

Gujarat Alkalies and Chemicals Limited

(Promoted by Goyt, of Guiarat)

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GACL/S&E/Env-17/25

May 29, 2025

To,

Deputy Director General of Forest (C), Integrated Regional Office – Gandhinagar, Karmayogi Bhawan, Block -3, F-2 Wing, 5th Floor, Near CH-3 Circle, Sector-10A, Gandhinagar-382010 Ministry of Environment Forest and Climate Change (email: iro.gandhingr-mefcc@gov.in)

Subject : Half-yearly compliance report to the conditions of Environment Clearance for the

period of October 2024 to March 2025

Reference : EC order no. SEIAA/GUJ/EC/4(d) & 5 (f)/4037/2015 dated 30/11/2015 granted by

SEIAA.

Respected Sir,

With reference to the subject mentioned above and in accordance with the condition no. 87 of B. other conditions stipulated in the aforementioned Environment Clearance (EC) order, we are hereby submitting the half-yearly Environmental Clearance Compliance Report along with details with respect to out unit for the period of October 2024 to March 2025 for your kind perusal and record.

Please find enclosed the detailed compliance report outlining our adherence to the EC conditions for the reporting period. We have also uploaded this compliance report on our company website at the following link: https://gacl.com/safety-compliance/.

Submitted for your kind information, please.

Thanking you,

For Gujarat Alkalies and Chemicals Ltd.

Nikhil Bhargava

GM (ES & TS, S&E, F&S, ESG)

Copy To:

1) The Regional Director, CPCB, Vadodara, Gujarat (ec-rdw.cpcb@gujarat.gov.in)

2) SEIAA, Gujarat (seiaa.gujarat@gmail.com)

20/05/2025

3) The Member Secretory, GPCB, Gandhinagar (ms-gpcb@gujarat.gov.in)



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Sr. No.	EC Condition	Compliance Status	3	
A. SP	ECIFIC CONDITIONS:			
A. 1 -	- Water:			
1.	No ground water shall be used for the project. Entire Water	Complied. There is no use of ground water within industry premises.	Month	Water Consumption, KL/D (Avg)
	requirement of 6245 KLD after the proposed expansion shall be met	Existing water requirement is fulfilled from Mani River	Oct'24	4487
	through the own joint water supply scheme with GIPCL. No new borewell shall be dug within the premises as per the	Average water consumption during the period October 2024 to March 2025 is lower than permitted quantity as mentioned in the table.	Nov'24	4484
			Dec'24	4579
			Jan'25	4707
	undertaking submitted in EIA		Feb'25	4724
	report.		Mar'25	4995
2.	The industrial effluent generation from salt washery unit shall not exceed from existing 30 KLD due to proposed expansion and it shall be disposed into estuary of river mahi as per consent given by GPCB.	As we are procuring washed salt, effluent generation from salt washery unit is Nil.		nit is Nil.
3.	The other industrial effluent generation (except from salt washery unit) shall reduce from		Month	Industrial Effluent Discharge to VECL,

Sr. No.	EC Condition	Compliance Status		
	existing 2470 KLD to 2461 KLD			KL/D (Avg)
	after the proposed expansion due to recycle / reuse of effluent	permitted quantity as mentioned in the table.	Oct'24	1457
			Nov'24	1377
			Dec'24	1463
			Jan'25	1592
			Feb'25	1385
			Mar′25	1463
4.	Various measures shall be implemented as proposed for reducing the industrial effluent generation viz existing practices as well as reuse of condensate generated from the caustic evaporation unit into chemical preparation in the brine system.	All the identified measures are implemented.		
5.	The industrial effluent shall be treated in existing ETP. ETP shall be operated regularly and efficiently so as to achieve the GPCB norms at the ETP outlet.	·		Accredited laboratory
6.	The treated wastewater confirming to GPCB norms shall be discharged into ECP channel	Complied. The treated wastewater confirming to GPCB norms is disposed to estuary of river mahi through ECP channel (Now VECL).		

Sr. No.	EC Condition	Compliance Status			
	for its final disposal into estuary of river mahi.				
7.	The unit shall provide online system for monitoring of treated effluent quantity and quality, with an arrangement for reflecting the same on company's server, which can be assessed by GPCB on real time basis.	Complied. Continuous online monitoring system at the outlet of the ETP system has been installed and connected required OCEMS to server of CPCB and GPCB for continuous monitoring of effluent discharge. Please refer attached screenshot of connectivity with GPCB-GLense Server.	C. grahmagolgon-halamenetria Alkalles & Chemicals Ltd Onte The Content of the C	Gugara Poliution Gugara Poliution Gugara Poliution Dischloss Hec.linfercool Factore 600 Fa	Action Protect on Distriction of the Conference
8.	The domestic wastewater generation shall not exceed from existing 280 KLD due to proposed expansion. Domestic ww shall be sent to STP for its further treatment and finally disposed at VECL along with industrial effluent	Complied. Average domestic wastewater generation during to period October 2024 to March 2025 is lower the permitted quantity as mentioned in the table. Treated sewage is discharged to VECL along work industrial effluent.	with	Month Oct'24 Nov'24 Dec'24 Jan'25 Feb'25 Mar'25	Treated sewage Discharge to VECL, KL/D (Avg.) 35 32 32 36 27 26
9.	Proper logbooks of ETP operation and also showing the quantity of effluent generated, discharged into ECP channel, utilized for	Complied. ETP logbook is being maintained with respect to ETP of water are submitted to GPCB as and when required.	operation. <i>A</i>	All the data	of effluent and recycled

