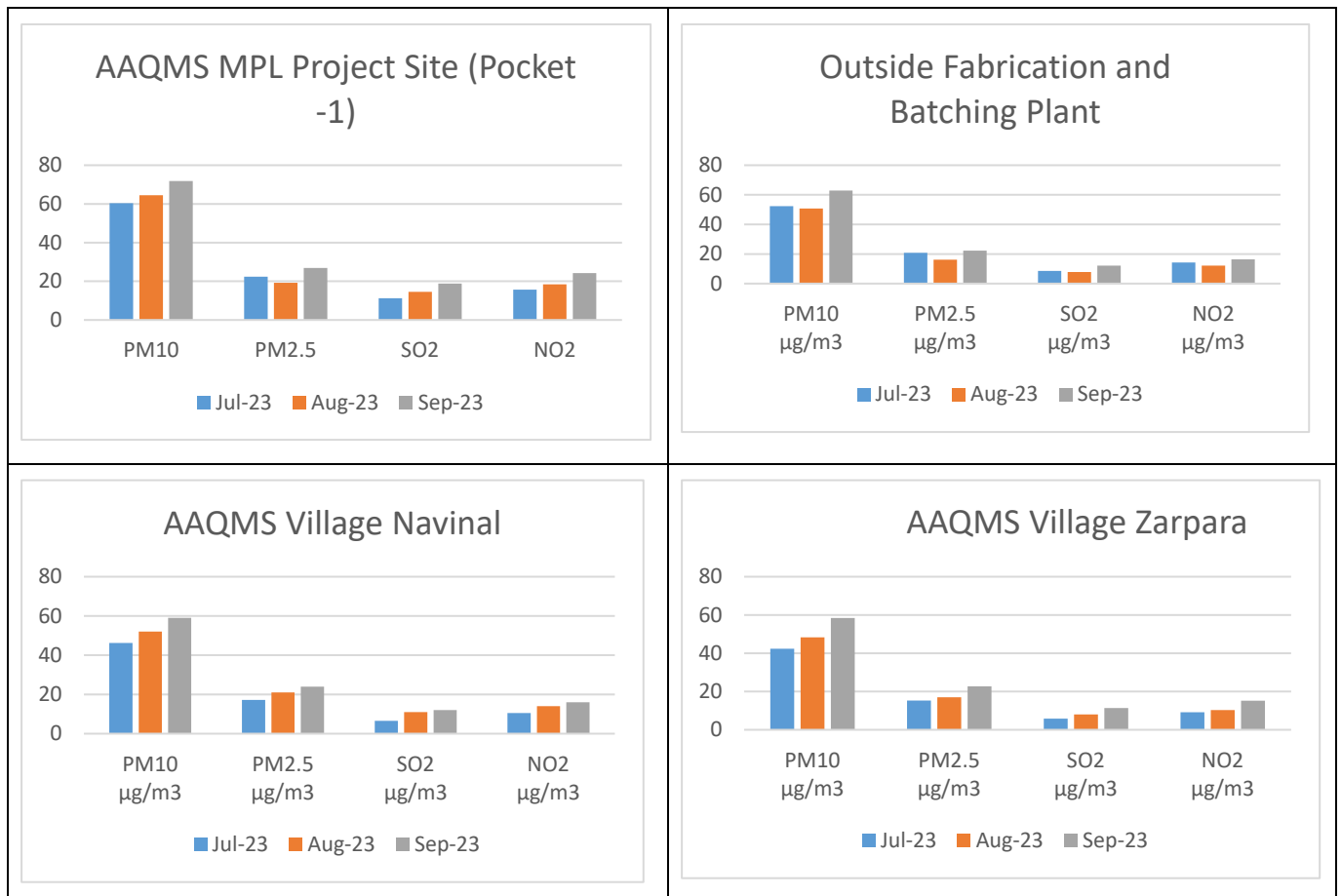
4.1 Ambient Air

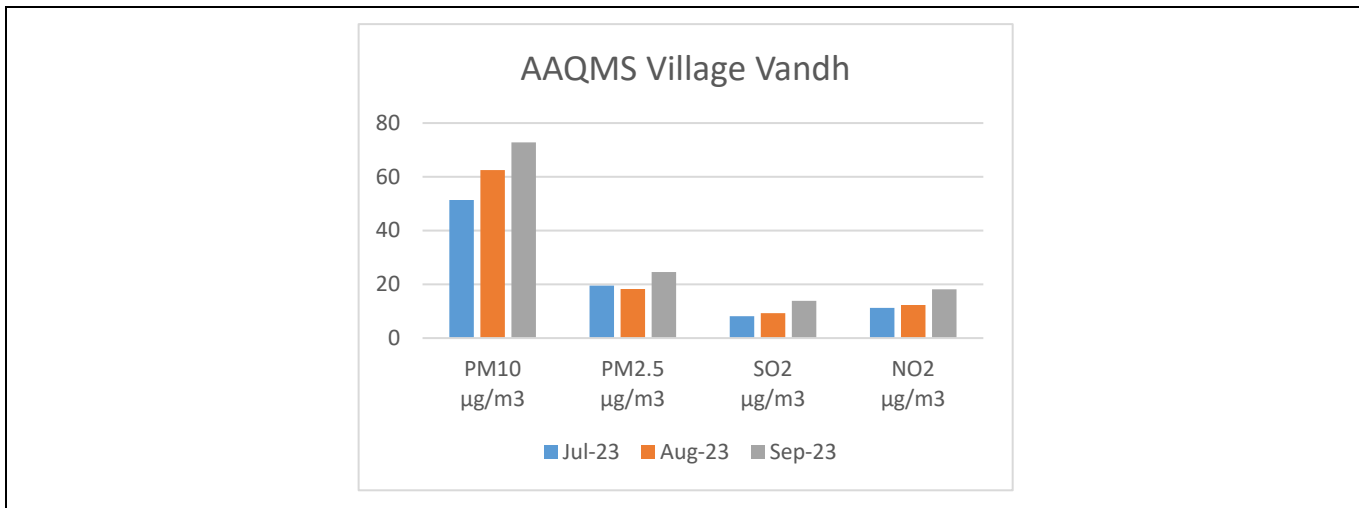
Sr. No.	Month	Parameter with Results											
		PM10	PM2.5	SO2	NO2	CO	O3	NH3	Pb	Ni	As	Benzene	Benzo (a) Pyrene
		µg/m3	µg/m3	µg/m3	µg/m3	mg/m3	µg/m3	µg/m3	µg/m3	ng/m3	ng/m3	µg/m3	ng/m3
		Permissible Limit As per NAAQS – 2009 Notification.											
		100	60	80	80	2	400	100	1	6	20	5	1
Location : Project Site (Near to Pocket -1)													
1	Jul-23	60	22	11	16	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
2	Aug-23	65	19	15	18	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
3	Sep-23	72	27	19	24	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
Report Reference No. - URA/23/08/A-054 dt. 25/07/2023, URA/23/08/A-066 dt. 31/08/2023, URA/23/09/A-MPL075 dt. 03/10/2023													
Location : Outside Fabrication and Batching Plant													
1	Jul-23	52	21	9	14	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
2	Aug-23	51	16	8	12	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
3	Sep-23	63	22	12	16	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
Report Reference No. - URA/23/08/A-053 dt. 25/07/2023, URA/23/08/A-067 dt. 31/08/2023, URA/23/09/A-MPL070 dt. 03/10/2023													
Location : Village Navinal													
1	Jul-23	46	17	7	11	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
2	Aug-23	52	21	11	14	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
3	Sep-23	59	24	12	16	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
Report Reference No. - URA/23/08/A-056 dt. 25/07/2023, URA/23/08/A-073 dt. 31/08/2023, URA/23/09/A-069 dt. 03/10/2023													
Location : Village Zarpara													
1	Jul-23	42	15	6	9	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
2	Aug-23	48	17	8	10	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
3	Sep-23	58	23	11	15	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
Report Reference No. - URA/23/08/A-058 dt. 25/07/2023, URA/23/08/A-062 dt. 31/08/2023, URA/23/09/A-MPL060 dt. 03/10/2023													
Location : Village Vandh													
1	Jul-23	51	20	8	11	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
2	Aug-23	63	18	9	12	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
3	Sep-23	51	20	8	11	<0.01	<5.0	<5.0	<0.5	<1.0	<1.0	<1.0	<0.1
Report Reference No. - URA/23/08/A-057 dt. 25/07/2023, URA/23/08/A-009 dt. 31/08/2023, URA/23/09/A-MPL082 dt. 03/10/2023													

Observations

- The concentration of PM10 ranged from 73 µg/m³ at the Project Site (Pocket -1) to 42 µg/m³ in the Village of Zarpara, with an average concentration of 57 µg/m³.
- The concentration of PM2.5 ranged from 27 µg/m³ at the Project Site - Pocket 1 to 15 µg/m³ in the Village of Zarpara, with an average concentration of 20.5 µg/m³.
- The concentration of SO₂ ranged from 19 µg/m³ at the Project Site - Pocket 1 to 6.0 µg/m³ in the Village of Zarpara, with an average concentration of 10.6 µg/m³.
- The concentration of NO₂ ranged from 24 µg/m³ at the Project Site - Pocket 1 to 9.1 µg/m³ in the Village of Zarpara, with an average concentration of 14.5 µg/m³.
- The concentrations of CO were below <0.01 mg/m³, & NH₃ were below <5.0 µg/m³, O₃ were below <5.0 µg/m³ at all the locations.
- The concentrations of Lead (Pb) were below <0.5 µg/m³, Arsenic (As) were below <1.0 ng/m³ & Nickel (Ni) were all below <1.0 ng/m³ at all the locations.
- The concentrations of Benzene were below <1.0 µg/m³ & BaP were all below <0.1 ng/m³ at all the locations.

The concentrations of all monitored air quality parameters were found to be within the permissible limits as defined by the National Ambient Air Quality (NAAQ) Standards set by the Ministry of Environment, Forest and Climate Change (MoEF&CC).



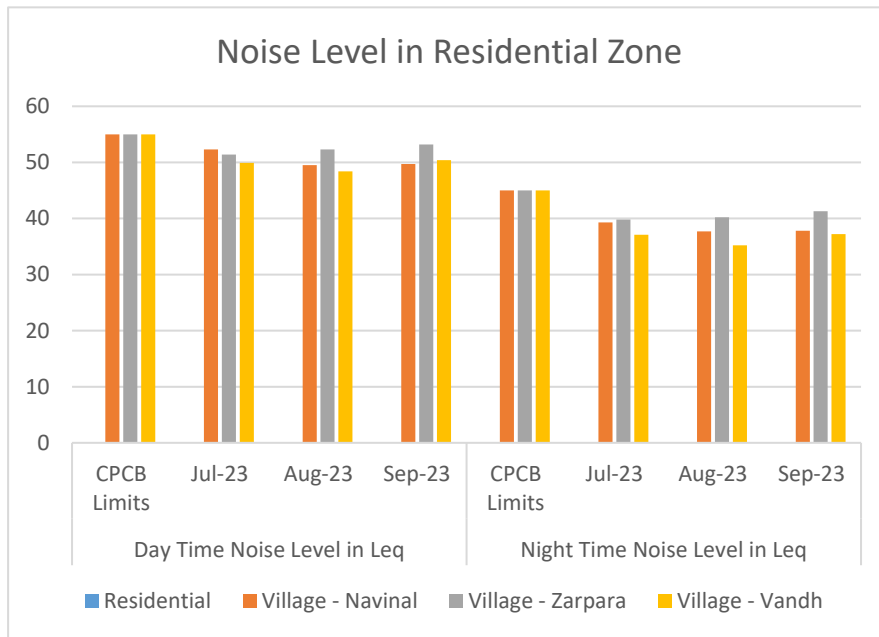
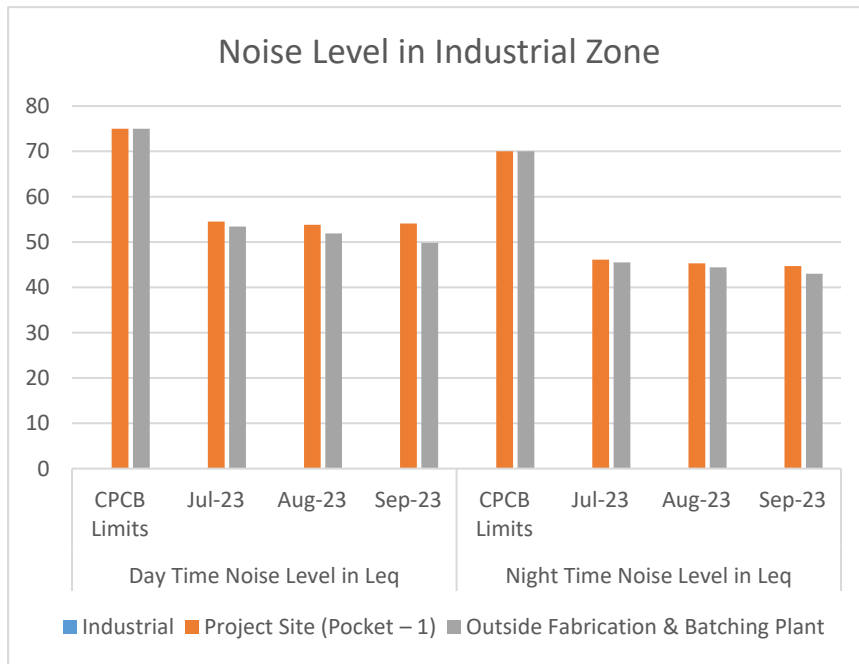


4.2 Ambient Noise

The ambient noise levels measured and analysed for equivalent noise levels viz. Leq (24hrly), Leq day, Leq night at all the noise monitoring locations.

