



Gujarat Alkalies and Chemicals Limited

(Promoted by Govt. of Gujarat)

Dahej Complex : P.O. Dahej - 392130. Tal. Vagra, Dist. Bharuch (Gujarat) INDIA

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CIN NO : L24110GJ1973PLC002247

S&E/DHJ/E-28/2021-22

27.07. 2021

Additional Principal Chief Conservator of Forest (C),
Ministry of Environment, Forest and Climate Change,
Regional office (WZ),
E-5, Kendriya Paryavaran Bhawan,
E-5 Area Colony, Link Road-3,
Ravishankar Nagar, Bhopal – 462016
Tel. No.2465054,2465496,2466525

Subject : Six Monthly Compliance Report (January 2021 to June 2021)

Reference : 1. Environmental Clearance No SEIAA/GUJ//EC/4(d) &5(f)/900/2017 dtd 29.09.2017
2. Environmental Clearance No. J-11011/102/2009-IA II (I) dtd. 29/04/2009
3. Environmental Clearance No. J-11011/225/2007-IA II (I) dtd. 16/08/2007
4. Environmental Clearance No. J-11011/93/96-IA II, dtd. 30/10/1997
5. Environmental Clearance No. J-13011/29/95-IA II, dtd. 09/09/1996

Dear Sir,

With reference to above, we are enclosing herewith six months compliance report in CD (Soft copy) for the period January 2021 to June 2021.

This is for your information please.

Thanking you,
Yours faithfully,

For Gujarat Alkalies and Chemicals Limited-Dahej


M. B. PATEL
DGM (S, E & F)

Encl: As Above



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Status of Compliance of EC No. SEIAA/GUJ/EC/4(d)&5(f)/900/2017 dtd- 29/09/2017		
<p>1. Caustic Soda Plant (Expansion)- CTE obtained. Presently Under Construction. 2. Hydrogen Peroxide Plant (Expansion)- Consent to operate GPCB/BRCH-B/CCA-398(17)/ID-15130/ is granted from GPCB and expansion is completed as on date. 3. Phosphoric Acid Plant (Expansion)- CTE obtained. Under Construction. 4. Chloromethane Plant (New)- No activity started. 5. Hydrazine Hydrate (New)- CTE obtained. Under construction. 6. Chlorotoluene (New)- No activity started. 7. Mono Chloro Acetic Acid (MCA) (New)- No activity started.</p>		
Sr no.	EC Condition	Compliance status
<u>SPECIFIC CONDITIONS:</u>		
1	Unit shall manufacture non- fertilizer [Technical / Food] grade Phosphoric acid as per the undertaking submitted along with EIA report.	Undertaking of the Technical grade Phosphoric acid is submitted along with EIA
2	Entire quantity of spent solvents shall be recovered by in-house distillation in such a manner that recovery shall not be less than 95 percent and recovered solvent shall be reused in the process within premises.	All the solvent recovery will be assured more than 95 percent and recovered solvent is used in in-house process.
3	Solvents namely Iso Amyl Alcohol, Ethyl Anthra Quinon & Methyl Ethyl Ketone shall be used in Hydrogen Peroxide, Phosphoric Acid Plants & Hydrazine Hydrate plants respectively. Recovery of solvent Iso Amyl Alcohol [used in Phosphoric acid plant] shall be through solvent recovery unit having activated carbon bed & condensers. Recovery of solvent Ethyl Anthra Quinon [used in hydrogen peroxide Plant] shall be through the distillation of solvent dissolved in calcium chloride brine. MEK-Methyl Ethyl Ketone [used in Hydrazine Hydrate plant] shall be recycled back to the process stream through Distillation unit operation.	All the solvent recovery will be assured by distillation unit and recovered solvent is used in in-house process.
4	Unit shall comply all the conditions & recommendations mentioned in the guidelines for the management of the spent solvents published by GPCB in letter and spirit.	Noted, Requirement will be complied.
5	Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines.	Leak detector program will be prepared and implemented in project execution stage as per CPCB guidelines.