Sr. No.	EC Condition	Compliance Status
	plantation/gardening, reused/recycled etc. shall be maintained and furnished to GPCB from time to time.	
10.	Regular performance evaluation of ETP shall be undertaken every year to check its adequacy through credible institutes like LD college of Engg, NPC or such other institute of similar repute and its records shall be maintained.	Complied. Performance evaluation of ETP has been analyzed by GPCB appointed Environmental auditors; through Environmental audit every year. DDIT (Department of Civil Engineering), Nadiad has been appointed by GPCB as Environment auditor for FY:2024-25. Adequacy certificate issued by them is attached herewith. In the ADDIACY CERTIFICATION OF ENVIRONMENT MAINGEMENT STRIM S
11.	Rain water harvesting of surface as well as of rooftop runoff shall be undertaken and the same water shall be used for various activities of the project to conserve fresh water as well as to	Complied. Unit has a groundwater recharging system at its captive TSDF site (Vadodara Complex), where total rainfall and surface run off is being recharged into the ground after pre-treatment.

Sr. No.	EC Condition	Compliance Status		
	recharge ground water. Before recharging the surface runoff, pretreatment must be done to remove suspended matters.			
12.	The unit shall join and participate financially and technically for any common environmental facility / infrastructure as and when the same is taken up either by the GIDC or GPCB or any such authority created for this purpose by Govt./GIDC	 We shall do as and when such directives will be notified. GACL is one of the promoters of effluent conveyance channel (ECP) managed by Vadodara Enviro Channel Ltd (VECL) which is developed in Vadodara for disposal of treated effluent. 		
A. 2 -	Air:			
13.	Out of total 5 boilers, three boilers shall be kept as standby and two boilers shall be running. Existing 3 DG sets shall be kept as standby.	Complied. Boilers and D.G. sets are being operated as per latest CC&A Order issued by GPCB.		
14.	Natural gas to the tune of 2483 SCM/hr shall be used as a fuel for boilers.	Average natural gas consumption during the period October 2024 to March 2025 is 57170.74 SCM/Hr which	Month	Natural Gas Consumption, SCM/Day (Avg.)
		is less than 164904 SCM/day as mentioned in valid CC&A Order issued by GPCB.	Oct'24	57827
			Nov'24	54392

Sr. No.	EC Condition	Compliance Status		
			Dec'24	58788
			Jan'25	57947
			Feb'25	56260
			Mar'25	57811
15.	No additional process vent shall be provided for the proposed expansion	Complied. No additional vent has been provided for proposed expansion	on.	
16.	At present, Alkali scrubber is provided with process stack attached to CS hypo plant to scrub the HCl and Cl ₂ gases. Water scrubbers are provided with process stack attached to HCl plant, CLM I & 2 plant to scrub the HCl gas. A stack for H2O2 is also provided at the solvent recovery unit where the charcoal bed is provided.	Unit has provided and efficiently operating APCM's as me Order issued by GPCB.	entioned in au	thorization vide Consent
17.	Existing APCM shall be used for the proposed process emission from Hypo tower, HCl section of CS plant, HCl section of old and new CLM plant and solvent recovery plant.	No additional APCM is installed for the mentioned process s	tacks.	

Sr. No. 18.	EC Condition The existing air pollution control equipments shall be operated efficiently and effectively to achieve the norms prescribed by the GPCB at stack outlets.	Unit has provided adequate APCMs in the existing flue gas as well as process gas generation sources wherever required & achieving the norms as per GPCB/CPCB/MoEF&CC standards.	
		through NABL Accredited laboratory as well as GPCB appointed Environmental auditors; through Environmental audit. Results were observed well within the limit.	
19.	Online monitoring system shall be installed at the process vents of Hypo tower – Caustic Soda plant and Chloromethanes plant for monitoring of HCl and Cl ₂ parameters. Arrangement shall be made for reflecting the monitored values on the company's server, which can be assessed by GPCB on real time basis.	Complied. The unit has installed and connected required OCEMS to CPCB & GPCB for continuous monitoring of HCl & Cl ₂ gas. OCEMS provision at Hypo Plant OCEMS provision at CLM-I Plant	
		Also, please refer to the compliance status of condition no. 7 for photographs for connectivity to CPCB and GPCB server.	
20.	The company shall prepare	Complied.	

Sr.	EC Condition	Compliance Status			
	schedule, carry regular preventive maintenance of air pollution control equipments and assign responsibility of preventive maintenance to the senior officer of the company.		•	, , ,	ment of APCMs. According
21.	The fugitive emission in work zone environment shall be monitored. The emission shall conform to the standards prescribed by concerned authority from time to time (e.g Directors of industrial safety and health)		nission observed well wit	, ,	sensors placed at various ribed by DISH and records
		HCI sensor	Cl ₂ sensor	Methane sensor	Methyl Chloride sensor

Sr. No.	EC Condition	Compliance Status		
		Sensor value display and monitoring at DCS panel Form 37 - Work place monitoring report		
22.	Regular performance evaluation of air pollution control systems shall be undertaken every year to check its adequacy through credible institutes like LD college of Engg, NPC or such other institute of similar repute and its records shall be maintained	Complied. Performance evaluation of APCM's has been analyzed by GPCB appointed Environmental auditors; through Environmental audit every year. DDIT (Department of Civil Engineering), Nadiad has been appointed by GPCB as Environment auditor for FY:2024-25. Adequacy certificate issued by them is attached in compliance status of condition no. 10.		
23.	Airborne dust at all transfers operations/points shall be controlled either by spraying water or providing enclosures.	Complied. No such aspect (air borne dusty operation) is there in our plant. All the processes are being carried out in closed vessels.		
24.	Solvent management shall be carried out as follows	Complied.		