Ambient Noise Level in Leq

Sr. No.	Location	Day Time Noise Level in Leq				Night Time Noise Level in Leq			
		CPCB Limits	Jul-23	Aug-23	Sep-23	CPCB Limits	Jul-23	Aug-23	Sep-23
Industrial									
1	Project Site (Pocket – 1)	75	54.5	53.8	54.1	70	46.1	45.3	44.7
2	Outside Fabrication & Batching Plant		53.4	51.9	49.8		45.5	44.4	43
Residential									
3	Village - Navinal	55	52.3	49.5	49.7	45	39.3	37.7	37.8
4	Village - Zarpara		51.4	52.3	53.2		39.8	40.2	41.3
5	Village - Vandh		49.9	48.4	50.4		37.1	35.2	37.2
Report Reference No. –									
<ul style="list-style-type: none"> Project Site (Pocket – 1) – Report 2 dt. 17/07/2023, URA/23/08/AN-003 dt. 31/08/2023, URA/23/09/AN-043 dt. 03/10/2023 Outside Fabrication & Batching Plant - Report 1 dt. 15/07/2023, URA/23/08/AN-004 dt. 31/08/2023, URA/23/09/AN-040 dt. 03/10/2023 Navinal - Report 3 dt. 19/07/2023, URA/23/08/AN-005 dt. 31/08/2023, URA/23/09/AN-039 dt. 03/10/2023 Zarpara - Report 5 dt. 21/07/2023, URA/23/08/AN-002 dt. 31/08/2023, URA/23/09/AN-036 dt. 03/10/2023 Vandh - Report 4 dt. 20/07/2023, URA/23/08/AN-001 dt. 31/08/2023, URA/23/09/AN-047 dt. 03/10/2023 									



Observations

Industrial Zone

The Average Leq (equivalent continuous sound level) during the day for the industrial zone ranged from 54.5 dB(A) at Project Site - Pocket 1 to 49.8 dB(A) at Outside Fabrication & Batching Plant. Similarly, the Leq during the night ranged from 46.1 dB(A) at Project Site - Pocket 1 to 43 dB(A) at Outside Fabrication & Batching Plant. Importantly, all these values remained within the CPCB (Central Pollution Control Board) limits specified for the industrial zone, both during daytime and night time.

Residential Zone

The Average Leq (equivalent continuous sound level) during the day in the residential zone varied from 53.2 dB(A) in Village Zarpara to 48.4 dB(A) in the village Vandh. Meanwhile, the Leq during the night ranged from 41.3 dB(A) in Village Zarpara to 35.2 dB(A) in Village Vandh. It's worth noting that the ambient noise levels in these villages are affected by the local environment, and all the Leq values are compliant with permissible limits across all the villages.

4.3 Water Quality

4.3.1 Ground Water Quality

Ground water was collected as grab samples from two location Navinal & Nana Bhadiya & sent to laboratory for analysis for various parameters.

The water quality findings from the ground water samples are outlined in the following table:

Sr. No.	Parameter	Unit	IS 10500 Standard Limits for drinking water		GW 05 Navinal	GW 07- Nana Bhadiya
			Desirable limit	Permissible Limit in the Absence of Alternate Source	Aug-23	Aug-23
1	pH	pH scale	6.5-8.5	NR	7.96	8.4
2	Temp	o C	NS	NS	29.5	29.5
3	Turbidity	NTU	1	5	BDL (MDL: 0.1)	BDL (MDL: 0.1)
4	TDS	mg/l	500	2000	1820	604
5	Electrical Conductivity	µmhos/cm	NS	NS	2750	990
6	COD	mg/l	NS	NS	20.4	<2
7	BOD	mg/l	NS	NS	2.5	<1
8	Phenol	mg/l	0.001	0.002	BDL (MDL: 0.001)	BDL (MDL: 0.001)
9	Chlorides	mg/l	250	1000	667.8	96.3
10	Sulphate	mg/l	200	400	38	73.3
11	Total Hardness	mg/l	200	600	236.1	118.9
12	Ca++ Hardness	mg/l	NS	NS	138.6	75.3
13	Mg++ Hardness	mg/l	NS	NS	97.5	43.6
14	Total Alkalinity	mg/l	200	600	289	242.2
15	Nitrate	mg/l	45	NR	1.1	0.6
16	Fluoride	mg/l	1	1.5	0.98	1.39
17	Sodium	mg/l	NS	NS	410	45.5
18	Potassium	mg/l	NS	NS	34	2.1
19	Calcium	mg/l	75	200	55.6	30.2
20	Magnesium	mg/l	30	100	23.7	10.6
21	Salinity	mg/l	NS	NS	1.206	0.174
22	Total Nitrogen	mg/l	0.5	NR	BDL (MDL: 2.0)	BDL (MDL: 2.0)
23	Total Phosphorous	mg/l	NS	NS	0.38	0.29
24	Dissolved Oxygen	mg/l	NS	NS	4.1	2.9
25	Ammonical Nitrogen	mg/l	NS	NS	BDL (MDL: 0.2)	BDL (MDL: 0.2)
26	SAR	-	NS	NS	11.6	1.4
	Heavy Metals					
27	Arsenic (as As)	mg/l	0.01	0.05	BDL (MDL: 0.01)	BDL (MDL: 0.01)
28	Cadmium (as Cd)	mg/l	0.003	NR	BDL (MDL: 0.003)	BDL (MDL: 0.003)
29	Chromium (as Cr)	mg/l	0.05	NR	BDL (MDL: 0.05)	BDL (MDL: 0.05)
30	Copper (as Cu)	mg/l	0.05	1.5	BDL (MDL: 0.05)	BDL (MDL: 0.05)
31	Cyanide (as CN)	mg/l	0.05	NR	BDL (MDL: 0.05)	BDL (MDL: 0.05)

32	Iron (as Fe)	mg/l	0.3	NR	BDL (MDL: 0.1)	BDL (MDL: 0.1)
33	Lead (as Pb)	mg/l	0.01	NR	BDL (MDL: 0.01)	BDL (MDL: 0.01)
34	Mercury (as Hg)	mg/l	0.001	NR	BDL (MDL: 0.001)	BDL (MDL: 0.001)
35	Manganese (as Mn)	mg/l	0.1	0.3	BDL (MDL: 0.1)	BDL (MDL: 0.1)
36	Nickel (as Ni)	mg/l	0.02	NR	BDL (MDL: 0.02)	BDL (MDL: 0.02)
37	Zinc (as Zn)	mg/l	5	15	BDL (MDL: 0.05)	BDL (MDL: 0.05)
38	Total Coliform	MPN	Shall not be detectable		Absent	Absent
39	Faecal Coliforms	MPN	Shall not be detectable		Absent	Absent
Report Reference No.					URC/23/08/0551 URB/23/08/0531	URC/23/08/0552 URB/23/08/0529

Observations :

These analysed results were subsequently compared against the IS:10500 Standard Limits for drinking water & are found well within Limits.

4.3.2 Surface Water Quality

Surface water was collected as grab samples from two location Nagavanti Nadi & Siracha village pond. Same has been sent to laboratory for analysis for various parameters.

The water quality findings from the surface water samples are outlined in the following table:

Sr. No.	Parameter	Unit	Classification for Inland Surface Water (CPCB)	SW 04 Nagavanti Nadi	SW 07 Siracha village pond
			Class E	Aug-23	Aug-23
1	pH	pH Scale	6.5 to 8.5	7.62	7.7
2	Dissolved Oxygen	mg/l	NA	6.1	5.9
3	TDS	mg/l	2100	410	198
4	Electrical Conductivity	µmohs/cm	2250	661	305.3
5	BOD	mg/l	NA	2.3	2
6	Colour	Pt.co	-	BDL (MDL: 5.0)	BDL (MDL: 5.0)
7	Total Hardness	mg/l	NA	73.3	59.4
8	Ca++ Hardness	mg/l	NA	39.6	33.7
9	Mg++ Hardness	mg/l	NA	33.7	25.7
10	Chlorides	mg/l	600	19	15.4
11	Sulphate	mg/l	1000	10.4	8.9
12	Nitrate	mg/l	NA	0.5	BDL (MDL: 0.1)
13	Fluoride	mg/l	-	BDL (MDL: 0.2)	BDL (MDL: 0.2)
14	Phenol	mg/l	NA	BDL (MDL: 0.001)	BDL (MDL: 0.001)
15	Ammonical Nitrogen	mg/l	NA	BDL (MDL: 0.2)	BDL (MDL: 0.2)
16	SAR		26	1.52	1.89
17	Copper (as Cu)	mg/l	NA	BDL (MDL: 0.05)	BDL (MDL: 0.05)
18	Iron (as Fe)	mg/l	NA	BDL (MDL: 0.1)	BDL (MDL: 0.1)
19	Manganese (as Mn)	mg/l	NA	BDL (MDL: 0.1)	BDL (MDL: 0.1)
20	Mercury	mg/l	NA	BDL (MDL: 0.001)	BDL (MDL: 0.001)
21	Cadmium (as Cd)	mg/l	NA	BDL (MDL: 0.003)	BDL (MDL: 0.003)
22	Arsenic (as As)	mg/l	NA	BDL (MDL: 0.01)	BDL (MDL: 0.01)

23	Cyanide	mg/l	NA	BDL (MDL: 0.05)	BDL (MDL: 0.05)
24	Lead (as Pb)	mg/l	NA	BDL (MDL: 0.01)	BDL (MDL: 0.01)
25	Zinc	mg/l	NA	BDL (MDL: 0.05)	BDL (MDL: 0.05)
26	Chromium (as Cr)	mg/l	NA	BDL (MDL: 0.05)	BDL (MDL: 0.05)
27	Boron	mg/l	NA	BDL (MDL: 0.5)	BDL (MDL: 0.5)
28	Total Coliform	MPN/100ml	2	Absent	Absent
29	COD	mg/l	-	16.4	12.1
Report Reference No.				URC/23/08/0553 URB/23/08/0533	URC/23/08/0554 URB/23/08/0535

Observations :

These analysed results were subsequently compared against the **Classification for Inland Surface Water (CPCB)** Class E & are found well within Limits.

4.3.3 Surface Water (Marine) Quality

Surface water (Marine) was collected as grab samples from two location Kotadi Creek & Baradi mata creek. Same has been sent to laboratory for analysis for various parameters.

The water quality findings from the surface water (marine) samples are outlined in the following table:

Sr. No.	Parameter	Unit	Classification for Coastal Marine Water (CPCB)	SW 2- Kotadi Creek water	SW 3- Baradi Mata Creek
			SW-I	Aug-23	Aug-23
1	pH	pH scale	6.5 to 8.5	7.2	8.07
2	Dissolved Oxygen	mg/l	5	6.22	6.02
3	Colour & Odour	-	No Colour No Odour	10	10
4	Floating Matters	-	None	None	None
5	Total Suspended Solid	mg/l	None from Sewage or Industrial waste Origin	14	18
6	Turbidity	mg/l	-	0.1(3.9)	0.1(5.4)
7	BOD	NTU	-	3.1	3.2
8	Oil & Grease	mg/l	0.1	BDL (MDL : 5.0)	BDL (MDL : 5.0)
9	Mercury as Hg	mg/l	0.001	BDL (MDL : 0.001)	BDL (MDL : 0.001)
10	Lead (as Pb)	mg/l	0.001	BDL (MDL : 0.01)	BDL (MDL : 0.01)
11	Cadmium (as Cd)	mg/l	0.01	0.08	0.089
12	Iron (as Fe)	mg/l	-	0.14	0.15
13	Manganese (as Mn)	mg/l	-	BDL (MDL : 0.1)	BDL (MDL : 0.1)
14	Total Coliform	ml (MPN)	-	<2 Absent	<2 Absent
15	Sludge Deposits, Solid refuse floating Solids, Oil Grease and Scum	-	-	None	None
16	COD	mg/l	-	24.2	36.2
Report Reference No.				URC/23/08/0577 URB/23/08/0580	URC/23/08/0578 URB/23/08/0581

Observations :

These analysed results were subsequently compared against the **Classification for Coastal marine water (CPCB)** Class SW I & are found well within Limits.

