



Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

To,

The Authorized Signatory and Project Manager
ADANI ENTERPRISES LTD

Adani Enterprises Ltd,
Shantigram, S.G.Highway, Ahmedabad - 382421,,Ahmedabad,Gujarat-
382421

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the Ministry vide proposal number IA/GJ/IND2/230862/2021 dated 20 Jun 2022. The particulars of the environmental clearance granted to the project are as below.

- | | |
|---|---|
| 1. EC Identification No. | EC22A020GJ133762 |
| 2. File No. | IA-J-11011/149/2021-IA-II(I) |
| 3. Project Type | New |
| 4. Category | A |
| 5. Project/Activity including Schedule No. | 5(e) Petrochemical based processing (processes other than cracking & |
| 6. Name of Project | Proposed Coal to Poly-vinyl Chloride (PVC) Project near Village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s. Adani Enterprises Limited |
| 7. Name of Company/Organization | ADANI ENTERPRISES LTD |
| 8. Location of Project | Gujarat |
| 9. TOR Date | 29 Sep 2021 |

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 31/08/2022

(e-signed)
A N Singh
Scientist E
IA - (Industrial Projects - 2 sector)

Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH. Please quote identification number in all future correspondence.

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This has reference to your online proposal no. IA/GJ/IND2/230862/2021, dated 20th June, 2022 for environmental clearance to the above mentioned project.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal seeking environmental clearance for setting up of Coal to Poly- vinyl Chloride (PVC) Project located at Village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s. Adani Enterprises Limited.

3. VCM, PVC and Ethylene Glycol and other petrochemical based processing (other than cracking and reformation) activities are listed at S.N. 5(e) of Schedule of Environment Impact Assessment (EIA) Notification, 2006 under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC). This project is interlinked and integrated as this consist of 3 activities as listed below:

- Industry-I activity i.e. Semi Coke – 2030 KTPA (S.No.4-b), Calcium Carbide–2900 KTPA (Not Specified in Any Industrial Committee), Cement– 6 MTPA (S.No.3-b); Clinker–4 MTPA (S.No.3-b),
- Industry-II activity i.e. VCM–2002 KTPA (S.No.5-e), PVC–2000 KTPA (S.No.5-e), Ethylene Glycol– 400 KTPA (S.No.5-e) and
- Industry-III activity i.e. Acetylene–860 KTPA (S.No.5-f) and Caustic Soda–1310 KTPA (S.No.4-d)”

4. The details of products and capacity w.r.t. industry –II sector are as under:

S. No.	Unit	Product/by-product	Proposed Capacity
1	PVC process	Polyvinyl Chloride (PVC Grades: Suspension, Mass Emulsions, Chlorinated PVC etc.)	2000 KTPA
2	VCM process	Vinyl Chloride Monomer	2002 KTPA
3	Ethylene Glycol process	Ethylene Glycol (EG) (Superior Grade EG, Qualified Grade EG, MEG, DEG, TEG)	400 KTPA
4		Dimethyl Carbonate	13 KTPA
5		Crude Ethanol	10 KTPA
6		Alkanol	7 KTPA

5. Proposed project is for production of 2000 KTPA PVC through Coal route. The technology adopted for production of PVC is through Coal – Semi Coke – Calcium Carbide – Acetylene – Caustic soda – VCM – PVC route, for which facilities proposed to be installed are (i) Semi Coke Plant (ii) Lime Plant (iii) Calcium Carbide Plant (iv) Acetylene Plant (v) Caustic Soda Plant, (vi) Vinyl Chloride Monomer (VCM) Plant (vii) Poly Vinyl Chloride (PVC) Plant. The proposed project is an integrated project, where the products from one plant becomes a raw material for the other plants e.g. coke manufactured in semi-coke plant become raw material for calcium carbide plant; VCM manufactured from VCM plant will be utilised as raw material for manufacture of PVC; the carbide lime sludge from acetylene plant is utilised as raw material in cement plant. Coking gas generated from the coal pyrolysis process will be used in downstream of the semi-coke plant, for production of Ethylene Glycol (EG). The EG plant consists of esterification, carbonylation, hydrogenation and purification units.