Sr. No.	EC Condition	Compliance Status
	1. Reactor shall be connected to chilled brine condenser system to condensate solvent vapors and reduce solvent losses.	There is no reactor from where solvent losses occur. However, distillation column and methanol storage tank have trap cooler with chilled brine to prevent material losses.
	2. Reactor and solvent handling pump shall have mechanical seals to prevent leakages	All the pumps for handling of methanol are having mechanical seal, coupling guard and motor guard. Preventive maintenance is also carried out regularly to prevent leakage/break-down.
	3. The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 95 % solvent recovery.	All the condenser of CLM distillation column are available with sufficient HTA and residence time as a part of design feature by the technology suppliers.
	4. Solvents shall be stored in a separate space specified with all safety measures	Methanol is stored in PESO approved storage tank with safety measures.
	5. Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.	Earthing Provided in methanol handling electrical equipment.
	6. Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.	Trap condenser with safety valve and Nitrogen purging system is available on methanol tank to prevent vapor losses.

Sr. No.	EC Condition	Compliance Status	
25.	Regular monitoring of VOCs shall be carried out in the work zone area and ambient air.	Complied. The unit is conducting regular monitoring of VOC.	
26.	 For control of fugitive emission, VOCs following steps shall be followed: a. Closed handling and charging system shall be provided for chemicals. b. Reflux condenser shall be provided over reactors/vessels. c. Pumps shall be provided with mechanical seals to prevent leakages. d. System of leak detection and repair of pump/pipeline based on preventive maintenance. 	a. Close handling and charging system provided for chemicals b. Not applicable c. Pump with mechanical seal and canned motor pump are available d. Leakage detection and Preventive maintenance followed Pump having mechanical seal, coupling guard and motor guard	
27.	Regular monitoring of ground level concentrations of SO2, NOx, CI2, HCI, PM 10 & PM 2.5 shall be carried out in impact zone and its record shall be maintained. Ambient air quality shall not exceed the standards stipulated by GPCB. If at any stage these	Ground level concentrations of SO2, NOx, Cl2, HCl, PM10 & PM2.5 in ambient air are being monitored/checked on monthly basis through NABL Accredited laboratory as well as GPCF appointed Environmental auditors; through Environmental audit. Results were observed well within the limit.	

Sr. No.	EC Condition	Compliance Status
	levels are found to exceed the prescribed limits, necessary additional control measures shall be undertaken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.	
A. 3 -	: Solid/Hazardous waste	
28.	The company must strictly comply with the rules and regulations with regards to handling and disposal of hazardous waste in accordance with the Hazardous waste (M, H&TM) Rules 2008 as may be amended from time to time. Authorization from GPCB must be obtained for collection/storage/treatment/disp osal of hazardous waste.	Complied. Unit is strictly complying with the regulatory norms and maintaining the records with regards to handling and disposal of Hazardous waste in accordance with the Hazardous & Other Waste (Management and Transboundary Movement) Rules 2016, as may be amended from time to time. Unit has been granted authorization vide consent order no AWH-131094 valid upto 31.12.2028.
29.	The hazardous waste shall be dried, packed and stored in separate designated hazardous waste storage facility with pucca bottom and leachate collection facility before its disposal.	Complied. Hazardous waste is packed in HDPE barrel and stored in separate storage facility with pucca bottom before its disposal.

Sr. No.	EC Condition	Compliance Status
30.	Used heating salt shall be sold to authorized recyclers or disposed at own landfill site. Salt washery and brine purification sludge, ETP sludge, incineration ash and used heating salt shall be disposed in company"s own TSDF.	Complied. Heating salt, salt / brine sludge, ETP sludge are being disposed at captive landfill site.
31.	Organic waste from H2O2 plant, activated charcoal and waste mixed chloromethane (Hi boilers) shall be sent to the common hazardous waste incineration facility (CHWIF)	<u> </u>
32.	Spent catalyst and molecular sieves shall be sent to authorized regeneration units or shall be disposed off at TSDF or CHWIF depending on its characteristics.	Complied. Spent catalyst / molecular sieves are being disposed at captive landfill site.
33.	Discarded containers / barrels/ bags/liner shall be either reused or sold only to authorized recyclers after decontamination.	Complied. Discarded containers / barrels/ bags/liner are sold only to authorized recyclers.
34.	Used oil, discarded lead acid batteries, lead acid battery plates and other lead scrap and insulated	•

Sr. No.	EC Condition	Compliance Status
	copper wire scrap/copper with PVC sheathing shall be sold only to registered reprocessors.	
35.	The unit shall obtain membership of the common TSDF/CHWIF (whichever is applicable)	Complied. Unit have already obtained membership of Banas Resources LLP for pre-processing/co- processing of waste and SEPPL for incineration of waste. Certificate Class of Biomacon Conference of the great of the conference o
36.	Vehicles used for transportation of hazardous waste shall be in accordance with the provisions under the motor vehicle act 1988 and rules made there under.	Complied. Unit is following the Motor Vehicle Act, 1988 and rules for the vehicles transporting hazardous waste. Hazardous waste is being sent by Manifest System through Dedicated Hazardous waste vehicle with AIS-140 GPS system.
37.	All possible efforts shall be made for co-processing of the hazardous waste prior to disposal into TSDF/CHWIF.	Complied. Organic waste and waste carbon are being sent to pre-processors.