4.3.4 Sewage Water Quality

Sewage water samples were collected as grab samples from STP outlet situated in Pocket 1. This STP has a capacity of 5 KLD and samples were sent to laboratory for analysis for various parameters.

The water quality findings from the sewage water sampling locations are outlined in the following table:

Sr. No.	Location	CPCB/GPCB Limits	STP Pocket I		
			Jul-23	Aug-23	Sep-23
1	pH @25°C	6.5 – 9.0	7.33	7.05	7.18
2	Total Suspended Solid	<50	14	6	22
3	Chemical Oxygen Demand (COD)	-	42.3	44.5	36.1
4	Biochemical Oxygen Demand (BOD) (5 days at 20 °C)	<30	12	13	17
5	Total Nitrogen	-	4.8	4.1	3.8
6	Total Phosphorus	-	0.8	2.2	1.8
7	Faecal Coliform	<1000	50	27	21
Report Reference No.			URC/23/07/MPL-0340 URB/23/07/MPL-0120	URC/23/08/579 URB/23/08/575	URC/23/09/537 URC/23/09/538

Observations :

These analysed results were subsequently compared against the standards set by the Central Pollution Control Board (CPCB) and are found well within limits.

Matrix
CERTIFIED CALIBRATION & VALIDATION SERVICES

CALIBRATION CERTIFICATE

SUBJECT: CALIBRATION OF SOUND LEVEL METER		CERTIFICATE NO.: ML/NCR/RESEARCH/2023-09	
Certificate Issue Date: 20/10/2023		Page 1 of 1	

1. Scope

1.1 Service Request Details: Calibration
 1.1.1 Service Request No.: ML/2023/0234
 1.1.2 Service Request Description: SLM/2023
 1.1.3 Unique Lab Report Number (ULR No.): CC2024230000936629
 1.1.4 Measurement / Group: Mechanical / Acoustics
 1.1.5 Name & Address of Organization: UNSTAR ENVIRONMENT RESEARCH LABS PVT. LTD., White House, 3rd Floor, Near S.I.D.C. Office, Char Rasta, Vapi, District, India, 396 105.

1.2 Item Details

1.2.1 Condition of the Item: Working

1.2.2 Name/Model: Sound Level Meter

Manufacturer: Eutech	Model No.: 951-833
Q.No.: ML/NCR/2023/0234	S.No.: ---
Range: 30 to 130 dB (2.5 Hz)	Type: Digital
Lower Limit: 0.1 dB @ 1 kHz	Accuracy: ±2 dB
Department: ---	Location: ---

1.4 Item Received On: 01/10/2023

1.4 Details of Test Equipment Used

Instrument Name	Lab No.	Certificate No.	Valid	Exp. Date
Sound Level Calibrator	ML/MIS/0202	FCN/10/11-13/2023	Within	11/06/2024

1.4.1 Operating Procedures Used: ML/NCR/ML/001
 1.4.2 Reference Standard: IS: 3770:2002
 1.4.3 Date of Calibration: 09 June 2023
 1.4.4 Recommended Due Date of Calibration: 05 June 2024
 1.4.5 Calibration Cycle: ---
 1.4.6 Laboratory Ambient: Temperature: 29.3 °C (284) Humidity: 58.0 %RH (24.22)
 1.4.7 Parameter: 95 dB (1 kHz)

1.5.3 Calibration Results

No.	Calibration Point	Set Value on Master (A)	Measured Value on SUT (B)	Error (B - A)	Std Expanded Uncertainty
1	94	94	94.6	0.6	±1.1 dB @ 1 kHz
2	114	114	114.9	0.9	±1.1 dB @ 1 kHz

1.6 General Remarks:

- The reported uncertainty is the expanded uncertainty as measurement obtained by multiplying the standard uncertainty by the coverage factor (k=2), which corresponds to a coverage probability of approximately 95.45% for a normal distribution.
- Uncertainty to be calculated at Max Error - Full Range of CC.
- Any amendments/changes in the certificate should be brought to our notice within 30 days from the date of issue Certificate.
- ISO/IEC 17025:2017 (Calibration)
- The Measurements are metrologically traceable to applicable national/International Standards.
- Any hard written corrections (except g) or photographs of the report invalidates this certificate.
- The results reported to the item calibrated.

Calibrated by: Ravi Kumar, Calibration Engineer

AUTHORIZED SIGNATORY

Ravi Kumar, Technical Director, Quality Manager

3rd End of Certificate 999

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Matrix
CERTIFIED CALIBRATION & VALIDATION SERVICES

CALIBRATION CERTIFICATE

SUBJECT: CALIBRATION OF SOUND LEVEL METER		CERTIFICATE NO.: ML/NCR/RESEARCH/2023-09	
Certificate Issue Date: 20/10/2023		Page 2 of 1	

1. Scope

1.1 Service Request Details: Calibration
 1.1.1 Service Request No.: ML/2023/0234
 1.1.2 Service Request Description: SLM/2023
 1.1.3 Unique Lab Report Number (ULR No.): CC2024230000936629
 1.1.4 Measurement / Group: Mechanical / Acoustics
 1.1.5 Name & Address of Organization: UNSTAR ENVIRONMENT RESEARCH LABS PVT. LTD., White House, 3rd Floor, Near S.I.D.C. Office, Char Rasta, Vapi, District, India, 396 105.

1.2 Item Details

1.2.1 Condition of the Item: Working

1.2.2 Name/Model: Sound Level Meter

Manufacturer: Eutech	Model No.: 951-833
Q.No.: ML/NCR/2023/0234	S.No.: ---
Range: 30 to 130 dB (2.5 Hz)	Type: Digital
Lower Limit: 0.1 dB @ 1 kHz	Accuracy: ±2 dB
Department: ---	Location: ---

1.4 Item Received On: 01/10/2023

1.4 Details of Test Equipment Used

Instrument Name	Lab No.	Certificate No.	Valid	Exp. Date
Sound Level Calibrator	ML/MIS/0202	FCN/10/11-13/2023	Within	11/06/2024

1.4.1 Operating Procedures Used: ML/NCR/ML/001
 1.4.2 Reference Standard: IS: 3770:2002
 1.4.3 Date of Calibration: 09 June 2023
 1.4.4 Recommended Due Date of Calibration: 05 June 2024
 1.4.5 Calibration Cycle: ---
 1.4.6 Laboratory Ambient: Temperature: 29.3 °C (284) Humidity: 58.0 %RH (24.22)
 1.4.7 Parameter: 95 dB (1 kHz)

1.5.3 Calibration Results

No.	Calibration Point	Set Value on Master (A)	Measured Value on SUT (B)	Error (B - A)	Std Expanded Uncertainty
1	94	94	94.1	-0.1	±1.1 dB @ 1 kHz
2	114	114	114.5	0.5	±1.1 dB @ 1 kHz

1.6 General Remarks:

- The reported uncertainty is the expanded uncertainty as measurement obtained by multiplying the standard uncertainty by the coverage factor (k=2), which corresponds to a coverage probability of approximately 95.45% for a normal distribution.
- Uncertainty to be calculated at Max Error - Full Range of CC.
- Any amendments/changes in the certificate should be brought to our notice within 30 days from the date of issue Certificate.
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Annexure – III

Activities of Corporate Environmental Responsibility

In line with the proposed Corporate Environment Responsibility (CER) plan as per EIA study and Environment Clearance (EC), Mundra Petrochem Limited has planned phase wise implementation of the various community & eco-development activities in all 15 villages surroundings to the project activity as part of extended Environment Management Plan (EMP). A total amount of INR 123 Cr has been proposed as CER expenditure in 5 years for community developmental activities focused in all 15 nearby villages in coordination with district administration for the entire Coal to PVC project of CAPEX INR 34900 Cr. Since the project is being developed in phased manner, it is proposed to expend INR 67.53 Cr in 5 years from the initiation of project construction/execution activity at site-proportionate to total CAPEX of the project in phase-I. Thus, the amount of INR **67.53 Cr** will spend for community initiative as CAPEX of Phase I (as part of extended EMP) within the project period before commissioning and CER expenditure of remaining INR **55.47 Cr** shall be planned when the Phase II activities initiated.

Accordingly, MPL has already initiated CER activities in all villages surrounding project area and total CER expenditure incurred in various community welfare & eco-development activities during the period from April, 2023 to September, 2023 approx. INR 50.91 Lakhs with cumulative CER expenditure of approx. 500 Lakhs in line with project CAPEX incurred till September 2023 as project is still in detail engineering & design stage.

Also, in order to know the present socio-economic status and needs of the local community, a "Baseline & Need Assessment Study" was also carried out through third party professional agency i.e. M/s Saline Area Vitalisation Enterprise Pvt. Ltd., involving various stakeholders – local villagers, administration etc. and the recommendation of the study is further being included in the CER plan for implementation in phased manner.

Further, following activities have been completed for the period from April, 2023 to September, 2023.

Sr. No.	Details / Descriptions	Budget Utilized (INR)
A	Education Initiatives	3,25,952
B	Monitoring and Reporting.	8,16,427
C	Sustainable Livelihood and women Empowerment	2,47,675
D	Community Rural Infrastructure Development	37,01,557
Total (INR)		50,91,611

A. Education Initiatives:

Adani Foundation set out an innovative intervention through project “**Utthan**” to improve students' learning capabilities, provide facilities to schools to improve environment and achieve better learning outcomes at the grassroots level with the help of “**Utthan sahayak**”. The main objectives of “Utthan” are adopting government primary schools, Main streaming progressive learners, Enhancing Learning outcomes, arresting dropout rates, introducing English as a third language, enabling joyful leaning spaces and collaborating for teachers capability building.

Teachers support under “Utthan Sahayak” Program

As part of education initiative, Mundra Petrochem Limited has provided “Shikshan Sahayak” (support of qualified & trained teachers) to Siracha Govt Primary School to continue education in school in absence of permanent teachers.

Fisherfolk Livelihood & Skill Development

Vehicle Transportation Facilities:

Mundra Petrochem Limited, extended vehicle transportation services to School – going children from Luni and Randh Fisherman Settlements to the AVMB School, Bhadreshwar.

Education Kits Support:

Education kits including notebooks, guides and bags have been provided to fisherfolk students studying in 9th to 12th standard for enhancing their learning experience.

The above initiatives helped in increasing turn-out of students in the schools through parental engagement including enhancement in learning & cultural shift.

Education awareness sessions :

Education awareness sessions were conducted in four fisherfolk Vasahat of nearby villages to highlight the importance of education, particularly girl-child education. Approximate 500 students were benefited from this awareness sessions.



Photo: Vehicle support, education Kits serving and Education awareness program at fisherfolk community.

Youth employment:

The main objective of this initiative is to offer sustainable employment opportunities to the local fishing community in Mundra. We bridge the gap between industries and Fisherfolk youth by facilitating job placements. Total of 12 fisherfolk youths have been successfully engaged in this endeavor during the reporting period.

Scholarship support:

The scholarship support (covering actual school fees etc.) has been provided to 30 Nos. deserving students under the committed corporate key initiative to empower the future of fisherfolk communities through education.

. This unwavering commitment not only provide support in education but also promoting gender equality and advancing girl child education though extending 100% fee support to female candidates and 80% to male candidates.

Natural Farming

Natural farming is an urgent need of the hour, Mundra Petrochem limited and Adani Foundation team have comprehensive approach to promote natural farming practices through a variety of activities aiming to minimize and /or eliminate pesticides and chemicals usage, lead to producenutritious, chemicals free produce which is benefitting both farmers and consumers by providing healthier and more sustainable food options as well as plays significant role to flourishing environment and balanced ecosystem.

Regular awareness sessions related to “Natural Farming” are being organized for the farming communities aiming to increase agricultural productivity, use of real world class techniques.

Further, support to obtain natural farming certification through the Gujarat Organic Product Certification Agency (GOPCA) so that farmers could achieve higher earning by selling certified organic agriculture produce.

The usage of Jivamrut, Vormi compost bed, Nimastra Agnistra Dasparni ark, Gaukrupa Amrutam becteria and Biogas etc under natural faming not only improve the soil fertility (quality) but also great reduction in soil, water & air pollution by eliminating chemicals fertilizers & pesticides. This initiative also helping in improvement of health conditions of the farmers communities.

Total 60 farmers participated in a comprehensive natural farming training program- organised through collaboration with the Center for Agricultural Sciences.



