Ref: MPL/ENV/GPCB – Form – V/2024 –May/02 **Date: 18/05/2024**

To, **PCB ID:86184**
The Unit Head, (Kutch District)
Gujarat Pollution Control Board,
Paryavaran Bhavan, Sector-10A,
Gandhinagar – 382 010
E-mail : kut-uh-gpcb@gujarat.gov.in

Subject: Environment Statement (Form – V) for the year 2023 – 2024 for the Project "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.
3) MPL/ENV/GPCB – Form – V/2024 – June/01 Dated 29/06/2023.

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 "Poly-vinyl Chloride (PVC)" near Village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s Mundra Petrochem Limited.

Presently, the PVC project is under final design & detail engineering stage, however, soil sampling & stabilization, boundary fencing, earth preparation & piling for foundation/pre-construction activities are in progress at site. The soft copy of the Environment Statement (Form – V) for the year 2023 – 2024 is enclosed for your ready reference & record please.

We hope you will find the above in order.

Thanking you,

Vinay Kumar Singh
Head – Environment & Sustainability

Mundra Petrochem Limited

Encl: As Above

Copy to : 1. Member Secretory, GPCB : ms-gpcb@gujarat.gov.in
2. Regional Office, GPCB (Kutch East): ro-gpcb-kute@gujarat.gov.in
3. Integrated Regional Office, MoEF&CC, Gandhinagar: iro.gandhingr-mefcc@gov.in

Mundra Petrochem Limited
"Adani Corporate House",
Shantigram, Near Vaishno Devi Circle,
S. G. Highway, Khodiyar
Ahmedabad 382 421
Gujarat, India
CIN: U23209GJ2021PLC122112

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

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 370 421

To,
Gujarat Pollution Control Board,
Sector 10 – A,
Gandhinagar 382 043
Environmental Statement for the financial year ending the 31st March 2024.

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 370 421
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 pre-construction Stage** - Presently, the PVC project is under final design & detail engineering stage , however, soil sampling & stabilization, boundary fencing, earth preparation & piling for foundation/ pre-construction activities are in progress at site.
v	Date of the last Environmental Statement Submitted	29/06/2023

PART – B

Water and Raw material Consumption

i	Water Consumption M^3/day		33.194 M^3/day
	Process (Pre-Construction Activities)		30.548 M^3/day
	Cooling		0
	Domestic		2.646 M^3/day
	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 (2022 – 2023).	During the current financial year (2023 – 2024).
	NIL	NIL	NIL	NIL

* Presently, the PVC project is under final basic & detail engineering and process design stage, water consumption is mainly for domestic, pre-construction activities & greenbelt 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*

* : Presently, the PVC project is under final design & detail engineering stage , however, soil sampling & stabilization, boundary fencing, earth preparation & piling for foundation/pre-construction activities are in progress at site.

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*

* : Presently, the PVC project is under final design & detail engineering stage , however, soil sampling & stabilization, boundary fencing, earth preparation & piling for foundation/pre-construction activities are in progress at site.

Part – E

Solid waste

	Total Quantity (MT)	
	During the Previous Financial Year (2022 – 2023)	During the Current Financial Year (2023 – 2024)
(a) From Process	NIL*	2.801 (Canteen Waste)

Mundra Petrochem Limited

(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*	2.801 (Canteen Waste)

* : Presently, the PVC project is under final design & detail engineering stage , however, soil sampling & stabilization, boundary fencing, earth preparation & piling for foundation/pre-construction activities are in progress at site.

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 PVC project is under final design & detail engineering stage, only, soil sampling & stabilization, boundary fencing, earth preparation & piling for foundation/pre-construction activities are in progress at site. 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.

Mundra Petrochem Limited

Chemical Sludge from Wastewater treatment	35.3	I	138601	Disposed to authorized TSDF / recycler / Co-Processing.

Solid Waste:

Presently, the PVC project is under final design & detail engineering stage, however, soil sampling & stabilization, boundary fencing, earth preparation & piling for foundation/pre-construction activities are in progress at site. Moreover, 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	Limestone, 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	SiO2, 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

Mundra Petrochem Limited

				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 PVC project is under final design & detail engineering stage, however, soil sampling & stabilization, boundary fencing, earth preparation & piling for foundation/pre-

Murudeshwar Petrochem Limited

construction activities are in progress at site. Moreover, following pollution control measures will be taken on conservation of natural resources and on the cost of production.

Aspect	Mitigation Measures
Air	**Construction phase:** • Only PUC certified vehicles are to be deployed / used. • Use of dust covers loose construction material during transportation. • Stabilization of dust prone areas by sprinkling water. • Preventive maintenance of transport, heavy equipment and construction equipment to be carried out at site. • Use of low sulphur fuel i.e diesel. • Use of personal protective equipment's / mask, in case of high dust generation. • Monitor ambient air quality at construction site as well in surrounding villages. • Periodic checking of vehicles and construction machinery to ensure compliance to emission standards • Water sprinkling on haul roads **Operation Phase:** • 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 will be done • Closed loop system will be implemented for transfer of liquid / solid raw material from storage / tank farm area to processing areas as per requirement. • 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	**Construction Phase:** ▪ Regular preventive maintenance of vehicles and construction equipment will be done. ▪ Earmuffs/ ear plugs will be provided to workers working at high noise area and / or using machinery & earth moving equipment. ▪ Provision of signages & temporary barricading around site in case of high noise prone area. ▪ Use of well – maintained equipment. ▪ Ensure acoustic enclosures / noise mufflers in heavy equipment & D.G. sets as applicable.

	▪ Monitoring ambient noise quality at construction site as well in surrounding villages. **Operation Phase:** ▪ 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	▪ No impact on Ground Water as there is no Ground water in 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. ▪ No discharge of contaminated water into nearby water body or land area. ▪ Secondary containment and dykes in Hazardous material storage areas. **Mitigation measures and ZLD Scheme** ▪ 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	▪ 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. ▪ Segregation of waste to facilitate reuse / recycling. Adequate facilities for the storage of segregated waste materials on site. ▪ Waste construction material like bricks, cements etc. will be used as land fill material. ▪ Non – hazardous recyclable wastes (wooden, plastic, metal scrap etc.) will be segregated and sent for reuse / recycling.

Part – H

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

Presently, the PVC project is under final design & detail engineering stage, however, soil sampling & stabilization, boundary fencing, earth preparation & piling for foundation/construction activities are in progress at site. Moreover, following measures / activities have been initiated / completed for the betterment of environment.

- Tree plantations & date restoration activities have been carried out at nearby villages which includes the fruit trees like mangos, dates, etc. which are fostering the ecosystem of surrounding area.
- 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 PVC project is under final design & detail engineering stage, however, soil sampling & stabilization, boundary fencing, earth preparation & piling for foundation/pre-construction activities are in progress at site. Moreover, following measures / activities have been initiated for betterment of environment.

- Construction of Rain water Harvesting / restoration structures, RRWH systems, cleaning of rivers, deepening of check dams, rivers etc. at nearby villages resulting in water level as well as water quality at area.
- 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

Mundra Petrochem Limited

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 the 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 plant will be used as organic fertilizer for natural farming.

Signature:

Name: Mr. Vinay Kumar Singh

Designation: Head – 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