Sr. No.	EC Condition	Compl	liance Status	
38.	The company shall provide additional ground water monitoring wells (three well clusters) around the captive TSDF as per the "Criteria of Hazardous Waste landfills" published by CPCB. Quality of ground water in saturated zone beneath and around the landfills as well as other parameters like leachate quality, air quality etc. shall be monitored regularly as per the "Criteria of Hazardous Waste landfills" published by CPCB	Complied. We have provided 3 ground water monitoring wells one upstream and two downstream at our captive TSDF. Quality of water in borewells and leachate well as well as ambient air quality is monitored/checked on regular basis through NABL Accredited laboratory. Please refer attached photographs herewith.	One of the Borewell water Monitoring Well	Lechate Collection Well
A. 4 -	Safety:			
39.	Provision of Manufacture, Storage and Import of hazardous chemicals rules 1986 and The Factories Act 1948 shall be strictly complied with.	The company is strictly complying with the rules and regulations under MSIHC Rules, 1989 Factory Act 1948 as amended. Following measures are taken:		

Sr. No.	EC Condition	Compliance Status
		 Developed and keep updated On-site Emergency Plan (Last revised in Jan-2025) There is a mutual aid scheme in off Site Industrial Emergency Control Room (OIECR) situated in materials bhavan of Reliance Industries of which GACL, Vadodara is one of the promoters. This is headed by Collector and District Magistrate, Vadodara and is manned round the clock.
40.	The project authorities shall strictly comply with the provisions made in manufacture, storage and import of hazardous chemicals rules 1989, as amended in 2000 and the public liability insurance act for handling of hazardous chemicals etc. Necessary approvals from the CCE and concerned govt. authorities shall be obtained before commissioning of the project. Requisite onsite and offsite disaster management plans have to be prepared and implemented.	Complied. We are complying with the provisions made in manufacture, storage and import of hazardous chemicals rules 1989, as amended in 2000 and the public liability insurance act for handling of hazardous chemicals etc. Necessary approvals from the CCE and concerned govt. authorities have been obtained before commissioning of the project. Unit has also obtained valid PLI Policy. Please refer to the compliance status of the condition no. 41 for CCE approval details.
41.	The unit shall obtain requisite permission from PESO, nagpur for storage of chlorine, hydrogen etc. before commissioning of expansion project.	Complied. We have already obtained requisite permission from PESO, Nagpur for storage of chlorine, hydrogen etc. Licenses obtained for petroleum product, gas cylinders, poison/toxic chemicals: ✓ To fill compressed H2 gas in cylinder: License no. G/HO/GJ/05/509(G18632) ✓ To fill compressed Methyl Chloride gas in cylinder: License no. G/HO/GJ/06/115(G1269)

Sr. No.	EC Condition	Compliance Status
		✓ To fill compressed Chlorine gas in cylinder: License no. G/HO/GJ/05/13(G1158)
		✓ To store Methanol: License no. P/HQ/GJ/11/5488(P365971)
		✓ To store Ammonium Nitrate: License no. A/HQ/GJ/P3/22(A3832)
42.	All the necessary precautions	Complied.
	measures shall be taken to avoid	All the required measures are being taken to avoid any accidents as mentioned below:
	any kind of accident during	Regular plant healthiness survey and internal safety audits
	storage and handling of toxic/hazardous chemicals, especially $\text{Cl}_2 \ \& \ \text{H}_2$.	Sensors (Chlorine, HCl, Hydrogen, Methane, Methyl Chloride) placed at critical locations for continuous monitoring
		Sensor values displayed online at control rooms with alarm
		DCS operation with alarms & interlocks
		Adequate lightening arrestors
		Electrical, instrument and other fittings as per area classifications.
		Full-fledged Hypo System with 03 nos. of High-capacity blowers having emergency power supply
		• Out of five nos. Cl ₂ tanks, one is always kept empty.
		Foam Pourer System for Methanol storage
		Provision of safety valves & rupture discs
		Predictive maintenance of equipment and piping for hazardous chemicals as per schedule

Sr. No.	EC Condition		Compliance Status	
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			lay board for safe Cl ₂ Storage of H ₂ a well-vent ner/cylinder filling dedicate	tilated and handling of Habottling
43.	Storage of hazardous chemicals shall be sufficiently away from the production area.	Complied. Dedicated storage facility of hyproduction area. PESO Approved dedicated storage for Methanol	PESO Approved dedicated storage for Ammonium Nitrate	PESO Approved dedicated storage for Methyl Chloride

Sr. No.	EC Condition	Compliance Status
		Dedicated storage tanks for Cl ₂
44.	Sufficient no. of fire extinguishers shall be provided near the plant and storage area.	ABC, and mechanical foam varieties, strategically located to cover all operational areas. The unit's fire prevention and protection measures also encompass a network of single, double, and fire escape hydrants; a water-cum-foam monitor; a centrally located fire station; readily accessible hose boxes with delivery hoses; sand buckets; a mobile 200-liter foam trolley; comprehensive water and foam-cum-water sprinkler systems; dedicated foam pourers for the methanol tank; and a sufficient distribution of smoke, heat, and multi-detectors.
		Fire emergency response capabilities include two fire tenders and three fire water pump house reservoirs with a total storage capacity of 1460 m³ (525 m³ + 478 m³ + 457 m³).

Sr. No.		EC Conditi	on		Compliance Status	
				Fire Extinguisher	Foam Blader Tank	Water Monitor
				Central Fire Station	202	Fire tender
45.	All the	necessary	precautions	Complied.		