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6	Intermediate products/ by-products mentioned in the product list qualifying the Hazardous and other Wastes (Management and Transboundary Movement) Rules, 2016 and its amendment time to time shall be sold only to the potential users who are authorized by the competent authority (MoEF/CPCB/SPCB) and provisions of said rules shall be complied in letter and spirit	Requirements for Intermediate products/ by-products are taken into consideration and will be complied at project execution stage.
7	The company shall submit the list of authorized end users of above-mentioned wastes along with MoU signed with them at least two months in advance prior to commencement of production. In absence of potential buyers of these items, the unit shall restrict the production of respective item.	Membership has been taken from M/s. BEIL, M/s RSPL and M/s SEPPL.
8	Continuous Emission Monitoring System (CEMS) shall be provided for monitoring of air pollutants and waste water discharge.	CEMS for air pollution monitoring and waste water discharge has been Provided for existing facility in operation. Same shall be provided after execution of project.
9	The Company shall install online chlorine gas detectors to detect leakage of chlorine at liquid chlorine storage tanks, chlorine bottling area/sodium hypo plant at vent pipe, HCl synthesis unit and electrolyzers area. Caustic scrubber shall be provided in the HCl plant for absorption of chlorine/HCl from the stack. Dykes of adequate height shall be provided around the HCl acid tanks to collect the acid within the dyke walls in the event of catastrophic failure of the tank.	Online chlorine gas detectors for proposed project will be installed at project execution stage
10	The vent gases from Sodium hypochlorite plant and HCl acid plant shall be controlled at source by effective absorption system. Waste Chlorine gas shall be used in preparation of HCl. The vent gases shall be discharged from the stacks of adequate height for effective dispersion. Chlorine sensors shall be installed to monitor Cl ₂ .	Effective system for vent gases will be installed at project execution stage
11	Fugitive emissions shall be regularly monitored and data recorded chlorine sensors shall be installed in the chlorine storage area at lower level between the tanks.	Fugitive emission monitoring at chlorine sensors will be done.
12	Unit shall comply all the conditions & recommendations mentioned in the guidelines.	All the conditions & recommendations mentioned in the guidelines will be complied
13	Unit shall provide Continuous Emission Monitoring System [CEMS] for Waste water and Air emission.	Provision of CEMS for Waste water and Air emission will be done at project execution stage

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14	All measures shall be taken to prevent soil and ground water contamination.	Measures will be taken for prevention of soil and ground water contamination
15	The project proponent shall submit the detailed study report to Gujarat Pollution Control Board (GPCB) at least once in a year comprising details of percolation rate of surface water, ground water analysis and observations of contamination to soil & ground water (If any) and mitigation measures to curb ground water & Soil contamination.	Study report shall be submitted to Gujarat Pollution Control Board (GPCB) after commissioning of all the proposed projects.
16	Necessary approvals from PESO and concerned Govt. Authorities shall be obtained before commissioning of the project.	All the necessary legal applications will be taken care.
<u>WATER:</u>		
17	Total water requirement for the project shall not exceed 23,894 KL/day. Unit shall reuse 1,491 KL/day of process condensate in DM Plant and 1,586 KL/day from Cooling Tower & 300 KL/day treated water from STP for Gardening within premises. Hence, fresh water requirement shall not exceed 20,517 KL/day and it shall be met through GIDC water supply only.	Measures will be taken to ensure fresh water requirement which shall not exceed 20,517 KL/day and it shall be met through GIDC water supply only.
18	Prior permission from the concerned authority shall be obtained for withdrawal of water.	Permission has been obtained from GIDC.
19	No ground water shall be tapped for the project requirements.	Noted
20	The water meter shall be installed and records of daily and monthly water consumption shall be maintained.	Water consumption will be monitored.
21	All efforts shall be made to optimize water consumption by exploring Best Available Technology (BAT).	Noted. Water conservation measure will be taken care.
22	The unit shall continuously strive to reduce, recycle and reuse the treated effluent.	3 R principle will be effectively implemented for treated ETP water.
23	Industrial waste water generation after expansion shall not exceed 9,364 KL/day [Existing 4,902 + proposed 4,462] which shall be treated in existing & proposed ETPs.	Effluent water quantity will be complied during project execution.
24	Total discharge of waste water into deep sea via company's own underground pipeline after conforming outlet norms prescribed by GPCB/CPCB/MoEFCC shall not exceed 5,987 KL/day.	Effluent discharge to deep sea will be monitored against prescribed quantity and will not be violated the requirement