6. Standard Terms of Reference (ToR) have been obtained vide letter no. IA-J-11011/149/2021-IA-II(I) dated 29/09/2021 for the activities as above falling in the scope of EAC Industry - 2. Further, as this project is integrated and interlinked project, TOR for the activities falling under EAC Industry- 1 and EAC Industry – 3 have been obtained vide letter no. IA-J-11011/423/2021-IA-II (IND – I) dated 03/12/2021 and vide letter no. IA-J-11011/149/2021-IA-II(I) dated 10/12/2021, respectively.

7. PP informed that litigation is pending against the proposal and case is related to Public hearing and land which is pending with Gujarat High court.

8. Public Hearing for the proposed project had been conducted by the Gujarat Pollution Control Board on 30th April 2022 at Community premises, (Samajvadi) Centre, Opp. Tunda Primary School, Village Tunda, Tehsil Mundra, District Kachchh, which was presided by Resident Additional Collector & Additional District Magistrate, Bhuj- Kachchh. The main issues raised during the public hearing and their action plan are as under:

Regarding employment, pp informed that total Employment will be ~12000 numbers during construction phase (i.e. ~5000 direct and ~7000 indirect) and ~11,600 numbers during operation phase (i.e. ~3600 on direct and ~8000 indirect) and local people will be given preference based on skills. Also, in nearby villages a group of women can be formed so that they can work in Gruhudyogs (Home-based business). M/s. AEL shall provide employment to women as per their skills and qualification.

Regarding Corporate Environmental Responsibility (CER) / Solar panels, company will provide facilities for drip irrigation, in consultation with farmers AEL will help farmers through its different schemes like ground water recharge, water harvesting, zero chemical farming, drip irrigation etc., Rs. 123

Cr. CESR fund are committed during project stage to focus on Education , Community Health Initiatives, Sustainable Livelihood, Women Empowerment and Community Plantation, Community Rural Infrastructure Development, village development committee etc.

Regarding control of air pollution, requisite height of the stacks will be provided and Modern technology equipment's like Cyclone Electrostatic Precipitator, Scrubber will be installed, greenbelt development will be undertaken. **Regarding land (This land was first mangrove area, and then this land was passed for APSEZ, AEL will establish a project on the land which is muddy, The land of Pocket 3 is outside APSEZ and the same shall be noted),** Permission has been granted to APSEZ to create a special economic zone. Land belongs to APSEZ. This land will be given to Adani Enterprise Limited by APSEZ. The 182 acres land of Pocket 3 falls in un-surveyed land of Tunda village which is part of reserve forest. This land falls under SEZ, for which necessary clearances has been granted by Ministry of Environment and Forest, Government of India. So, in the proposed project there is no land which is outside APSEZ.

Regarding Cumulative impact of industries in Study area as sulphur emissions have been exhausted and FGD needs to be installed, PP informed that company will take all appropriate measures to reduce sulphur emissions.

Regarding source of water, PP informed that groundwater will not be used for proposed project. The required water (160 MLD) for the proposed project will be sourced through de-salination plant and no Groundwater will be used.

Regarding safety related issue/accident, AEL will setup primary sub centre for health check-up at a common place around villages and if there is a major accident, ambulance will be arranged to take them to Adani hospital where all specialist doctors are available and medical facilities will be upgraded. (Rs. 75 Crores under CER)

Regarding health related problems, Adani Enterprises Limited (AEL) will ensure that there will be no leakage and therefore, there will not be occupational health issues for workers or villagers working in the plant. Moreover, AEL will also provide PPE kits to workers for their safety. OHS budget- Rs. 6 Crores estimated for medical check-up cost of all employees.

Regarding Wastewater treatment and disposal, pp informed that the plant will be based on Zero liquid discharge.

Regarding TSDF membership/ disposal of waste, pp informed that hazardous as well as non-hazardous waste will be disposed as per the statutory norms.

9. The Project would be located in three separate land pockets with a total area of 800 Acres. The pockets- 1, 2 & 3 are specified in the letter of APSEZL. Pocket 1 of area 502.2 Acres (203.34 Ha.) is falling under Tunda village, Pocket 2

of area 114.9 Acres (46.52 Ha.) and Pocket 3 of area 182.9 Acres (74.05 Ha.) are falling under Taluka Mundra, District Kachchh in the state of Gujarat. The entire coal to PVC project will be established in Pocket -1, Pocket-2 and Pocket - 3. Industry-II project activities falls under pocket 1. Total land area required for Coal to PVC project is 323.69 hectares. Greenbelt will be developed in total area of 107.04 - hectares i.e., 33.07% of total project area. The estimated project cost is Rs.34,900 Crores which includes Rs.13,000 crores for the proposed activities within the domain of EAC Industry - 2. For the Coal to PVC project, capital cost of EMP would be Rs.2874.59 Crores and recurring cost for EMP would be Rs. 1494.55 Crores per annum. Industry proposes to allocate Rs. 75 Crores towards Extended EMP (Corporate Environment and Social Responsibility). Total Employment will be ~12000 numbers during construction phase (i.e. ~5000 direct and ~7000 indirect) and ~11,600 numbers during operation phase (i.e. ~3600 on direct and ~8000 indirect).