Sr. No.	EC Condition	Compliance Status
	measures shall be taken to avoid any kind of accident during storage and handling of toxic / hazardous chemicals	All necessary precautionary measures are taken to avoid any kind of accident during storage and handling of toxic/hazardous chemicals. PPE Matrix is displayed at various locations.
46.	All the toxic/hazardous chemicals shall be stored in optimum quantity and all necessary permissions in this regard shall be obtained before commencing the expansion activities.	Complied. All the toxic/hazardous chemicals are stored in optimum quantity and all necessary permissions in this regard are obtained before commencing the expansion activities. Maintaining the storage concept.
47.	The project management shall ensure to comply with all the environment protection measures, risk mitigation measures and safeguards mentioned in the risk assessment report.	Complied. HIRA/QRA/HAZOP/Disaster Management Audit/Environment audit (by GPCB appointed Sch-I Auditor) etc. is being carried out regularly to comply with all risk mitigation measures and environment protection measures.
48.	Only flame proof electrical fittings shall be provided in the plant premises.	

Sr. No.	EC Condition	Compliance Status
49.	Storage and use of hazardous chemicals shall be minimized to the extend possible and all necessary precautions shall be taken to mitigate the risk generated out of it. Storage of hazardous chemicals shall be in multiple small capacity tanks/containers instead of one single large capacity tank for safety purpose.	Complied. Necessary precautions and mitigation measures are in place to address potential risks associated with these chemicals, aligning with safety protocols.
50.	All the storage tanks shall be fitted with appropriate controls to avoid any leakages. Bund/Dyke walls shall be provided for storage tanks for hazardous chemicals. Close handling system for chemicals shall be provided.	 Complied. Dyke walls have been provided for all storage tanks. Closed loops systems to transfer the materials to avoid leakage/ spillage. Level transmitter/Level gauge provided to hazardous chemical storage tanks to avoid overflow. safety valve/flame arrestor provided to hazardous chemical storage tanks as appropriate.
51.	Handling and charging of chemicals shall be done in closed manner by pumping or by vacuum transfer so that minimal human exposure occurs.	Charging of chemicals is conducted through closed systems, utilizing pumping or vacuum transfer methods. This infrastructure minimizes the potential for human exposure during these operations, aligning with the stipulated safety requirements.
52.	Tie up shall be done with nearby health care unit/doctor for seeking immediate medical	Complied. Unit has tie-up with more than 30 empaneled hospitals.

Sr. No.	EC Condition	Compliance Status
	attention in case of emergency.	Further, unit have 4 bedded in-house OHC with round the clock availability of doctors and 1 ambulance. Please refer below photographs.
		OCCUPATIONAL HEALTH CENTRE
53.	Personal Protective Equipment shall be provided to workers and its usage shall be ensured and supervised.	
		Suitable Personal Protective Equipments (PPEs) such as safety goggles, helmets, gloves, respirators etc. are provided to all workers. Usage of PPEs is strictly enforced through regular supervision and training programs to ensure worker safety. Records of PPE issuance and training are maintained. PPE Matrix display board
54.	First aid box and required	Complied.
	antidotes for the chemicals used in the unit shall be made readily available in adequate quantity.	50 Nos. of First Aid Boxes placed with necessary required first aid medical items at various locations in plant in such a way that first aid treatment can be readily available in emergency.
		Regular inspections ensure the availability and unexpired status of all items. Personnel are trained in first aid and the use of these antidotes.
		Antidotes i.e. Inj. Methylene Blue is available at OHC along with medical oxygen and Emergency drugs.

Sr. No.	EC Condition	Compliance Status
55.	Training shall be given to all workers on safety and health aspects of handling chemicals.	Complied. Dedicated Safety & Environment team is recruited with qualified safety officers. Regular training is being provided on handling of chemicals to all workers. Induction / Refresher / specific topic related training is being regularly conducted on various topics as below: Last six-month topics covered. i.e.: Emergency Response Plan (ERP) Importance of PPEs Material Handling Material Handling Safety in chemical industry Confine space
		 Safe Working Practice Accident investigation and Prevention Safety during work at Height
56.	Occupational health surveillance of the workers shall be done and records shall be maintained. Preemployment and periodical medical examination for all workers shall be undertaken as per Factories Act & Rules	Complied. Pre-employment and periodic medical examinations as per statutory requirement are regularly conducted & records of the same are maintained in Form No. 32 and 33 as per Gujarat Factory Rules, 1962 respectively.

Sr. No.	EC Condition	Compliance Status	
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		Form No. 32	Form No. 33
57.	Transportation of hazardous chemicals shall be done as per the provisions of Motor Vehicle Act and Rules	 Complied. The transportation of hazardous chemicals is strictly conduct Motor Vehicles Act and relevant Rules. This includes: Vehicles having valid registration and permits for transp Display of EIP labels on vehicles. Equipping vehicles with necessary safety equipment, first Training of drivers 	orting hazardous goods.

Sr. No.	EC Condition	Compliance Status
		HCI Tanker Methanol Tanker
58.	The company shall implement all preventive and mitigation measures suggested in the risk assessment report	Complied. HIRA/QRA/HAZOP/Disaster Management Audit/Environment audit (by GPCB appointed Sch-I Auditor) etc. is being carried out regularly to comply with all risk mitigation measures and environment protection measures.
A. 5 -	Noise:	
59.	To minimize the noise pollution the following noise control measures shall be implemented: • Selection of any new plant equipment shall be made with specifications of low noise	 Complied. All new plant equipment selections for the plant prioritize low noise level specifications. A regular maintenance schedule is in place for all machinery. This includes periodic checks, lubrication, and repairs to ensure optimal operating conditions and minimize noise generation. Records of maintenance activities are diligently maintained and are available for inspection. This proactive approach effectively reduces the noise impact from plant operations.