પ્રાકૃતિક ખેતી જ પ્રગતિનો સાચો માર્ગ છે, ખેડૂતો પૂર્ણ વિશ્વાસથી પ્રાકૃતિક ખેતી કરે : રાજ્યપાલ

રાજ્યપાલ સમય જીવન, મંડલી
કચ્છના મુન્દરા-મોંઢલી વિસ્તારમાં પ્રાકૃતિક ખેતી કરતા ખેડૂતો રાજ્યપાલ આશ્ચર્ય દેવજન સાથે મોંઢિ કરવા રાજ્યપાલ પધાર્યા હતા. રાજ્યપાલ પ્રાકૃતિક ખેતી સહકારી મંડલીના રૂર પુટલા સભ્યો પેરીના આ ખેડૂતોએ પ્રાકૃતિક ખેતીના પોતાના અનુભવો કહ્યા હતા. રાજ્યપાલે દરેક ખેડૂતને યોગ્યતાથી માનવેલું આપ્યું હતું. તેમણે કહ્યું કે, પ્રાકૃતિક ખેતી જ પ્રગતિનો સાચો માર્ગ છે. ખેડૂતો પૂર્ણ વિશ્વાસથી પ્રાકૃતિક ખેતી કરે. મુન્દરા-મોંઢલીના પાસાસભ્ય અનેકદબાઈ દેવેના નેતૃત્વમાં રાજ્યપાલ પધારેલા ખેડૂતોએ ઈન્સાઇપ્રેશન પોતાના અનુભવો કહ્યા. એટલું જ નહીં તેઓ પોતાની સાથે પોતાના પ્રાકૃતિક ખેત ઈન્સાઇપ્રેશન પણ લોસામેર લાવ્યા હતા. કમ, સાકભાજ અને અનાજની ગુણવત્તા રાજ્યપાલ સમક્ષ રજૂ કરતા ખેડૂતોનો આનંદ ઇચ્છાઓ



હતા. આ લેવનમાં પ્રાકૃતિક ખેતીનો વ્યાપ વધારવા પ્રયત્નશીલ એટાલી કાઉન્સિલના પંચિનબેન સાલ પણ ખેડૂતો સાથે રહ્યા હતા. કમચ જિલ્લાના મુન્દરા વિસ્તારમાં પ્રાકૃતિક ખેતી કરતા ખેડૂત જીવરાજ ગઢવીએ ગુજરાતના ખેડૂતો પ્રાકૃતિક ખેતી જ કરે એવો સંકલ્પ સિદ્ધ કરવા પોને જૂલો નહીં પહેરવાનો સંકલ્પ લીધો

છે. રાજ્યપાલ આશ્ચર્ય દેવજન જીવરાજ ગઢવીના આ સંકલ્પની સરભલા કરતાં તે જલ્દીમાં જલ્દી સાકાર થાય એ માટે સહિયારા પ્રયત્નો કરવાની જરૂર પર ભાર મૂક્યો હતો. જીવરાજભાઈ ગઢવી એ કહ્યું કે, તેઓ છેલ્લા સાત વર્ષથી પ્રાકૃતિક ખેતી કરે છે. તેમની જમીનનો ઓર્ગેનિક કમ્પોન ઠ.૩૨

થવા છે કે, પોતાના ખેતરમાં એટલો ટુરીઝમ વિકસાવવાનું આયોજન કરી રહ્યા છે. તેઓ કમચમાં અન્ય ખેડૂતોને પણ પ્રાકૃતિક ખેતીની તાલીમ આપી રહ્યા છે. પ્રાકૃતિક ખેતીથી કમચમ કુટનો પાક લેતા અભિલા ખેડૂત ગીતાબેન જોડવાએ કહ્યું કે, તેઓ વર્ષે રૂપિયા અઠીથી ગણ લાખના કમચમ કુટનું ઈન્સાઇપ્રેશન કરીને ભુજ અને રાજકોટના બજારમાં વેચે છે. રાજ્યપાલ આશ્ચર્ય દેવજનને તેમને ધનજીવામુન અનાવવાની યોગ્ય પદ્ધતિ સમજાવી હતી અને વેલિનિક કમ્પે પ્રાકૃતિક ખેતી કરવા માનવેલું આપ્યું હતું. તેમણે બિયારણને ઓજામુનથી સંસ્કારીત કરીને યોગ્યતા કરવાની, ધનજીવામુન અનાવવાની, આચ્છાદન કરવાની, એક સાથે અનેક પાક લેવાની પદ્ધતિઓ વિનિયમિત સમજાવી હતી. અભિલા ખેડૂત જયોતિબેન ટાંક પોતાના ખેતરનાં કરેલા લાભો કહ્યા હતા.

રાજ્યપાલ કરેલાનું કહા અને ગુણવત્તા જોઈને પ્રભાવિત થયા હતા. રાજ્યપાલે કહ્યું કે, પ્રાકૃતિક ખેતી કરતા ખેડૂતો પોતાના ઈન્સાઇપ્રેશન જાહેર જ મુલ્યવર્ધન કરીને યોગ્ય માર્કેટિંગ કરે. આમ કરવાથી અલગમાં વધારો થશે. રામભાઈ ગઢવી પોતાની વાકીયા જંગલથી નામિયેર લાવ્યા હતા. વિશાળ કદના નામિયેર જોઈને રાજ્યપાલ આશ્ચર્ય દેવજનને આશ્ચર્ય વ્યક્ત કર્યું હતું. તેમણે કહ્યું હતું કે, પ્રાકૃતિક ખેતી પ્રત્યે વિશ્વાસ ઊભો કરો, વધારા માટે માર્કેટ તો આયોજાય તોમું થઈ જશે. ભુજપુરના સરપંચ માણેકભાઈ ગઢવી, માવજીભાઈ વલેરે ખેડૂતોએ પણ પોતાના અનુભવો વર્ણવ્યા હતા અને પ્રાકૃતિક ખેતીથી સમૃદ્ધિ માટે પ્રસાદા વ્યક્ત કરી હતી. રાજ્યપાલે અન્ય ખેડૂતો પણ પ્રાકૃતિક ખેતી અપનાવે એ માટે પ્રેરણા અને માનવેલું આપવા સૌ ખેડૂતોને ખેતરનાં કરેલા લાભો કહ્યા હતા.

Photo: Awareness program on Natural farming and activities acknowledged by Governors of Gujarat.

In addition to above, a proactive step has been taken by organizing awakening and awareness sessions to promote natural farming practices in villages of Mundra taluka. These efforts led to the formation of the "Raj Shakti Prakrutik Kheti Sahkari Mandali", comprising of 35 dedicated farmers who are deeply committed to natural farming. Company has started green carnival to provide a platform for those farmers to sell their agricultural products in company's both colonies in Mundra. Encouraged by positive feedback, the farmers have set-up a organic Agri produce shop in Mundra, it serves as an inspiration for other to embrace eco – friendly agricultural practices. Now 302+ farmers are collaborating with Mandli.

Previously, these farmers used to sell their produce in bulk to vendors. Now, they are selling product directly to consumers, leading to a 35% increase in their income. Furthermore, they have applied for the certificate from the Gujarat Organic Product Certification Agency, highlighting their commitment to organic farming practices. Now, they have started collective organic farming in the 200 acre of Agri land with proper fencing and technique.



Photo: Natural Farming Practices to cell natural farming product.

World Environment Day Celebration:



Photo: Awareness cum kitchen garden kits distribution programs for farming communities of nearby villages.

Mundra Petrochem Limited & Adani foundation in collaboration with Govt Agri. Dept organized celebration of "World Environment Day on 5th June, 2023. This program was organized to spread awareness cum distribution of kitchen garden kits for farmer resident at nearby villages. More than 500 farmers with the aim to enable them to grow fresh and nutritious, chemical free vegetables. This initiative will enhance food security and promote self – reliance.

Plastic Free Village Awareness

The central aim of the plastic – free drive is to empower and enlighten students as key agents of change, enabling them to disseminate awareness and instill the practice of reducing single use plastic within their community.

1. Educate: Spread awareness about the harmful effects of plastic on the environment, marine life, soil health and human wellbeing.
2. Engage: Mobilize community members, especially the youth and family members to actively participate in plastic waste reduction activities.
3. Implement: Introduce sustainable alternatives to ensure proper disposal and recycling.

About 10,000 students of primary school and 990 students of secondary schools of nearby villages have been enlightened through plastic free awareness programs.



Photo: Awareness Program on "Plastic free Drive"

B. Community Health Initiative

Regular health camps being organized by Adani Group to bridge healthcare gaps in underserved regions, offering a holistic approach for community wellbeing with combining preventive and precautionary measure through awareness session, Health Check camp, screening and treatment.



Mobile health care units and rural clinic services by Adani Group have made significant strides in delivering essential healthcare to remote rural area and underserved populations since the inception.

C. Sustainable Livelihood and Women empowerment:

Date restoration:

In the aftermath of the devastating Biporjoy cyclone, farming community faced a severe setback as numerous Date, Mango and other fruits trees which served as a vital source of income for farmer were left in shambles.

To address this crisis and provide a ray of hope, MPL embarked on the Dates Restoration Project in collaboration with Krishi Vigyan Kendra (KVK) and other agricultural experts. This project aimed to rejuvenate and review the fallen Date plants. Approximately 615 Date plants have been successfully restored. These plants are now on the path to recovery and are expected to bear fruit in the upcoming season which will providing significant financial relief to the farmers community.



Photo: Date restoration activities.

Home Biogas Plants:

Mundra Petrochem Limited (MPL) in association with the Adani Foundation actively involving local farming communities around the Coal to PVC project for usage of sustainable energy & organic manure. Objective of this initiative is to educate farmer community on utilizing biogas from the cattle dung (i.e usage of clean sustainable energy for cooking). In addition to this, organic compost generated from the biogas plants supports natural farming.

As part of "Corporate Environment Responsibility (CER)", Mundra Petrochem Limited planned to support 240 farmers by providing the technical know-how, guidance & financial support in purchase & installation of Bio-gas plant in the surrounding villages of the Coal to PVC project which will helps farmers to access the self sustained & clean source of energy for cooking and will also get the organic manure for natural farming. The initiative will further helps in enhancing the farmer's economy.



Photo: Home Bio-gas system to farming communities.

Women empowerment:

Mundra Petrochem Limited has initiated various initiatives through Adani Foundation for empowerment of women through Self Help Group (SHG) for self-employment and also engaging women farmers in various trainings programs i.e. operations of farming equipment's, supporting for understanding Government Schemes/various Subsidies on agriculture/horticulture/cattle's etc., awareness on home biogas, cattle feed or NB21 promotion etc.

Water Conservation:

As part of "Corporate Environment Responsibility (CER)", Mundra Petrochem Limited has constructed through Adani Foundation Rainwater harvesting system to collect, convey and store rain for later use from the surfaces during rainy season. Rainwater Harvesting is a simple method of collecting rainwater and deploying the same for further usage, a step towards water conservation aiming towards fulfillment of Corporate Environment Responsibility.

These efforts have led to enhancement in water storage, water quality consistency water access for drinking and agricultural use.

Sr. No.	Project	Unit	Out Come	effectiveness
1	Check dam strengthening at Nana Kapaya	1	Water storage capacity increased by 48,000 Cum	60+ Farmer's, 120+ acres area of Agri land can be irrigated.
2	Recharge Borewell	21	Reduce salinity ingress and preventing water run	150+ farmer's 260+ Acres area of Agri land can be irrigated.
3	Pipe culvert at Checkdam located at Bhujpur	1	Prevent water runoff into sea side.	35 farmer's 120+ acres of Agri land can be irrigated.





Photo: Pond deepening, rainwater recharging borewell and pipe culvert activities at nearby villages.

Tree plantation:

Launching Prakrutirath-is an initiative for trees distributions among the peoples of nearby villages. It is about fostering a sense of responsibility toward the surrounding environment. Through sapling distribution to individuals, we have empowered communities to take ownership of their surroundings, leading to a heightened consciousness about the environment's significance.

Enhancing the landscape and improving environment, local species of trees with heights ranging from 6ft to 8ft along the 18km stretch of road from Zarpara to Nana Bhadiya village have been planted. This green initiative adds beauty and promotes environmental wellbeing.





Photo: Tree plantation alongside the road from Zarpara to Nana Bhadiya.

Further, large scale tree plantation activities have been initiated at village Desalpar community area.





Photo: Tree plantation activities initiated at village Desalpar.

Imparting Skill development trainings through "Skill Development Centre (SDC)":

Mundra Petrochem Limited (MPL) has initiated skill development activities for youth of the nearby villages through Adani Skill Development Centre (ASDC). In this regard, MPL has identified the interested youths for various skill development programs namely- Solar Technician (Solar Panel Manufacturing Technician), Domestic Data Entry Operator, Assistant Electrician. These courses are designed as per National Skills Qualifications Framework (NSQF). These skill development training will help youths in getting employment in

industries nearby. Training on Mudwork is also planned for the people having interest in activities related to craft of mud work. The course will provide the desired skill set to the trained personal leading to self-employment etc.