10. There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. Reserve forests/protected forests: Mundra Mangrove Forest at a distance of 0.01 km in SE direction. Conservation plan for schedule I species in study area i.e. *Gazella Bennettii*, *Varanus bengalensis*, *Lissemus punctatea*, *Pavo cristatus*, *Acipiter Badius*, *Circus aeruginosus* and *Platalea leucordia* has been approved by The Chief Wildlife Warden, Gandhinagar vide letter no. WLP/32/C/297-298/2022-2023 dated 18/06/2022 and a budget of Rs.24,50,000 has been earmarked for the same. Water bodies: Kotadi Creek is flowing at a distance of 2.48 km in East direction from Pocket 1 & 2.

11. Ambient Air Quality monitoring was carried out at 12 Locations during 22nd March, 2021 to 22nd June, 2021 and base line data indicates the ranges of average concentrations as: PM₁₀ (63-81µg/m³), PM_{2.5} (17-40 µg/m³), SO₂ (6.5 – 11.4 µg/m³) and NO₂ (12.1-19.1 µg/m³). AAQ modelling study for point source emissions indicates that maximum incremental GLCs after the proposed project would be 8.8 µg/m³, 6.2µg/m³, 5.8µg/m³, 11.7 µg/m³ with respect to PM₁₀, PM_{2.5}, SO_x and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

12. There will be no groundwater extraction for this project. The total water requirement for PVC, VCM, Ethylene Glycol process will be 29040 m³/day and other common utilities will be 65948 m³/day, as part of Coal to PVC project total water requirement 2,22,875 m³/day including 1,60,053 m³/day of continuous make-up water will be met from APSEZL Seawater Desalination plant and rest will be met from internal recycling of water. Willingness letter from APSEZ for supply of water is received for 15 MLD fresh water requirement during construction phase and 220 MLD fresh water requirement during operations phase. Proposed effluent generation will be 54254 m³/day which will be treated through Effluent Treatment Plant of capacity 56250 m³/day. Domestic waste

water will be treated in STP of capacity 1225 m³/day. The plant will be based on Zero Liquid discharge system and no effluent/treated water will be discharged outside factory premises.

13. During the construction phase, the power requirement of 30 MW will be provided by DISCOM within APSEZL. During operation phase, the power requirement of 2000 MW will be provided by DISCOM within APSEZL. To meet the steam requirement of Coal to PVC project, common utilities includes 3 Coal fired boilers of 240 TPH each (2 working + 1 standby) and 1 natural gas fired boiler of 240 TPH. Adequate APCE ESP/Bag Filters, Limestone (CaCO₃) and hydrated lime (CaO) as desulphurizing agent @ 12 TPH with a stack of height of 50 m will be installed for controlling the particulate emissions within the statutory limit for the proposed boilers. DG sets of 20,000 KVA total capacity (1250 KVA – 10 Units and 750 KVA – 10 units) are being proposed for the Proposed Project in case of emergency/power failure. Stack (height – 30 mtr of each) will be provided as per CPCB norms to the proposed DG Sets.

14. Details of Process emissions generation and its management:

Name of Plant	Vent Attached to	Nos. of vent per unit	Vent height (m)	Emission	Pollutants Emitted	Air Pollution Control Measures Attached
PVC Plant	Unit - I - Vent gas of dryer Unit	2	50	Continuous	Particulate Matters	Wet Scrubber
	Unit - I - Vent gas of PVC Bagging System	6	50	Continuous	Particulate Matters	Bag Filters
	Unit - II - Dryer Unit	2	50	Continuous	Particulate Matters	Wet Scrubber
	Unit - II - Bagging System	6	50	Continuous	Particulate Matters	Bag Filters
	Unit - III - Dryer Unit	2	50	Continuous	Particulate Matters	Wet Scrubber
	Unit - III - Bagging System	6	50	Continuous	Particulate Matters	Bag Filters
	Unit - IV - Dryer Unit	2	50	Continuous	Particulate Matters	Wet Scrubber