Sr. No.	EC Condition	Compliance Status
	 levels Manufacturers/suppliers of major noise generating machines / equipments like air compressors, feeder pumps, turbine generators etc. shall be instructed to make required design modifications wherever possible before supply and installation to mitigate the noise generation and to comply with national/international regulatory norms with respect to noise generation for individual units Regular maintenance of machinery and vehicles shall be undertaken to reduce noise impact Noise suppression measures such as enclosures, buffers and /or protective measures shall 	Noise suppression measures, including enclosures around high-noise equipment (e.g., compressors, pumps), acoustic buffers (e.g., green belts, barriers), and personal protective equipment (e.g., earplugs and muffs for workers), have been provided across the plant.
	be providedEmployees shall be provided with ear protection measures	

Sr. No.	EC Condition	Compliance Status
	 like ear muff or ear plug. Proper oiling, lubrications and preventive maintenance shall be carried out of the machineries and equipments to reduce noise generation 	
	 Construction equipments generating minimum noise and vibration shall be chosen. 	
	Ear plugs and muffs shall be made compulsory for the construction workers working near the noise generating activities/machines /equipments	
	 Vehicles and construction equipment with internal combustion engines without proper silencer shall not be allowed to operate 	
	 Construction equipment meeting the norms specified by EP act 1986 shall be used 	
	Noise control equipment and baffling shall be employed on generators especially when	

Sr. No.	EC Condition	Compliance Status
	 they are operated near the residential and sensitive areas. Noise levels shall be reduced by the use of adequate mufflers on all motorized equipment. 	
60.	The overall noise level in and around the plant area shall be well within the prescribed standards by providing noise control measures including acoustic insulation, hoods, silencers, enclosures vibration dampers etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act and Rules. Workplace noise levels for workers shall be as per the Factories Act and Rules.	Complied. Adequate measures are being taken and regular monitoring of ambient noise level is being carried out. Ambient noise is observed well within the prescribed limits.
A. 6 -	A. 6 – Energy Conservation :	
61.	The project proponent shall install energy efficient devices and appliances conforming to the Bureau of Energy Efficiency norms.	Complied. Unit has installed energy-efficient devices and appliances, adhering to the Bureau of Energy Efficiency (BEE) norms to minimize energy consumption.

Sr. No.	EC Condition	Compliance Status
62.	The energy audit shall be conducted at regular intervals and recommendations of the audit report shall be implemented.	Complied. Energy audit is conducted at every three year and recommendations of the audit report are implemented. Last Energy audit was conducted in Oct-23.
63.	The project proponent shall implement the application of solar energy which shall be utilized as solar lighting for illumination of common areas, lighting of internal roads and passages in addition to utilsation of solar water heating systems	Unit has installed 563 KW Solar Rooftop Power Plant for captive use at various location of plants. Photographs are attached herewith.

Sr. No.	EC Condition	Compliance Status
		M SCH-WORKSHOP MCL
64.	The transformers and motors shall have minimum efficiency of 85 %.	Noted.
65.	Variable frequency drives shall be installed	Complied. VFD are installed at specific identified locations for conserving energy and improving efficiency.
66.	Energy conservation measures shall include use of electronic lighting system, use of CFL tubes to minimize energy use, use of programmable times for pumping system and lighting, water level controllers for water pumps, centralized cooling etc.	Identified energy conservation measures are being implemented across our operations.

Sr. No.	EC Condition	Compliance Status
67.	 Energy saving practices as follows shall be practiced: Constant monitoring of energy consumption and defining targets for energy conservation Adjusting the settings and illumination levels to ensure minimum energy used for desired comfort level Use of solar cells for lighting Use of solar water heater for canteen and washing area Proper load factor shall be maintained Provision of day light roof to maximize natural light in the production plant instead of electrical lighting Use of electronic ballast to save energy Automatic switching system for lighting and water tank pumping shall be used. To the maximum extent 	 Unit has controls and procedures in place to monitor and control energy consumption across its operations. Adjusting settings and illumination levels to minimize energy use aligns with energy efficiency best practices and potential regulatory requirements. Solar installation are outlined in compliance status of condition no. 63. Load factor is monitored regularly. Day light roofing has been incorporated into the production plant design and construction, maximizing natural light and reducing reliance on electrical illumination. Installed LED lights to save energy To the maximum extent possible and technically feasible, following measures already taken; Automatic switching for lighting/pumping has been implemented and regularly maintained as per specifications. Procurement of BEE Star-rated or equivalent systems for motors/pumps/AC. Assessed and implemented gravity flow system to minimize pumping energy.

Sr. No.	EC Condition	Compliance Status
	possible and technically feasible, energy efficient motors, pumps, air conditioning systems shall be selected. • Gravity flow shall be preferred	
	wherever possible to save pumping energy.	
	 Promoting awareness on energy conservation 	
	 Training to the staff on methods of energy conservation and to be vigilant for this 	
A. 7 -	- Cleaner Production and Waste Mi	nimization:
68.	The unit shall undertake the Cleaner Production Assessment study through a reputed institute / organization and shall form a CP team in the company. The recommendations thereof along with the compliance shall be furnished to GPCB	 Noted. Unit has undertaken a comprehensive range of measures and initiatives aimed at cleaner production, focusing on reducing environmental impact through energy efficiency, renewable energy adoption, waste management, and water conservation. Here are the key measures and initiatives taken by GACL for cleaner production: 1. Energy Efficiency and Conservation: Controls and procedures in place to monitor and control energy consumption across its operations. IMS-certified company, holding ISO 50001 (Energy Management System) certification,