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25	The company shall provide adequate effluent treatment plants for different manufacturing plants viz. Phosphoric Acid Plant, Hydrogen Peroxide Plant, Caustic Soda Plant, Poly Aluminium Chloride, Stable Bleaching Powder and Sodium Chlorate Plant consisting of primary treatment units for treatment of industrial effluent and it shall be operated regularly and efficiently so as to achieve the GPCB/CPCB/MoEF&CC norms.	Adequate effluent management and treatment system will be provided.
26	The treated effluent for final disposal shall not exceed 5,987 KL/day and it shall be conveyed to the final discharge pipeline for deep Sea disposal after ensuring that it meets with the discharge norms prescribed by GPCB.	Effluent water quantity will doesn't exceed the limit and shall be taken care after project execution.
27	The unit shall provide continuous online monitoring system at the outlet of the ETP system and maintain records for the same.	Continuous online monitoring system at the outlet of the ETP system is provided in existing facility and same shall be provided for proposed project.
28	Unit shall take steps/measures for reuse/recycle of waste water as proposed in EIA/EMP report.	Adequate measures as per EIA/EMP will be taken
29	Domestic wastewater generation shall not exceed 300 KL/day for proposed expansion project and it shall be treated in STP.	STP outlet will be monitored daily.
30	Treated sewage shall be utilized for gardening and plantation within premises after achieving prescribed GPCB norms.	Treated sewage will be utilize for gardening and plantation within premises after achieving prescribed GPCB norms
31	During monsoon season when treated sewage effluent may not be required for the plantation / Gardening / Green belt purpose, it shall be stored within premises. There shall be no discharge of waste water outside the premises in any case.	There will not be any discharge of waste water outside the premises in any case.
32	Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during rainy days.	Storage facility for treated effluent will be provided.
33	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 the Govt. / GIDC.	Unit will join common infrastructure facilities provided by GPCB or GIDC
34	Proper logbooks of ETP, Chemical consumption, quantities and qualities of effluent discharge and reuse, power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.	Proper Logbook of ETP chemicals will be maintained.
AIR:		

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35	There shall be no additional fuel requirement and there shall be no additional fuel gas stack after expansion.	Fuel consumption will be monitored in-line with existing practice.
36	Single Stage DM Water Scrubbing System shall be provided as APCM with HCl Synthesis unit in Caustic Soda Plant for control of HCl & Cl ₂ .	Noted, Requirement will be complied.
37	Three Stage Caustic Scrubbing System shall be provided as APCM with Waste air De-Chlorination unit in Caustic Soda Plant for control of HCl & Cl ₂ .	Noted, Requirement will be complied.
38	Water Scrubbing followed by Caustic Scrubbing shall be provided as APCM with Vent Scrubber in Phosphoric Acid Plant for control of HCl, HF & Cl ₂ .	Noted, Requirement will be complied.
39	Chilled Water Circulation shall be provided as APCM with Condenser in Phosphoric Acid Plant for control of HCl & Cl ₂ ,	Noted, Requirement will be complied.
40	Activated carbon adsorption system shall be provided as APCM with in solvent recovery unit of H ₂ O ₂ Plant for control of HC.	Noted, Requirement will be complied.
41	Caustic Soda Scrubber shall be provided as APCM with Scrubbing unit of Chlorotoluene plant for control of HCl & Cl ₂ .	Noted, Requirement will be complied.
42	Caustic Soda Scrubber shall be provided as APCM with Reactor of MCA - Sec I for control of Cl ₂ .	Noted, Requirement will be complied.
43	Caustic Soda Scrubber shall be provided as APCM with Reactor of MCA - Sec II for control of Cl ₂ .	Noted, Requirement will be complied.
44	Unit shall take adequate measures to control fugitive emissions as below:	
	I. All the joints, flanges, pumps, glands, seals, valves shall be maintained in good conditions through timely predictive and preventive maintenance.	Timely predictive and preventive maintenance schedule for all the joints, flanges, pumps, glands, seals, valves shall be complied and system maintained in good conditions.
	II. Regular workplace monitoring shall be carried out for HCl & Cl ₂ at various locations within plant.	Regular workplace monitoring shall be carried out for HCl & Cl ₂ at various locations within plant will be complied.
	III. Boundary wall as Wind breaker shall be provided to restrict the dispersion of odor dust from the site.	Boundary walls are provided.
	IV. Well-developed green belt is provided at the existing site and shall be maintained for the proposed project.	Green belt shall be maintained for proposed project also.