	Unit - IV - Bagging System	6	50	Continuous	Particulate Matters	Bag Filters
VCM Plant	Unit 1 & 2 - VCM condenser	2	50	Continuous	Particulate Matters, VCM	Caustic Scrubber followed by Incinerator
	Unit 3 & 4 - VCM condenser	2	50	Continuous	Particulate Matters, VCM	Caustic Scrubber followed by Incinerator
Ethylene Glycol Unit	Tail Gas Absorption	3	50	Intermittent	HC	Dilution with steam
	Hydrogenation system	3	50	Intermittent	HC	Hydrogen Recovery through PSA

15. Details of Solid waste/ Hazardous waste generation and its management:

S. No.	Plant / Unit	Waste Description	Qty. in (TPA)	Category as per Hazardous waste management rule 2016	Collection Method	Mode of Transport	Distance from site (km)	Treatment / Disposal Mode
1	Handling of hazardous chemicals and waste	Empty barrels, containers, liners contaminated with hazardous chemicals Empty chemicals	6000 Nos (20 MT)	33.1	Drums / Containers / Bags	By Road	70	Disposed to authorized TSDF / recycler / co-processing
2	VCM plant	Spent catalyst and	900	1.6	Barrel / Drums	By Road	70	To be sent to an approved

		molecular sieves						/ authorized vendor for recovery / Disposal to authorized TSDF / recycler / co-processing
3	MEE Area	MEE Salt	99681	35.3	Bags	By Road	70	Disposal to authorized TSDF / recycler / co-processing
4	ETP Area	Chemical Sludge	5840	35.3	Bags	By Road	70	Disposal to authorized TSDF / recycler / co-processing
5	Industrial Operation using mineral or Synthetic Oil as lubricant in hydraulic system or other applicati	Used Oil / Spent Oil	200	5.1	Barrels / Drums	By Road	60	Sent to registered oil re-processor

	ons, e.g. workshop / Heavy m/c							
6	DM plant	Ionic Membranes / Resin	17	35.2	Barrels / Drums / Bags	By Road	70	Disposal to authorized TSDF / recycler / co-processing
7	Ethylene Glycol Plant	Spent catalyst and molecular sieves	665	1.6	Drums / Tank / IBC	By Road	70	Send to approved vendor for recovery / Disposal to authorized TSDF / recycler / co-processing

16. As informed by PP, proposed project boundary is outside CRZ. Project boundary has been superimposed on approved CZMP map by National Centre for Sustainable Coastal Management (NCSCM), Chennai. There is no new forest clearance required for the land for this proposed project. Forest clearance is already obtained by M/s APSEZ Ltd and entire land is already notified as industrial area. Proposed Project land is already notified industrial land of M/s APSEZ Ltd. M/s APSEZ Ltd has provided willingness letter to allocate the land to M/s AEL after Environmental Clearances for the proposed project is obtained by M/s AEL.

17. EAC also discussed the following issues during its meeting held during 07th - 08th July, 2022:

- Dominant wind direction considered and details in writing regarding AQ modelling software considered. Supporting data for wind speed/velocity and supporting data for cement plant wind velocity shall be given. PP has submitted that the two models also consider utilization of meteorological

inputs in different ways whereby AERMOD uses site specific meteorology and CALPUFF uses calculated regional meteorology supplied by the vendor. Between the two models and their meteorological inputs, wide variety of conditions get covered and therefore, by considering both air dispersion modelling systems, we can say that the higher results as well as different possible Ground Level Concentration at various locations get covered.

- Undertaking that winter season study shall be done after project commissioning as area of impact is wide. PP has submitted that as desired by the EAC, Project proponent undertake to conduct the monitoring of site specific meteorological data & air quality modelling for the winter season after commissioning also.
- No land fill site shall be made at project site.
- Fresh water withdrawal balance about the agreement done from APSEZL (desalination plant) including fresh water requirement for other units also. PP has submitted that for proposed project, water requirement will be fulfilled by desalination water and that will be supplied by M/s APSEZ Limited after augmentation of its existing approved capacity of desalination plan.
- Response to the E-mail dated 27.07.2022 of MoEF&CC with subject "Concerns received pertaining to the proposed Coal to Poly-Vinyl Chloride (PVC) project at Adani Ports & Special Economic Zone". PP has submitted the point wise reply for the same. PP informed that all comments/concerns pertaining to the proposed project raised by all the stakeholders were well responded during the public hearing process and the PP responses to all the comments are included in the minutes of the meeting of the public hearing prepared by GPCB. They informed that the technical issues have already been addressed in the EIA/EMP report and also referred the sections of EIA report, where such issues have been addressed.