D. Community Rural Infrastructure Development:

Cyclone Biparjoy left a trail of substantial losses in Mundra and surrounding villages. Adani Foundation collaborated with panchayats and Government bodies, paying a pivotal role in relief and recovery efforts. More than 17,000 people benefited from various efforts. Adani foundation consider this as ethical responsibility and source of satisfaction.

Fisherfolk home were significantly damaged by the Biporjoy Cyclone. In response to that company have provided 2696 cement sheets to 336 fisherfolk households of Juna Bandar, Luni and Randh Bandar to support their recovery.

The work have been performed as under:

Pre – cyclone	During Cyclone	Post – cyclone
✓ Team distribution	✓ Food and Shelter provision	✓ Temporary housing
✓ Workforce migration	✓ Fodder support	✓ Food Packets
✓ Basic amenities	✓ Awareness messages	✓ Excavator support
✓ Awareness efforts	✓ Vehicle / Ambulance support	✓ Transfer of affected individuals.
✓ Meeting with Government	✓ Coordination with Panchayat	✓ Provision of fodder





Photo: Support during Biparjoy Cyclone.

E. Bio-Diversity:



Coastal Biodiversity :

Mundra Petrochem Limited is in a process of multi species Mangrove Biodiversity Park with collaboration of Gujarat Institute of Desert Ecology (Bhuj, Kachchh Total 20 hector area have been developed with multi species Mangrove plantation at Luni coast, Mundra. Avicenna Marina, Rhizophora Mucronata Ceriops Tagal, Ceripos decandra are the spices of Biodiversity Park Due to this massive costal plantation, different birds, crabs, fishes and other insects will be attracted towards the coast.

Terrestrial Biodiversity:

In 16 villages with coordination of Village Development Committee, in 2 acre land biodiversity park will be developed which will be divided in 4 compartments i.e fruit bearing trees, medicinal trees, oxygen trees and native spices which will be connected by paver pathways Terrestrial habitats are ones that are found on land, like forests, grasslands, deserts, shorelines, and wetlands Terrestrial habitats also include man made habitats, like farms, towns, and cities, and habitats that are under the earth, like caves and mines Discussion with village development committee regrading provision of land This initiative will attract various flora and fauna.

On July 26th, Mundra Petrochemical Limited has celebrated Mangrove Day with spreading awareness over 9th & 10th Grade students and fisherfolk. The session ended with Mangrove plantation. Approximately more than 150 participants were participated.



Photo: Mangrove species awareness and plantation program.

Other community and eco-developmental activities in villages by Adani Group

In addition to above, Adani Foundation has carried out various socio-economic & eco developmental activities at villages of Taluka: Mundra and Mandavi. Adani Foundation helping community by facilitating quality education, enabling the youth with income-generating skills, promoting a healthy society and supporting infrastructure development. With an aim to contribute to the holistic development of communities, the Adani Foundation is contributing to the global agenda of meeting Sustainable Development Goals (SDGs).

Few activities are listed as:

1. Native species plantation in the 2 acres area at Nana Kapaya village creating a flourishing mini forest with 5,508 trees.
2. Barren spaces were transformed into lush green havens through our massive public plantation drives. One notable example is the Bhupur Visri Mata temple where 25,000 trees have been planted.
3. About 57,065 numbers of trees have been distributed among the villagers of nearby villages under Prakruti Rath during the monsoon season.
4. Activities under "Utthan – Flagship Education Program of Adani Foundation".
 - a) 2541 numbers of progressive learner and Assessment of 6314 students (3rd to 7th Standard)
 - b) More than 400 mothers were personally engaged and more than 10,000 mothers actively participated in the mother meet program.
 - c) 877 students are preparing for competitive exams i.e 354 JNV, 273 PSE & 250 NMMS.
 - d) More than 5000 students of class 1st to 4th were facilitated for making English as third language.
 - e) More than 72000 books were issued under Library activities.
 - f) 4170 students empowered with digital skills & knowledge.
 - g) More than 4300 students of primary & high schools participated under Summer camp.
5. Diverse health care initiatives are making society healthier. We facilitated the participation of numerous attendees for the health care activities
 - a. 1007 numbers of medical support.
 - b. 58 numbers of Dialysis.
 - c. 4690 numbers of Mobile Van users.
 - d. 5939 numbers of users at Rural clinic centers.
 - e. 1448 numbers of users at health camp.
 - f. 1489 numbers of users at specialty health camp.
 - g. 5584 numbers of Ayushman card.
 - h. 1598 numbers of donators at blood donation camp.
6. Dialysis Support: In Mundra, where water quality challenges contribute to a higher prevalence of urinary infection lead to kidney failure cases. Our Dialysis Support Program is designed to assist those in extreme need and Financial weaker. The program is not only alleviating their financial burden but also enabling them to lead healthier lives.
7. The initiative is a dedicated effort to eradicate cataract – related vision impairments specially focused on senior citizen through Meticulous planning as 473 patient of 9 villages benefited with comprehensive Eye Screenings, Cataract Surgeries and post operative care and follow – up.

8. Arranged gynecological and ophthalmic and general health camp at village level.
9. Adani Foundation has started 100% Ayushman Card coverage in all villages of Mundra in coordination with the District Health Department. 5584 Ayushman cards have been issued among the 25 villages. Further, more than 2230 women among 18 villages were check up under Gynec Health check up program.
10. We have introduced the "Sagar Mitra Card" to simplify access for Fisherfolk to specific fishing routes within APSEZ. This Digital card is connected to a digital punching machine located at designated entry points.
11. 15,000 kilo liter of drinking water have been distributed at Luni bandar having 401 numbers of population in the village.
12. 20,000 kilo liter of drinking water have been distributed at Bavdi bandar having 535 numbers of population in the village.
13. Under the "*Project Sahel*", comprehensive training programs are being conducted in which 850 numbers of women across more than 82 Self Help Group have been trained.
14. Empowering communities through Menstrual Hygiene Awareness, Adani Foundation have conducted sessions in 18 villages. A total of 1587 women and 494 girls from schools actively participated in these enlightening sessions at the grassroot level.
15. In the Millet Program, 545 numbers of women were participated and they have prepared 236 numbers of delectable millet dishes.
16. 195 stalls have been constructed for vegetable market for promoting local entrepreneurship under community development program .
17. Skill development program serve the skills on Digital literacy, RTG Crane operator, Beauty therapist, mud work, Advance Excell training, real time exposure, hydrography training, entrepreneurship development program, placement opportunity etc.
18. Utthan Sahayak played a pivotal role in supporting taluka level science fair and sports activities, resulting in the selection of 6 students for the district level sports competitions.

Grassland Development Program:

Mundra Petrochem Limited have started Grass land development with a primary objective to create a self sustaining village by converting common pastureland (Gauchar) into fertile and productive grasslands to ensure a reliable source of fodder for the community, especially during challenging times. Total 213 acres of Gauchar (Pastureland) has been cleaned and allotted for grass land development with strong community contribution and mobilization at villages like Zarpara, Siracha, Gundala, Kukadsar.

Cattle Health Camp:

Cattle health camp had been arranged in coordination with Government Veterinary doctors and the Animal Husbandry Department, dedicated to ensuring the crucial veterinary care to a significant number of cattle, effectively addressing their immediate health needs. Approximately more than 500 cattle were treated successfully with ensuring their health and vitality.



Photo: Cattle health camp and Fodder support at nearby villages.



Photo: Community Tree Plantation at nearby villages



Photo: Community health center and education center for villages



Photo: Aayushman Card distribution program



Photo: Drinking water distribution and women empowerment programme at near by villages.



Photo: Vegetable market – stalls under community infrastructure development.



Photo: News highlights on the Corporate Environment Responsibility (CER) activities by Mundra Petrochem Limited in nearby villages through Adani Foundation (a CSR Arm of Adani Group)

adani

Ref: MPL/ENV/CER/2023 - July/02

Date: 29/07/2023

To,
The District Development Officer,
Jilla Panchayat, Opp - Surmandir Multiplex
Bhuj-Kutch, Gujarat - 370 001

Subject Community developmental activities in all 16 villages surrounding the Coal to PVC project as part of Corporate Environment Responsibility (CER) activities by Mundra Petrochem Limited. - Reg.

Reference 1. Environment Clearance (EC) vide ref. no. F.No.IA-J-11011/423/2021 - IA - II (Ind - I) dated 23/12/2022.
2. EC vide ref. no. F.No.-J-11011/149/2021 - IA - II(i), 27/12/2022.
3. EC vide ref. no. F.No.IA-J-11011/149/2021 - IA - II(i), 28/11/2022.

Respected Sir,

We would like to draw your kind attention that being an environmentally & socially responsible corporate, Adani Group always give priority to community development along with any project establishment.

As you are aware that M/s Mundra Petrochem Limited (A subsidiary of Adani Enterprises) has planned to set-up Coal to PVC project at Mundra site and MoEF/BCC vide above refer letter dated 23/12/2022, 27/12/2022 and 28/11/2022 has already granted Environmental Clearances for Industrial activities under Industrial project - 1, 2 & 3 respectively for Coal to PVC project.

As per our commitments, we have already initiated community developmental activities as part of our Corporate Environment Responsibility (CER) in all 16 villages surrounding the Coal to PVC project.

You will kindly appreciate that to apply a systematic approach for community development initiative, a detailed baseline and need assessment study was carried out through a reputed third-party agency by involving community (i.e identification of needs by involvement of community) for further implementation identified needs as part of CER initiatives. In the same line, the activities being planned and initiated in present FY 2023 - 2024 have been enclosed as Annexure-I for your perusal.

This is for your information and record, please.

Thanking you,

For M/s Mundra Petrochem limited

Vinay Kumar Singh
General Manager - Environment & Sustainability.

Encl: Annexure-I
Copy to: The Taluka Development Officer, Taluka Panchayat, Mundra

Mundra Petrochem Limited
"Adani Corporate House",
Shantigram, Near Valuhra Devi Circle,
S. G. Highway, Khotiyar,
Ahmedabad 382 421
Guzrat, India
CIN: U23209GJ0201PLC32112

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Fax + 91 79 2655 5500
info@adani.com
www.adani.com

Registered Office: "Adani Corporate House", Shantigram, Near Valuhra Devi Circle, S. G. Highway, Khotiyar, Ahmedabad - 382421

Handwritten notes in Gujarati: સરકારી કાર્યાલય, તાલુકા પંચાયત, મુન્દરા

adani

Annexure-I: Activities under Corporate Environment Responsibility (CER) being carried out in FY 23-24

Sr. No.	Activities
1	Land, Vegetation, Water & Air
A	Soil & Water Conservation
A.1	Rooftop Rainwater Harvesting System
A.2	Pond Deepening & Beautification, River Cleaning
A.3	Check dam Strengthening
A.4	Percolation Well
B	Participatory Ground Water Management
B.1	Water Management Project
C	Natural Farming
C.1	Farmer Awareness Meeting & Seed Support, Training
C.2	Agriculture Equipment Support I.e Weed Cutter
D	Biodiversity
D.1	Tree plantation at Roadside with Tree Guard
D.2	Community Place / Green Belt Development
D.3	Horticulture Saplings distribution
2	Segar Sathi
2.1	Motivation Support
2.2	Women Awareness Program (De-addiction, Menstrual hygiene, parenting, Noncommunicable diseases)
3	Basic Infra
3.1	Approach Roads of Vasahat and Vadi vistar
4	Skill Development
4.1	Technical Training

List of 16 Villages Surrounding to the Coal to PVC Project -

1	Nani Bhujpar	5	Desaipar	9	Nana Bhadiya	13	Siracha
2	Pratappar	6	Moti Bhujpar	10	Mota Bhadiya	14	Nani Khakhar
3	Vandh	7	Targadi	11	Zarpara	15	Kandagara Mota
4	Navihal	8	Moti Khakhar	12	Modhava	16	Tunda

Mundra Petrochem Limited
"Adani Corporate House",
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Photo: Communication letter with Government authorities to execute the CER activities at nearby villages.

Annexure – IV Tree Plantation Activities

Prakrutirath is an initiative for trees distributions among the peoples of nearby villages. It is about fostering a sense of responsibility toward the surrounding environment. Through sapling distribution to individuals, we have empowered communities to take ownership of their surroundings, leading to a heightened consciousness about the environment's significance.

Enhancing the landscape and improving environment, local species of trees with heights ranging from 6ft to 8ft along the 18km stretch of road from Zarpara to Nana Bhadiya village have been planted. This green initiative adds beauty and promotes environmental wellbeing.



Photo: Tree plantation alongside the road from Zarpara to Nana Bhadiya.

Further, as an environment responsible organization, Mundra Petrochem Limited has also planned to carry out plantation activities as part of Eco development drives in surrounding village (Deshalpar Village) of the Coal to PVC project at Mundra which will lead to achieve green belt development.