Sr. No.	EC Condition	Compliance Status
		 demonstrating a commitment to continual improvement in energy management. Utilizes Membrane Cell Technology for Caustic Soda production, which is noted as being energy efficient. This technology requires significantly less power (2150-2200 kwh/MT) compared to the older Mercury Cell Technology (3150-3300 kwh/MT). GACL was the first Indian company to replace Mercury Cell Technology with the energy-efficient Membrane Technology in 1989. Back Pressure Turbines (BPT) have been installed, which help in recovering energy from high-pressure steam in the form of electric power. Significant capital investments in Energy Conservation Equipments. Achieved 1387 ESCerts during PAT Cycle-II under the government's Performance, Achieve and Trade Scheme, indicating successful energy efficiency measures. 2. Transition to Renewable Energy: Installed various Wind Mills with a total capacity of 171.45 MW. These generated more than 330 million units of renewable power during the year. 30% RE form total energy consumption Solar installations include a 563 KW Solar Rooftop Power Plant for captive use. Executed a power purchase agreement with M/s. Tata Power for sourcing of solar power from 50 MW capacity. 3. Emission Reduction: Captures CO₂ from flue gas to produce Potassium Carbonate, a value-added product. Remembraning of 206 cell elements, Installation of VFD in CCU combustion air blower and for Hydrogenator feed pump in H₂O₂ plant, Replacement of Air Preheater in Caustic Concentration unit, and Utilization of hydrogen as a fuel.
		4. Water Conservation and Management:

Sr. No.	EC Condition	Compliance Status
		 Responsible usage of water by tracking withdrawal, consumption, and discharge. A part of the water is recycled and reused. RO Plant has been installed for converting 400 to 500 M³ of wastewater daily into reusable water that is recycled back to the Plant. A ground water recharging system is in place at the TSDF site. R&D efforts include in-house cooling water treatment for corrosion and microbiological growth monitoring, resulting in appreciable savings and water conservation. Sustainable Sourcing: Established practices and a Procurement Policy for sustainable sourcing of key raw materials. This policy considers economical aspects, environmentally friendly processes, and social aspects.
		 Appealed to major suppliers to adopt sustainable sourcing. Examples include using washed Salt which reduces chemical consumption and sludge generation, and using eco-friendly transportation like Rail rakes for bulk materials.
69.	The company shall undertake following waste minimization measures: • Metering and control of quantities of active ingredients to minimize waste • Reuse of byproducts from the process as raw materials or raw materials substitutes in other process • Use of automated and enclosed	 Complied. Unit has undertaken following measures for waste minimization: Metering and control of quantities of active ingredients to minimize waste. Improving raw material quality like Salt (NaCl). Installed sulphate recovery system to reduce sludge quantity. Provision of close feed system, wherever feasible. Regular preventive maintenance. Provision of adequate dyke for chemical storage.

Sr. No.	EC Condition	Compliance Status
	 filling to minimize spillages Use of close feed system into batch reactors Dry cleaning /mopping of floor instead of floor washing Use of high-pressure hoses for cleaning to reduce wastewater generation Regular preventive maintenance for avoiding leakage, spillage etc. 	
A. 8 -	Green Belt and Other Plantation:	
70.	The unit shall develop green belt within premises as per the CPCB guidelines. However if the adequate land is not available within the premises, the unit shall take up adequate plantation on road sides and suitable open areas in GIDC estate or any other open areas in consultation with the GIDC/GPCB and submit an action plan of plantation for next three years to the GPCB.	Unit has developed green belt within premises having total area of 1 lac square meters which amount to greenbelt area of 35 %.

Sr. No.	EC Condition	Compliance Status

Sr. No.	EC Condition	Compliance Status
71.	Drip irrigation /low volume, low angle sprinkler system shall be used for green belt development within premises.	The green belt development within the premises is being done through low-angle sprinkler

Sr. No.	EC Condition	Compliance Status	
B. GE	NERAL CONDITIONS		
72.	In the event of failure of any pollution control system adopted by the unit, the unit shall be safely closed down and shall not be restarted until the desired efficiency of the control equipment has been achieved.		
73.	All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project prepared by M/s San Envirotech Pvt. Ltd. And submitted vide letter no. Nil dtd.	Complied. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report have been already implemented.	

Sr. No.	EC Condition	Compliance Status
	07.07.2015 and commitments made during presentation before SEAC, proposed in the EIA report shall be strictly adhered to in letter and spirit.	
74.	A separate Environment management cell equipped with full-fledged laboratory facilities and qualified personnel shall be set up to carry out Environment management and monitoring functions and a separate budget shall be allocated for this purpose.	Complied. Unit has recruited two environment engineers and equipped with a fully functional laboratory and staffed with qualified personnel. The team is actively engaged in environment management and regular monitoring activities as mandated. A separate budget has been allocated to support the operations and maintenance of this cell, including the laboratory facilities and Environment monitoring etc, thus ensuring continuous and effective environmental stewardship.
75.	The company shall strictly follow all the recommendations mentioned the charter on corporate responsibility for Environment Protection (CREP) published by CPCB as may be applicable.	Complied. Company have strictly followed all the recommendations mentioned the charter on corporate responsibility for Environment Protection (CREP) published by CPCB as applicable.
76.	The funds earmarked for environmental protection measures shall be maintained in a separate account and there shall not be any diversion of these funds for any other purpose. A	Complied. Separate provision of fund has been earmarked as part of the annual budget planning and allocation. The fund is being exclusively used for implementing the Safety & Environment activities as per conditions stipulated by authorities.