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	V. All tanks being used for storage of odorous chemicals/ products shall be connected to vacuum system. Manometers shall be provided on these tanks. The vacuum shall be monitored on daily basis and actions shall be taken accordingly.	All tanks being used for storage of odorous chemicals/ products will be connected to vacuum system. Manometers will be provided on these tanks. The vacuum will be monitored on daily basis and actions shall be taken accordingly. Log book will be maintained for the same.
	VI. All pumps handling hazardous chemicals shall be provided with mechanical seals to prevent fugitive emission. Wherever possible magnetic coupled pumps shall be used.	Noted, Requirement will be complied.
	VII. Any spillage from drums etc. shall be absorbed with saw dust / soda ash and moped clean. The contaminated absorbent will be safely disposed off along with hazardous waste.	Spill contamination will be handled as per requirement by skilled team.
	VIII. Manual Handling of various chemicals shall be avoided and shall be designed by implementing latest automation technology.	Manual handling of chemical will be avoided by using upgraded technologies.
	IX. All venting equipment shall have vapor recovery system. Measuring Instruments with sound alarm and having strategically placed sensing elements shall be provided for alerting the personnel in case of any escape of gases like Chlorine. Interlock with blower shall be provided.	Noted, Requirement will be complied.
45	Measures shall be taken to reduce the process vapors emissions as far as possible. Use of toxic solvents shall be minimum. All venting equipment shall have vapor recovery system.	Noted, Requirement will be complied.
46	The fugitive emission in the work zone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety & Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.	Noted, Requirement will be complied.
	A. Internal roads shall be either concreted or asphalted or paved properly to reduce the fugitive emission during vehicular movement.	
	B. Air borne dust shall be controlled with water sprinklers at suitable locations in the plant.	
	C. A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.	Green belt shall be maintained for proposed project also.
47	Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.	VOC Monitoring will be carried out

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48	Solvent management shall be carried out as follows:	
	1) Reactor shall be connected to chilled brine condenser system to condensate solvent vapors and reduce solvent losses.	Noted, Requirement will be complied.
	2) Reactor and solvent handling pump shall have mechanical seals to prevent leakages.	Noted, Requirement will be complied.
	3) The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 95% solvent recovery.	Noted, Requirement will be complied.
	4) Solvents shall be stored in a separate space specified with all safety measures.	Noted, Requirement will be complied.
	5) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.	Noted, Requirement will be complied.
	6) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.	Noted, Requirement will be complied.
49	Airborne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosures.	Noted, Requirement will be complied.
50	Regular monitoring of ground level concentration of PM10, PM2.5, SO2, NOx, Cl2, HCl, HC, HF, NMHC and VOC shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.	Ambient air quality monitoring is being done as per NAAQMP.
51	Stack/Vents (Whichever is applicable) of adequate height shall be provided as per the prevailing norms for flue gas emission/Process gas emission.	Noted, Requirement will be complied.
52	Adequate Air Pollution Control Measures [APCM] shall be provided.	Noted, Requirement will be complied.
53	Flue gas emission & Process gas emission shall conform to the standards prescribed by the GPCB/CPCB/MoEF&CC. At no time, emission level should go beyond the stipulated standards.	Noted, Requirement will be complied.
54	All the reactors / vessels used in the manufacturing process shall be closed to reduce the fugitive emission.	Noted, Requirement will be complied.
55	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826 (E) dated 16th November, 2009 shall be followed.	Ambient air quality monitoring will be done as per NAAQMP.