Photo: Tree plantation activities initiated at village Desalpar.

Annexure – V

Awareness Program on “Ban on Single Use Plastic”



Awareness program for “Ban on Single use plastic” has been conducted at Government Schools and Self Help Groups of nearby villages as per The Plastic Waste Management Rules 2016, inter-alia, mandated banning of identified Single Use Plastic (SUP) items with effect from 01/07/2022.

Awareness Program has covers CPCB Notifications, prohibited plastic items, complications created by plastic waste, awareness on plastic waste, plastic recycling numbers and its meaning.

The central aim of the plastic – free drive is to empower and enlighten students as key agents of change, enabling them to disseminate awareness and instill the practice of reducing single use plastic within their community.

1. **Educate:** Spread awareness about the harmful effects of plastic on the environment, marine life, soil health and human well – being.
2. **Engage:** Mobilize community members, especially the youth and family members to actively participate in plastic waste reduction activities.
3. **Implement:** Introduce sustainable alternatives to ensure proper disposal and recycling.

10,000 students of primary school and 990 students of secondary schools of nearby villages have been enlightened through plastic free awareness programs.



Photo: Awareness Program on “Plastic free Drive”

adani

O/C

Ref: AEL/MPL/ENV/EC/2022 -September/01

Date: 02/09/2022

To,
Ms. Praveena D.K. (IAS),
Collector & DM,
Collector Office, Jilla Seva Sadan,
Bhuj - Kachchh, 370 001

Subject: Environment Clearance (EC) for proposed Project "VCM-2002 KTPA, PVC-2000 KTPA, Ethylene Glycol- 400 KTPA near village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s Adani Enterprises Ltd.

Reference: EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022

Respected Ma'am,

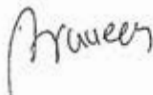
With reference to above subject, this is to inform that Ministry of Environment, Forest and Climate Change has granted Environment Clearance for our project "Industry-II activity i.e. VCM-2002 KTPA, PVC-2000 KTPA, Ethylene Glycol- 400 KTPA (as a part of Proposed Coal to Poly-Vinyl Chloride (PVC) Project of AEL in land notified as Industrial area of APSEZ, Ta-Mundra, Dist-Kachchh, Gujarat, comprising of IND-I projects i.e. Semi Coke-2030 KTPA, Cement-6 MTPA; Clinker-4 MTPA, IND-II projects i.e. VCM- 2002 KTPA, PVC-2000 KTPA, Ethylene Glycol- 400 KTPA and IND-III projects i.e. Acetylene-860 KTPA & Caustic Soda-1310 KTPA) and Calcium Carbide-2900 KTPA (Not Specified in EIA Notification)) by M/s Adani Enterprises Ltd." vide EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022.

As required under general condition No. B - (vi) of EC, we are submitting herewith copy of Environment Clearance for the said project for your reference, please.

Thanking You.

Yours Faithfully,

Authorized Signatory for Adani Enterprises Ltd.



Praveen Anant (Environment - Head)

Encl: As Above

MS
4/9/22
સાહચર્ય કોર્પોરેશન
કુલ પંચાયત કચ્છ
મુંદરા-કચ્છ

Adani Enterprises Ltd
"Adani Corporate House",
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www.adani.com

Registered Office: "Adani Corporate House", Shantigram, Near Vaishno Devi Circle, S. G. Highway, Khodiyar, Ahmedabad - 382421



Copy to:

1). **The District Development Officer,**
Jilla Pachayat, Opposite Surmandir
Multiplex,
Bhuj – Kachchh, 370 001

2). **The Taluka Development Officer,**
Taluka Panchayat, Mundra
Ta: Mundra Dist: Kachchh, 370 421

3). **The General Manager,**
District Industries Center, Near New
Green Hospital, Bhuj – Kachchh, 370 001

4). **The Regional Officer,**
Gujarat Pollution Control Board (Kachchh East),
Room no.215,216 & 217, 2nd Floor, Administration
Office Building, Deendayal Port Trust,
Sector – 08, Gandhidham – Kachchh, 370 201

Adani Enterprises Ltd
"Adani Corporate House",
Shantigram, Near Vaishno Devi Circle,
S. G. Highway, Khodiyar
Ahmedabad 382 421
Gujarat, India
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Ref: AEL/MPL/ENV/EC/2022 -September/03

Date: 02/09/2022

To,
The Sarpanch, Shri / Talati Cum Mantri, Shri
Gram Panchayat,
Village: _____
Ta: _____, Dist: Kachchh (List Attached)

Subject: Environment Clearance (EC) for proposed Project "VCM-2002 KTPA, PVC-2000 KTPA, Ethylene Glycol- 400 KTPA near village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s Adani Enterprises Ltd.

Reference: EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022

Respected Sir / Ma'am,

With reference to above subject, this is to inform that Ministry of Environment, Forest and Climate Change has granted Environment Clearance for our project "Industry-II activity i.e. VCM-2002 KTPA, PVC-2000 KTPA, Ethylene Glycol- 400 KTPA (as a part of Proposed Coal to Poly-Vinyl Chloride (PVC) Project of AEL in land notified as Industrial area of APSEZ, Ta.-Mundra, Dist-Kachchh, Gujarat, comprising of IND-I projects i.e. Semi Coke-2030 KTPA, Cement-6 MTPA; Clinker-4 MTPA, IND-II projects i.e. VCM- 2002 KTPA, PVC-2000 KTPA, Ethylene Glycol- 400 KTPA and IND-III projects i.e. Acetylene-860 KTPA & Caustic Soda-1310 KTPA) and Calcium Carbide-2900 KTPA (Not Specified in EIA Notification)) by M/s Adani Enterprises Ltd." vide EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022.

As required under general condition No. B - (vi) of EC, we are submitting herewith copy of Environment Clearance for the said project for your reference, please.

Thanking You,
Yours Faithfully,

Authorized Signatory for Adani Enterprises Ltd.

Praveen Anant (Environment - Head)

Encl: As Above
Copy to:

- 1). The Taluka Development Officer,
Taluka Panchayat, Mundra
Ta: Mundra Dist: Kachchh, 370 421

2).

RG2040347871H IVR:827120403476
RL MAMEKBAG SO <380015>
Counter No:1,20/10/2022,13:27
To:THE TALUKA ,DEVELOPMENT OFFI
PIN:370421, Mundra SO
From:ADANI ENTER,LTD ADANI HOUSE
Wt:190gms
Amt:70.00(Cash)
<Track on www.indiapost.gov.in>
<Dial 18002666868> <Wear Masks, Stay Safe>
India Post
Gujarat Pollution Control Board (Kachchh East),
Room no.215,216 & 217, 2nd Floor, Administration
Office Building, Deendayal Port Trust,
Sector - 08, Gandhidham - Kachchh, 370 201

Handwritten notes: Lakh 97 Vishnu Ind - 1, 2, 3

Adani Enterprises Ltd
"Adani Corporate House",
Shantigram, Near Vaishno Devi Circle,
S. G. Highway, Khodiyar
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Gujarat, India
CIN: L51100GJ1993PLC019067

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Registered Office: "Adani Corporate House", Shantigram, Near Vaishno Devi Circle, S. G. Highway, Khodiyar, Ahmedabad - 382421



Ref: AEL/MPL/ENV/EC/2022 –September/06/01

Date: 02/09/2022

To,
Shri Naran Gadhavi,
President - Kheti Vikas Seva Trust,
Village: Zarpara, Taluka: Mundra,
Dist-Kutch- 370 405

Subject: Environment Clearance (EC) (for Industrial activities pertain to Industry – 2 & 3) of proposed Project "**Coal to Poly-Vinyl Chloride (PVC) Project in land notified as Industrial area of APSEZ near village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s Adani Enterprises Ltd**". – reg.

Reference: 1. EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022
2. EC Identification No. - EC22A013GJ127411, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022

Respected Sir,

With reference to above subject, this is to inform that Ministry of Environment, Forest and Climate Change has granted Environmental Clearance for following Industrial activities pertain to Industry – 2 & 3 of proposed Project "**Coal to Poly-Vinyl Chloride (PVC) Project in land notified as Industrial area of APSEZ near village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s Adani Enterprises Ltd**".

Sr. no.	Type of Activities	Name of Activities	Details of Environmental Clearance	Enclosed as
1	Industry – 2	VCM– 2002 KTPA, PVC–2000 KTPA, Ethylene Glycol– 400 KTPA	EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022	Annexure – I
2	Industry – 3	Acetylene–860 KTPA & Caustic Soda–1310 KTPA)	EC Identification No. - EC22A013GJ127411, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022	Annexure – II

Accordingly, in compliance of general condition no. B(VI) & B(VII) of above refer letter sr. no. 1 & 2 respectively, we are enclosing herewith copies of Environmental Clearances for your reference, please.

Thanking You,
Yours Faithfully,

Authorized Signatory for Adani Enterprises Ltd.

Praveen Anant (Environment - Head)

Encl: As Above

Adani Enterprises Ltd
"Adani Corporate House",
Shantigram, Near Vaishno Devi Circle,
S. G. Highway, Khodiyar
Ahmedabad 382 421
Gujarat, India
CIN: L51100GJ1993PLC019067

Tel. + 91 79 2656 5555
Fax + 91 79 2555 5500
info@adani.com
www.adani.com

Ref: MPL/ENV/GPCB – Form – V/2023 –June/01

Date: 29/06/2023

To,

PCB ID:86184

The Unit Head, (Kutch District)
Gujarat Pollution Control Board,
Paryavaran Bhavan, Sector-10A,
Gandhinagar – 382010
E-mail : kut-uh-gpcb@gujarat.gov.in

Subject: Environment Statement (Form – V) for the year 2022-2023 for the Project
"Coal to Poly-vinyl Chloride (PVC)" near Village Vandh & Tunda, Taluka
Mundra, District Kachchh, Gujarat by M/s Mundra Petrochem Limited –
Reg.

Reference : 1) CTE no. 59301 granted by GPCB vide letter no. GPCB/(PCB ID:
86184)/ 16246 dated 13/12/2022.

2) Amended CTE letter no. PC/CCA-KUTCH-2104/GPCB ID
86184/738939 Dated 12/04/2023.

Respected Sir,

With reference to the Consent to Establish issued by GPCB vide above refer
letter dated 13/12/2022, amended vide letter dated 12/04/2023 for the project
"Coal to Poly-vinyl Chloride (PVC)" near Village Vandh & Tunda, Taluka Mundra,
District Kachchh, Gujarat by M/s Mundra Petrochem Limited.

Presently, the coal to PVC Project is under basic/detail engineering and
process design stage i.e construction activities yet to be initiated. The soft copy of
the Environment Statement (Form – V) for the year 2022 -2023 is attached for your
ready reference & record please.

Thanking you,



Vinay Kumar Singh
General Manager – Environment & Sustainability

Encl: As Above

Copy to : 1. Member Secretary, GPCB : ms-gpcb@gujarat.gov.in
3. Regional Office, GPCB (Kutch East): ro-gpcb-kute@gujarat.gov.in

Mundra Petrochem Limited
"Adani Corporate House",
Shantigram, Near Vaishno Devi Circle,
S. G. Highway, Khodiyar
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www.adani.com

Registered Office: "Adani Corporate House", Shantigram, Near Vaishno Devi Circle, S. G. Highway, Khodiyar, Ahmedabad - 382421

FORM – V
(See Rule 14)

From :
M/s Mundra Petrochem Limited,
Survey no.180/Part (Unsurveyed Land),
Mundra Forest (Diverted for SEZ),
Vill: Tunda, Ta:Mundra, Dist: Kutch 370421

To,
Gujarat Pollution Control Board,
Sector 10 – A,
Gandhinagar 382 043
Environmental Statement for the financial year ending the 31st March 2023.

PART – A

i	Name and address of the owner / occupier of the industry operation or process	Mr. K. S. Lakshminarayana (Site – Head) M/s Mundra Petrochem Limited, Survey no.180/Part (Unsurveyed Land), Mundra Forest (Diverted for SEZ), Vill: Tunda, Ta:Mundra, Dist: Kutch 370421
ii	Industry Category – Primary – STC Code Secondary – STC Code	Red (Large Scale)
iii	Production Capacity Units	As per Annexure - I
iv	Year of establishment	Under Construction Stage - The Coal to PVC project is under basic & detail engineering and process design stage,
v	Date of the last Environmental Statement Submitted	N/A

PART – B

Water and Raw material Consumption

i	Water Consumption M ³ /day	80*	
	Process	0	
	Cooling	0	
	Domestic	80	
	Name of Product	Process water consumption per unit of product output	
	During the previous financial year	During the current financial year	
	As per Annexure - I	NIL	NIL

ii	Raw Material Consumption		
	Name of raw materials	Name of products	Consumption of raw material per unit of output
			During the previous Financial year
			During the current financial year
	NIL	NIL	NIL

* Presently, the Coal to PVC project is under basic & detail engineering and process design stage, water consumption is mainly for domestic & greenery development.