The committee was satisfied with the response provided by PP on above information.

18. The proposal was considered by the EAC in its meeting held during 07th – 08th July, 2022 and its meeting (Meeting ID: IA/IND2/13295/27/07/2022) held during 27th -28th July, 2022 in the Ministry, wherein the project proponent and their environmental consultant namely M/s. Kadam Environmental Consultants, presented the case under A category. The Committee **recommended** the project for grant of environmental clearance.

19. The EAC, constituted under the provision of the EIA Notification, 2006 and comprising of Experts Members/domain experts in various fields, have examined the proposal submitted by the Project Proponent in desired form along with the report prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the Project Proponent. The EAC noted that the Project Proponent has

given undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

20. The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has found the baseline data is within NAAQ standards. The Committee has deliberated the action plan proposed by the project proponent to arrest the incremental GLC due to the project. The Committee has also deliberated on the CER plan and found to be addressing the issues in the study area. The EAC has deliberated the proposal and has made due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC have found the proposal in order and have **recommended** for grant of environmental clearance.

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

22. Based on the proposal submitted by the project proponent and recommendations of the EAC (Industry-2), Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to the project for setting up of proposed Coal to Poly- vinyl Chloride (PVC) Project located at Village Vandh & Tunda, Taluka Mundra, District Kachchh, Gujarat by M/s. Adani Enterprises Limited, under the provisions of the EIA Notification, 2006, and the amendments therein, subject to compliance of the terms and conditions as under:-

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.

- (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.
- (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.
- (iv). SO₂ emission standard from coal fired steam boilers within the projects is proposed to be within 100 mg/Nm³ 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.
- (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.
- (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.
- (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.
- (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.
- (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.
- (x). 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.

- (xi). Comprehensive water audit to be conducted on annual basis and report to the concerned Regional Office of MEF&CC. Outcome from the report to be implemented for conservation scheme. Performance assessment of pollution control systems/ devices shall be done annually.
- (xii). 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.
- (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.
- (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.
- (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.
- (xvi). The total ash generated from the coal fired boilers shall be utilized in proposed inhouse cement manufacturing unit.
- (xvii). Public Hearing issues raised by the local people shall be addressed as per the budget and timeline submitted.
- (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.
- (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.
- (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.

- (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.
- (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 vapour recovery system.
 - (f) Use of high pressure hoses for equipment cleaning etc. to reduce wastewater generation.
- (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 road sides etc. Selection of plant species 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 metre wide shall be developed in the plant side adjacent to the Mangrove Forest.
- (xxiv). 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.
- (xxv). 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 centre/provide skill development training to village people.
- (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.
- (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.
- (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.

- (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.
- (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.

B. General Condition:

- (i) No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- (ii) The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
- (iii) The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- (iv) The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- (v) The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.

- (vi) A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- (vii) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- (viii) The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.
- (ix) The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at <https://parivesh.nic.in/>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.
- (x) The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
- (xi) This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.

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

24. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

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

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

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

(A. N. Singh)
Scientist-'E'

Copy to: -

1. The Principal Secretary, Forests & Environment Department, Government of Gujarat, Sachivalaya, 8th Floor, Gandhi Nagar - 382 010 (Gujarat)
2. The Regional Officer, Ministry of Env., Forest and Climate Change, Integrated Regional Office, Gandhi Nagar, A wing- 407 & 409, Aranya Bhawan, Near CH-3 Circle, Sector-10 A, Gandhi Nagar-382010
3. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi -32
4. The Member Secretary, Gujarat State Pollution Control Board, Paryavaran Bhawan, Sector 10 A, Gandhi Nagar-382 043 (Gujarat)
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi
6. The District Collector, Kachchh, Gujarat
7. Guard File/Monitoring File/Parivesh portal/Record File

(A. N. Singh)
Scientist-'E'

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