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	<u>HAZARDOUS / SOLID WASTES:</u>	
56	The company shall strictly comply with the rules and regulations with regards to handling and disposal of Hazardous waste in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016, as may be amended from time to time. Authorization of the GPCB shall be obtained for collection / treatment / storage / disposal of hazardous wastes.	Noted, Requirement will be complied.
57	Any by-products which fall under the purview of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016 shall be handled as per the said rules and necessary permissions from the concern authority shall be obtained.	Noted, Requirement will be complied.
58	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.	Noted, Requirement will be complied.
59	Brine sludge generated from the Caustic Soda Plant, Mix Filter cake (Chemical Sludge) & Spent Carbon from Hydrogen Peroxide Plant shall be disposed to company's own TSDF.	Noted, Requirement will be complied.
60	High M.P Liquid Impurities from Chlorotoluene Plant, Process Residue from Ketazine Synthesis and High Boilers including the Process residue from Chloromethane Plant shall be disposed to authorized Common Hazardous Waste Incinerator Facility [CHWIF].	Noted, Requirement will be complied.
61	Contaminated spent Alumina & Activated Carbon from Hydrogen Peroxide plant shall be disposed to authorized common TSDF site.	Noted, Requirement will be complied.
62	Spent Catalyst from Hydrogen Peroxide Plant shall be sold to authorized and approved vendors.	Noted, Requirement will be complied.
63	Discarded drum / containers shall be either reused or returned back to suppliers or sold only to the authorized recyclers.	Noted, Requirement will be complied.
64	The unit shall obtain necessary permission from the nearby TSDF site and CHWIF.	Necessary permission from the nearby TSDF site and CHWIF has been obtained.
65	Trucks/Tankers used for transportation of hazardous waste shall be in accordance with the provisions under the Motor Vehicle Act, 1988, and rules made there under.	Noted, Requirement will be complied.
66	The design of the Trucks/tankers shall be such that there is no spillage during transportation	Noted, Requirement will be complied.
67	All possible efforts shall be made for Co-Processing of the Hazardous waste prior to disposal into TSDF/CHWIF.	Noted, Requirement will be complied.

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68	<u>SAFETY:</u> The occupier/project proponent shall strictly comply the provisions under the Factories Act 1948 and the Gujarat Factories Rules 1963	Noted, Requirement will be complied.
69	The project authorities shall strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules (MSIHC) 1989, as amended time to time and the Public Liability Insurance Act for handling of hazardous chemicals etc. Necessary approvals from the Chief Controller of Explosives and concerned Govt. Authorities shall be obtained before commissioning of the project. Requisite On-site and Off-site Disaster Management Plans have to be prepared and implemented.	Noted, Requirement will be complied.
70	Main entry and exit shall be separate and clearly marked in the facility.	Entry and Exit gates are separate
71	Sufficient peripheral open passage shall be kept in the margin area for free movement of fire tender/ emergency vehicle around the premises.	Sufficient space is available.
72	Storage of flammable chemicals shall be sufficiently away from the production area.	Noted, Requirement will be complied.
73	Sufficient number of fire extinguishers shall be provided near the plant and storage area.	Noted, Requirement will be complied.
74	All necessary precautionary measures shall be taken to avoid any kind of accident during storage and handling of toxic / hazardous chemicals.	Noted, Requirement will be complied.
75	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.	Noted, Requirement will be complied.
76	The project management shall ensure to comply with all the environment protection measures, risk mitigation measures and safeguards mentioned in the Risk Assessment report.	All the environment protection and risk mitigation measure will be taken care as per existing
77	Only flame proof electrical fittings shall be provided in the plant premises.	Flameproof electrical fitting will be provided as per requirement of process.
78	Storage of hazardous chemicals shall be minimized and it shall be in multiple small capacity tanks / containers instead of one single large capacity tank / containers.	Noted, Requirement will be complied.
79	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.	Noted, Requirement will be complied.
80	Handling and charging of the chemicals shall be done in closed manner by pumping or by vacuum transfer so that minimal human exposure occurs.	Noted, Requirement will be complied.
81	Tie up shall be done with nearby health care unit / doctor for seeking immediate medical attention in the case of emergency.	Tie-up with healthcare units/ Doctors is established.