PART - C

Pollution Discharged to environment / unit of output
(Parameter as specified in the consent issued)

Pollutant	Quantity of Pollutants discharged (Mass / day)	Concentration of pollutants in discharges (Mass/Volume)	Percentage of variation from prescribed standards with reasons
(a) Water	NIL*	NIL*	NIL*
(b) Air	NIL*	NIL*	NIL*

* : The Coal to PVC project is under basic & detail engineering and process design stage,

Part - D

Hazardous Wastes

[As specified under Hazardous Waste (Management and Handling) Rules, 1989]

Hazardous Wastes	Total Quantity (KG)	
	During the Previous Financial Year	During the Current Financial Year
(a) From Process	NIL*	NIL*
(b) From pollution control facilities.	NIL*	NIL*

* : The Coal to PVC project is under basic & detail engineering and process design stage,

Part - E

Solid waste

	Total Quantity (KG)	
	During the Previous Financial Year	During the Current Financial Year
(a) From Process	NIL*	NIL*
(b) From pollution control facilities.	NIL*	NIL*
(c) 1 - Quantity recycled OR re-utilized within the unit.	NIL*	NIL*
2 - Sold	NIL*	NIL*
3 - Disposed	NIL*	NIL*

* : The Coal to PVC project is under basic & detail engineering and process design stage,

Part – F

Please specify the characterizations (in terms of composition and quantum) of hazardous as well as solid waste and indicate disposal practice adopted for both these categories of wastes.

Hazardous Waste:

Presently, the Coal to PVC project is under basic & detail engineering and process design stage. However, M/s Mundra Petrochem Limited has taken membership of Common TSDF site operated by M/s Saurashtra Enviro Projects Private Limited, Kutch for safe disposal of following hazardous waste during construction and operation phase.

Name of Hazardous Waste	Category as per HWMR,2016 and amended	Schedule as per HWMR,2016 and amended	Authorized total generation Quantity (MT / year)	Mode of Disposal
Spent Catalyst and Molecular Sieves	1.6	I	1565	To be sent to an approved / authorized vendor for recovery / Disposal to authorized TSDF/ Recycler / Co-processing
Used OR Spent Oil	5.1	I	300	To be sent to registered Oil re-processor.
Empty barrels/containers/liners contaminated with hazardous chemicals /wastes	33.1	I	50	Disposed to authorized TSDF / recycler / Co-processing.
Spent ion exchange resin containing toxic metals	35.2	I	50	Disposed to authorized TSDF / recycler / Co-processing.
Chemical Sludge from Wastewater treatment	35.3	I	138601	Disposed to authorized TSDF / recycler / Co-Processing.

Solid Waste:

Presently, the Coal to PVC project is under basic & detail engineering and process design stage. However, following practices will be adopted during construction as well as operational phase of the project.

Type of Solid waste	Composition of Waste	Quantity (MT/Annum)	Mode of Transportation	Mode of Treatment / Disposal
Brine Sludge	Brine Sludge	17030	Truck	Disposal to authorized TSDF / Sanitary Landfill site / Sale to authorized brick manufacturers.
Carbon from coke drying tail gas dust removal system	Coke / Carbon fine particles	120000	Truck	To be Used in in-house cement plant as fuel along with coal OR Sent to TSDF if found hazardous after characterization.
Residues from Lime kiln cinder and shaker gravel	Lime stone, Lime and dust	108000	Truck	To be Used in in-house Cement plant / offsite cement plant as fuel along with coal OR sent to TSDF if found hazardous after characterization.
Residues from furnace gas purifies dust of dust collector	Carbon Fines	215000	Truck	To be Use in in-house Cement plant / offsite cement plant as fuel along with coal OR Sent to TSDF if found hazardous after characterization.
Calcium Carbide furnace slag	SiO ₂ , MgO etc.	400	Truck	To be Used in in-house cement plant / offsite cement plant as fuel along with coal OR sent to TSDF if found Hazardous after characterization.
Coke fine from sieve and dust collector	Coke	100000	Truck	To be Used in in-house cement plant / offsite cement plant as fuel along with Coal OR sent to TSDF if found hazardous after characterization.
Lime fines from sieve and dust collector	Lime	120000	Truck	To be Used in in-house cement plant / offsite cement plant as fuel along with coal OR sent to TSDF if found hazardous after characterization.
Boiler Ash	Boiler Ash	43200	Fly Ash Bulk trailer	To be Used in in-house cement plant
	Bottom Ash	21600	Fly Ash Bulk trailer	To be used in in-house cement plant.

Sewage Treatment Plant Sludge	Biological Sludges	602	Within site premises	Will be used as manure for gardening.
Municipal Solid waste	Canteen waste, scraped office stuff	~1270	Bags / Bins/ Dedicated area in scrap yard	Disposal to authorized sanitary landfill site / sale to recyclers of segregated wastes.
Biomedical Waste	Waste generated from Hospital activities.	As & when generated	Authorized collection vehicle	Bio medical waste to be sent to authorized common TSDF site.
Used lead acid batteries	Acid and other chemicals	As & when generated	Authorized collection vehicle	100 % buy - back policy implemented at site for collection and disposal of such type of waste.
Electronic waste	Damaged / obsolescence Electronic items	As & when generated	Vehicle of authorized recycler	To be sent to authorized recycler.
Construction and Demolition waste	Sand, cement, etc.	As & when generated	Truck	To be used for leveling of low laying area within the plant premises.

Part – G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.

Presently, the Coal to PVC project is under basic & detail engineering and process design stage. However, following pollution control measures will be taken on conservation of natural resources and on the cost of production.

Aspect	Mitigation Measures
Air	<p>Construction phase:</p> <ul style="list-style-type: none"> • Periodic checking of vehicles and construction machinery to ensure compliance to emission standards • Water sprinkling on haul roads <p>Operation Phase:</p> <ul style="list-style-type: none"> • Adequate stack height will be provided to all flue gas stack. • Highly efficient Air Pollution Control Equipment will be installed to proposed process stacks & flue gas stack. • Installation of Online CEMS as applicable

	<ul style="list-style-type: none"> • Closed loop system will be proposed for transfer of liquid / solid raw material from storage / tank farm area to processing areas. • Greenbelt area will be developed at the facility. • Attenuation of pollution/protection of receptor through greenbelt/green cover. • Regular monitoring of air pollutant concentrations will be done. • All trucks shall be PUC Certified from time to time. • Vehicles with applicable Bharat Stage exhaust emission norms will be used.
Noise	<p>Construction Phase:</p> <ul style="list-style-type: none"> ▪ Regular preventive maintenance of vehicles and construction equipment will be done. <p>Operation Phase:</p> <ul style="list-style-type: none"> ▪ The high noise generating equipment's like ID Fans, Compressors, DG Sets shall be provided with noise insulation, Acoustic laggings and silencers to ensure that the noise level at 1 meter from the machine is <85dB(A) or minimum 25dB(A) noise attenuation. ▪ Proper PPEs will be provided to the workers working in the high noise area within the plant and compliance will be done with applicable regulations. ▪ Job Rotation of workers working in the high noise area. ▪ Implement good working practices (equipment selection) to minimize noise and reduce its impacts on human health (earmuffs, safe distances, and enclosures). ▪ Development of thick Green belt within the plant premises and along project boundary to screen noise.
Water	<ul style="list-style-type: none"> ▪ No impact on Ground Water as there is no Ground water use. ▪ Only desalinated sea water supplied by APSEZL, will be used for Industrial and domestic purposes. ▪ No adverse impacts on surface water, ground water or soil. There will be no disposal of effluent outside project premises. ▪ All effluent will be reduced at source by recycling and reuse after proper treatment to achieve the Zero Liquid Discharge. <p>Mitigation measures and ZLD Scheme</p> <ul style="list-style-type: none"> ▪ ETP and STPs will be installed for treatment of effluents. ▪ The ETPs will consists of primary, biological & tertiary treatment process. After tertiary treatment, treated water is made to pass through UF, RO System and MEE. RO permeate and MEE condensate are recycled back for utilization in utility areas. Hence, ETPs works on Zero Liquid Discharge (ZLD) concept. ▪ Similarly, treated sewage will be reused in gardening, reducing the overall freshwater demand. ▪ The Solids waste generated from ETP will be disposed through TSDF and Bio sludge from STP will be disposed by using it as manure in green belt

Soil	<ul style="list-style-type: none"> ▪ Measures for site development will be minimum as project site is already identified as industrial area of APSEZ. ▪ Free area will be paved. ▪ Tree plantation will be carried out. ▪ Shrubs and grass to be planted wherever open land available. ▪ Top soil to be kept aside and reused in Greenbelt development wherever possible.
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Part – H

Additional measures /investment proposal for environmental protection including abatement of pollution / prevention of pollution.

Presently, the Coal to PVC project is under basic & detail engineering and process design stage. However, following measures / activities have been initiated / completed for the betterment of environment.

- Mundra Petrochem Limited has completed mangrove plantation in an area of 1 Ha. Due to this, coastal plantation, different birds, crabs, fishes and other insects will be attracted towards coast.
- Conducted Awareness program at nearby villages for "Ban on Single Use plastic" and "Wildlife conservation and it's benefit".

Part – I

Any other particulars for improving the quality of the environment.

Presently, the Coal to PVC project is under basic & detail engineering and process design stage. However, following measures / activities have been initiated for betterment of environment.

- Mundra Petrochem Limited & Adani foundation in collaboration with Govt Agriculture dept organized at district level workshop at Mundra as a part of the "Bharat Ka Amrut Mahotsav". The workshop was aimed to bringing all together to promote, implement and ensure convergence of natural farming to village level by involving "Gram Sevak" of kutch region.
- MPL has also organized training program on "Jivamrut preparation". More than 150 Gram Sevak across Kutch had participated and made aware about systematic and scientific way for effective Natural farming practices and ensure to incorporate it to Farm.
- Various awareness program on wetland restoration and coastal biodiversity was organized involving students. On this occasion, representative from Gujarat Pollution Control Board and Gujarat Institute of Desert Ecology (GUIDE) were present and addressed.

- Mundra Petrochem Limited (MPL) in association with the Adani Foundation engaged various farming communities in villages surrounding to Coal to PVC project activity to spread awareness about the use of biogas generated from the cattle dung from Bio-gas plant which provide farmer's a sustainable solution for energy security for cooking and compost generated form the biogas plan will be used as organic fertilizer for natural farming.



Signature of a person carrying out
an industry – operation or Process
Name: Mr. Vinay Kumar Singh

Designation: General Manager – Environment &
Sustainability

Address: M/s Mundra Petrochem Limited,
"Adani Corporate House",
Shantigram, Near Vaishno Devi Circle,
S. G. Highway, Khodiyar
Ahmedabad 382 421
Gujarat, India

Annexure – I

List of Product

Plant	Product Details	Capacity
Industry Project – 1		
Semi-Coke Plant	Coke	2030 KTPA
	Tar	370 KTPA
	Crude Benzene	26 KTPA
	Ammonium Sulphate	18 KTPA
	Sulphur	5 KTPA
	Coking Gas	1360 MNm ³ /A
Cement Plant	Ordinary Portland Cement, Portland Pozzolona Cement, Portland Slag Cement, Portland Composite Cement	6000 KTPA
	Clinker	4000 KTPA
Calcium Carbide	Calcium Carbide	2900 KTPA
	Lime fines and lime residues	2870 KTPA
Industry Project – 2		
PVC Plant	Polyvinyl Chloride (PVC Grades: Suspension, Mass Emulsions, Chlorinated PVC etc.)	2000 KTPA
VCM Plant	Vinyl Chloride Monomer	2002 KTPA
Ethylene Glycol Plant	Ethylene Glycol (EG) (Superior Grade EG, Qualified Grade EG, MEG, DEG, TEG)	400 KTPA
	Dimethyl Carbonate	13 KTPA
	Crude Ethanol	10 KTPA
	Alkanol	7 KTPA
Industry Project – 3		
Caustic Soda Plant (Chlor-Alkali Process)	Caustic Soda	1310 KTPA
	Caustic Soda (50% wt)	810 KTPA
	Hydrochloric Acid	1232 KTPA
	Sodium Hypochlorite	16 KTPA
	Caustic Potash	130 KTPA
	Potassium Carbonate	33 KTPA
	Sodium bi-carbonate	66 KTPA
	Caustic Soda flakes	600 KTPA
	Liquid Chlorine	60 KTPA
	Sodium Sulphate	75 KTPA
Acetylene Plant	Acetylene	860 KTPA
	Carbide Lime Sludge	5700 KTPA

Annexure - VIII



Ref: AEL/MPL/ENV/EC/2022 – September/05

Date: 06/09/2022

To,

Shri Shrawan Kumar Verma, IFS (Addl. Charge)
Deputy Director General of Forests (C)
Integrated Regional Office, Gandhinagar,
Ministry of Environment, Forest and Climate Change,
A-Wing-407 & 409, Aranya Bhawan, Near CH-3 Circle,
Sector-10A, Gandhinagar – 382010

एकीकृत क्षेत्रीय कार्यालय, गाँधीनगर
Integrated Regional Office, Gandhinagar
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय,
Ministry of Environment, Forest & Climate Change,
Govt. of India / भारत सरकार
कक्ष क्र. 407 व 409 ए विंग अरण्या भवन
Room No.407 & 409, A wing Aranya Bhawan
गाँधीनगर (गुजरात) / Gandhinagar(Gujarat)

09/09/22

Subject: Environment Clearance (EC) for proposed Project "VCM-2002 KTPA, PVC-2000 KTPA, Ethylene Glycol- 400 KTPA near village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s Adani Enterprises Ltd.