Sr. No.	EC Condition	Compliance Status	
	year wise expenditure on environmental safeguards shall be reported		
77.	The project authorities shall also adhere to the stipulations made by the Gujarat Pollution Control Board, state government and any statutory authority.	Noted & complied. Unit is adhering to stipulations of Gujarat Pollution Control Board.	
78.	During material transfer, spillage shall be avoided and garland drain shall be constructed to avoid mixing of accidental spillages with domestic wastewater or storm water	Liquid material transfer is done in closed system (pipelines) or closed containers/ barrels. Drain provided surrounding each process plant to collect the spillage material if any and to avoid mixing of accidental spillages with domestic wastewater or storm water.	
79.	Pucca flooring/impervious layer shall be provided in the work areas, chemicals storage areas and chemical handling areas to minimize soil contamination.	Complied. Pucca flooring/impervious layer are provided in the work areas, chemicals storage areas and chemical handling areas to minimize soil contamination. Regular inspections and maintenance of this flooring are conducted to ensure its integrity and effectiveness. Caustic Storage Dyke having HCI Storage area having	

Sr. No.	EC Condition	Compliance Status
80.	Leakages from pumps, pipes shall be minimal and if occurs shall be arrested promptly.	Complied. Unit is using only mechanical seal pumps in order to avoid the leakages. Any identified leakages are addressed promptly through immediate repair or replacement procedures. Regular monitoring and maintenance protocols are in place for pumps and pipelines to minimize leakages.
81.	No further expansions or modifications in the plant likely to cause environmental impacts shall be carried out without obtaining prior environment clearance from the concerned authority.	Complied. The unit will take EC amendment if further expansion or modifications in the plant.
82.	The above conditions shall be enforced inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, The Environment (Protection) Act 1986, Hazardous Wastes (Management Handling and	Noted and Complied.

Sr. No.	EC Condition		Compliance Status	
	Transbouandary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules.			
83.	The project proponent shall comply all the conditions mentioned in "The companies (CSR policy) rules 2014 and its amendments from time to time in	List o	nit is doing socioeconomic developmental/community welfare activities in surr of CSR activities that were conducted from October 24 to March 25, inclued the ded for each activity and its location are given below:	3
	a letter and spirit	S N	CSR Activity	Amount ₹
		1	Financial assistance for improving quality of Services delivery in 50 Anganwadis in Vadodara City	4,04,250.00
		2	Financial assistance to Mahavir Foundation Trust for education project for underprivileged and weaker sections of society under Asha Deep initiative in Vadodara city	4,11,000.00
		3	Home for Mentally Differently Abled Children project in Vadodara city	61,46,733.99
		4	Financial assistance to Shree Maharani Chimnabai Stree Udyogalaya for promoting cultural activities in Vadodara city.	1,00,000.00
		5	Sustainable Livelihood Enhancement of Community through Agriculture and Animal Husbandry in 5 villages near by GACL Ranoli Vadodara Plants.	4,94,500.00
		6	Financial assistance to United Way of Baroda for Garba Mahostav (Navratri) in Vadodara city.	1,00,000.00
		7	Financial assistance to VMC Sport Promotion Foundation for Open Gujarat Athletic Competition in Vadodara city.	50,000.00
		8	Support Churni women's groups promoted by Srothoshwini Trust to promote	1,17,750.00

Sr. No.	EC Condition	Compliance Status	
		livelihood generation among underprivileged women in Vadodara city	
		Total	78,24,233.99
84.	The project authorities shall earmark adequate funds to implement the conditions stipulated by SEIAA or GPCB along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	Complied. Unit ensure to comply with all the environment protection measures risk mitigatio safeguarding recommended in the EMP report and risk assessment study report.	n measures and
85.	The applicant shall inform the public that the project has been accorded environmental clearance by the SEIAA and the copies of the clearance letter are available with GPCB and may also be send at website of SEIAA/SEAC/GPCB. This shall be advertised within seven days from the date of clearance letter, in at least two local news paper that are widely circulated in the region one of which shall be in Gujarati language and other in English. A copy each of the same shall be	Complied. Unit had already informed the public that the project has been accorded environm by the SEIAA and that the copies of the clearance letter are available with the GPC be seen at the website of SEIAA / SEAC / GPCB.	

Sr. No.	EC Condition	Compliance Status
	forwarded to the concerned regional office of the ministry.	
86.	The applicant shall also comply with any additional condition that may be imposed by SEAC or SEIAA or any other competent authority for the purpose of environmental protection and management	
87.	It shall be mandatory for the project management to submit half-yearly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned, on 1st June and 1st December of each calendar year.	<u> </u>
88.	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 Act 1986.	Noted. Unit assures the authority that no False/Fabricated data has been submitted herewith.

Sr. No.	EC Condition	Compliance Status	
89.	The project authorities shall also adhere to the stipulations made by the Gujarat Pollution Control Board.	Complied. Unit is adhering to stipulations of Gujarat Pollution Control Board.	
90.	The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.		
91.	The company in a time bound manner shall implement these conditions. The SEIAA reserves the right to stipulate additional conditions, if the same is found necessary.	Complied. Unit is implementing these conditions in a time bound manner.	
92.	The project authorities shall inform the GPCB, Regional Office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Not Applicable as the Unit has not taken any loan from any bank. The project was self-financed.	
93.	This environmental clearance is valid for seven years from the date of issue	Noted.	

Sr. No.	EC Condition	Compliance Status
94.	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.	