Reference: EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA II(I) dated 31/08/202

Respected Sir,

With reference to above subject, this is to inform that Ministry of Environment Forest and Climate Change has granted Environment Clearance for our project "Industry-II activity i.e. VCM-2002 KTPA, PVC-2000 KTPA, Ethylene Glycol- 400 KTPA (as a part of Proposed Coal to Poly-Vinyl Chloride (PVC) Project of AEL in land notified as Industrial area of APSEZ, Ta-Mundra, Dist-Kachchh, Gujarat, comprising of IND-I projects i.e. Semi Coke- 2030 KTPA, Cement-6 MTPA; Clinker-4 MTPA, IND-II projects i.e. VCM- 2002 KTPA, PVC- 2000 KTPA, Ethylene Glycol- 400 KTPA and IND-III projects i.e. Acetylene-860 KTPA & Caustic Soda-1310 KTPA) and Calcium Carbide-2900 KTPA (Not Specified in EIA Notification)) by M/s Adani Enterprises Ltd." vide EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022. Copy enclosed as **Annexure - A**.

Accordingly, in compliance of EC condition No. B(ix), we are submitting herewith copies of following News papers (**Annexure - B**) stating "the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB (GPCB) and may also be seen at Website of the Ministry at <https://parivesh.nic.in/> as well as on Company website at <https://adanienterprises.com/-/media/e1f0a2365908404bbf62e8c4d4b83969.ashx>" for your reference, please.

Adani Enterprises Ltd
"Adani Corporate House",
Shantigram, Near Vaishno Devi Circle,
S. G. Highway, Khodiyar
Ahmedabad 382 421
Gujarat, India
CIN: L51100GJ1993PLC019067

Tel. + 91 79 2656 5555
Fax + 91 79 2555 5500
info@adani.com
www.adani.com

Registered Office: "Adani Corporate House", Shantigram, Near Vaishno Devi Circle, S. G. Highway, Khodiyar, Ahmedabad - 382421



Sr. no.	Name of News Paper	Language	Date of Publication
1	Kutch Mitra	Gujarati	05/09/2022
2	Gujarat Samachar	Gujarati	05/09/2022
3	The Times of India	English	05/09/2022

Thanking You.
Yours Faithfully,

Authorized Signatory for Adani Enterprises Ltd,

Praveen Anant (Environment - Head)

Encl: As Above

Copy to:

1). **The Member Secretary,**
Gujarat Pollution Control Board,
Paryavaran Bhavan,
Sector - 10 A,
Gandhinagar 382 010

2). **The Regional Officer,**
Gujarat Pollution Control Board
(Kuchchh East),
Room no.215,216 & 217, Second floor,
Administration Office Building,
Gandhidham - Kuchchh, 370 201

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અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ

શાંતિગ્રામ, એસ. જી. હાઈવે, અમદાવાદ - ૩૮૨૪૨૧. (ગુજરાત)

જાહેર નોટિસ

મેં. અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ, APSEZ ઔદ્યોગિક જમીન, વાંઢ ઇ ટૂંડા ગામ નજીક, તા: મુન્દ્રા, જી: કચ્છ, ગુજરાત ખાતે પ્રસ્તાવિત "ઇન્ડસ્ટ્રી - ૨ એકટીવીટી જેવીકે વી.સી.એમ - ૨૦૦૨ કે.ટી.પી.એ., પી.વી.સી. - ૨૦૦૦ કે.ટી.પી.એ., ઇથીલીન ગ્લાયકોલ - ૪૦૦ કે.ટી.પી.એ. (જે સૂચિત કોલ ટુ પોલી-વિનાયલ (પી.વી.સી.) પ્રોજેક્ટ ના ભાગ રૂપે મેં. અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ ઢારા પ્રસ્તાવિત, APSEZ ઔદ્યોગિક જમીન, વાંઢ ઇ ટૂંડા ગામ નજીક, તા: મુન્દ્રા, જી: કચ્છ, ગુજરાત, જેમાં ઇન્ડસ્ટ્રી - ૧ પ્રોજેક્ટ - સેમી કોક - ૨૦૩૦ કે.ટી.પી.એ.; સિમેન્ટ - ૬ એમ.ટી.પી.એમ; ક્લિનકર - ૪ એમ.ટી.પી.એમ; ઇન્ડસ્ટ્રી - ૨ પ્રોજેક્ટ - વી.સી.એમ - ૨૦૦૨ કે.ટી.પી.એ., પી.વી.સી. - ૨૦૦૦ કે.ટી.પી.એ., ઇથીલીન ગ્લાયકોલ - ૪૦૦ કે.ટી.પી.એ, અને ઇન્ડસ્ટ્રી - ૩ પ્રોજેક્ટ - એસિટિલિન - ૮૬૦ કે.ટી.પી.એ. અને કોસ્ટિક સોડા - ૧૩૧૦ કે.ટી.પી.એ અને કેલ્શિયમ કાર્બાઇડ - ૨૯૦૦ કે.ટી.પી.એ. (EIA નોટિફિકેશન માં દર્શાવિલ નથી) ના ભાગ રૂપે સમાવેશ થાય છે.)" માટે ની પરિવરણીય મંજૂરી મિનિસ્ટ્રી ઓફ એન્વિરોમેન્ટ, ફોરેસ્ટ અને ક્લાઇમેટ ચેન્જ, નવી દિલ્લી ના પત્ર ક્રમાંક : EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022 ના રોજ પ્રાપ્ત થયેલ છે. સદરહુ માન્યતા અંગેનો પત્ર ગુજરાત પ્રદુષણ નિયંત્રણ બોર્ડ ની ઓફિસ માં તેમજ મિનિસ્ટ્રી ઓફ એન્વિરોમેન્ટ, ફોરેસ્ટ અને ક્લાઇમેટ ચેન્જ ની વેબ સાઈટ <https://parivesh.nic.in> પરથી પણ જોઈ શકાશે. તદ્ ઉપરાંત એન્વિરોમેન્ટ કલીયરન્સ ની કોપી કંપનનીની વેબસાઈટ <https://www.adanienterprises.com/-/media/e1f0a2365908404bbf62e8c4d4b83969.ashx> પર પણ જોઈ શકાશે.

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પ્રોદ્યુલ માણુ (પ્રોજેક્ટ. ડેડ)
મેં. અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ



પત્ર નહીં મિત્ર

કચ્છમિત્ર

ભુજ - સોમવાર, તા.૦૫-૦૯-૨૦૨૨

કચ્છ

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અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ

શાંતિગ્રામ, એસ. જી. હાઈવે, અમદાવાદ - ૩૮૨૪૨૧. (ગુજરાત)

જાહેર નોટિસ

મેં. અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ, APSEZ ઔદ્યોગિક જમીન, વાંટ ઇ ટૂંડા ગામ નજીક, તા: મુન્દ્રા, જી: કચ્છ, ગુજરાત ખાતે પ્રસ્તાવિત "ઇન્ડસ્ટ્રી - ૨ એક્ટીવીટી જેવીકે વી.સી.એમ - ૨૦૦૨ કે.ટી.પી.એ., પી.વી.સી. - ૨૦૦૦ કે.ટી.પી.એ., ઈથીલીન ગ્લાયકોલ - ૪૦૦ કે.ટી.પી.એ. (જે સૂચિત કોલ ટુ પોલી-વિનાયલ (પી.વી.સી.) પ્રોજેક્ટ ના ભાગ રૂપે મેં. અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ દ્વારા પ્રસ્તાવિત, APSEZ ઔદ્યોગિક જમીન, વાંટ ઇ ટૂંડા ગામ નજીક, તા: મુન્દ્રા, જી: કચ્છ, ગુજરાત, જેમાં ઇન્ડસ્ટ્રી - ૧ પ્રોજેક્ટ - સેમી કોક - ૨૦૩૦ કે.ટી.પી.એ.; સિમેન્ટ - ૬ એમ.ટી.પી.એમ; ક્લિનકર - ૪ એમ.ટી.પી.એમ; ઇન્ડસ્ટ્રી - ૨ પ્રોજેક્ટ - વી.સી.એમ - ૨૦૦૨ કે.ટી.પી.એ., પી.વી.સી. - ૨૦૦૦ કે.ટી.પી.એ., ઈથીલીન ગ્લાયકોલ - ૪૦૦ કે.ટી.પી.એ. અને ઇન્ડસ્ટ્રી - ૩ પ્રોજેક્ટ - એસિટિલિન - ૮૬૦ કે.ટી.પી.એ. અને કોસ્ટિક સોડા - ૧૩૧૦ કે.ટી.પી.એ અને કેલ્સિયમ કાબાઈડ - ૨૯૦૦ કે.ટી.પી.એ. (EIA નોટિફિકેશન માં દર્શાવેલ નથી) ના ભાગ રૂપે સમાવેશ થાય છે.)" માટે ની પર્યાવરણીય મંજૂરી મિનિસ્ટ્રી ઓફ એન્વિરોમેન્ટ, ફોરેસ્ટ અને ક્લાઇમેટ રેન્જ, નવી દિલ્લી ના પત્ર ક્રમાંક : EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022 ના રોજ પ્રાપ્ત થયેલ છે. સદરહુ માન્યતા અંગેનો પત્ર ગુજરાત પ્રદુષણ નિયંત્રણ બોર્ડ ની ઓફિસ માં તેમજ મિનિસ્ટ્રી ઓફ એન્વિરોમેન્ટ, ફોરેસ્ટ અને ક્લાઇમેટ રેન્જ ની વેબ સાઈટ <https://parivesh.nic.in> પરથી પણ જોઈ શકાશે. તદ્ ઉપરાંત એન્વિરોમેન્ટ ક્લીયરન્સ ની કોપી કંપનનીની વેબસાઈટ <https://www.adanienterprises.com/-/media/ef10a2365908404bbf62e8c4d4b83969.ashx> પર પણ જોઈ શકાશે.

પ્રોદ્યુત માત્ર (પ્રોજેક્ટ હેડ)

મેં. અદાણી એન્ટરપ્રાઇઝીસ લિમિટેડ

Adani Enterprises Limited

Shantigram, S.G. Highway, Ahmedabad-382421. (Gujarat)

PUBLIC NOTICE

M/s Adani Enterprises Limited, APSEZ Industrial Land, Near Village Vandh & Tunda, Taluka Mundra, District - Kachchh, Gujarat has been accorded Environmental Clearance (EC) for project "Industry - II activity i.e. VCM - 2002 KTPA, PVC - 2000 KTPA, Ethylene Glycol - 400 KTPA (as a part of Proposed Coal to Poly-Vinyl Chloride (PVC) Project of AEL in land notified as industrial area of APSEZ, Ta. - Mundra, Dist - Kachchh, Gujarat, comprising of IND - I projects i.e. Semi Coke-2030 KTPA, Cement - 6 MTPA; Clinker - 4 MTPA, IND-II projects i.e. VCM - 2002 KTPA, PVC - 2000 KTPA, Ethylene Glycol - 400 KTPA and IND - III projects i.e. Acetylene - 860 KTPA & Caustic Soda - 1310 KTPA and Calcium Carbide - 2900 KTPA (Not Specified in EIA Notification)) by M/s Adani Enterprises Ltd." by Ministry of Environment, Forest and Climate Change, Government of India vide **EC Identification No. - EC22A020GJ133762, File No. - IA-J-11011/149/2021-IA-II(I) dated 31/08/2022**. The said clearance letter is available at website of the Ministry of Environment, Forest and Climate Change at <https://parivesh.nic.in> and also available at office of the Gujarat Pollution Control Board (GPCB). Copy of EC is also kept at website of the company at <https://www.adanienterprises.com/media/e1f0a2365908404bbf62e8c4d4b83969.ashx>

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Pradyut Maji (Project Head)
M/s Adani Enterprises Limited