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82	Personal Protective Equipments (PPEs) shall be provided to workers and its usage shall be ensured and supervised.	PPE are distributed and usage is mandatory in the premises.
83	First Aid Box and required Antidotes for the chemicals used in the unit shall be made readily available in adequate quantity.	Well-equipped OHC is available
84	Occupational health surveillance of the workers shall be done and its records shall be maintained. Pre-employment and periodical medical examination for all the workers shall be undertaken as per the Factories Act & Rules.	Well-equipped OHC is available.
85	Transportation of hazardous chemicals shall be done as per the provisions of the Motor Vehicle Act & Rules.	Noted, Requirement will be complied.
86	The company shall implement all preventive and mitigation measures suggested in the Risk Assessment Report.	Noted, Requirement will be complied.
87	Necessary permissions from various statutory authorities like PESO, Factory Inspectorate and others shall be obtained prior to commissioning of the project.	Noted, Requirement will be complied.
88	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be maintained.	Noted, Requirement will be complied.
89	Effective safety precaution shall be taken for chemical storage, process handling and transportation hazard.	Noted, Requirement will be complied.
90	Unit shall prepare and Implement SOP for safe operation of the works.	SOP are available
91	Comply the statutory provision of safety audit & its compliance report.	Safety audit from competent authorities are conducted.
92	Effective step shall be taken for prevention of fire, explosion & toxic release.	Noted, Requirement will be complied.
<u>NOISE:</u>		
93	The overall noise level in and around the plant area shall be kept well within the standards by providing noise control measures including engineering controls like acoustic insulation hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise level shall conform to the standards prescribed under The Environment (Protection) Act, 1986 & Rules.	Noted, Requirement will be complied.
<u>CLEANER PRODUCTION AND WASTE MINIMIZATION:</u>		
94	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 the GPCB.	Competent inhouse staff available for implementation of CP in existing practice. in the company will be formed, Clean production audit with

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		the remarks and further actions will be submitted to GPCB on timely basis after execution of project.
95	The company shall undertake various waste minimization measures such as :	
	a) Metering and control of quantities of active ingredients to minimize waste.	Noted, Requirement will be complied.
	b) Reuse of by-products from the process as raw materials or as raw materials substitutes.	Noted, Requirement will be complied.
	c) Use of automated and close filling to minimize spillages.	Noted, Requirement will be complied.
	d) Use of close feed system into batch reactors.	Noted, Requirement will be complied.
	e) Venting equipment through vapor recovery system.	Noted, Requirement will be complied.
	f) Use of high pressure hoses for cleaning to reduce wastewater generation.	Noted, Requirement will be complied.
	g) Recycling of washes to subsequent batches.	Noted, Requirement will be complied.
	h) Recycling of steam condensate	Noted, Requirement will be complied.
	i) Sweeping / mopping of floor instead of floor washing to avoid effluent generation.	Noted, Requirement will be complied.
	j) Regular preventive maintenance for avoiding leakage, spillage etc.	Noted, Requirement will be complied.
<u>GREEN BELT AND OTHER PLANTATION:</u>		
96	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.	Green Belt with adequate width and density has been developed in existing plot. Further, we are developing 40 Hactres of green belt in surrounding villages.
97	Drip irrigation / low-volume, low-angle sprinkler system shall be used for the green belt development within the premises.	Noted, Requirement will be complied.
<u>OTHER CONDITIONS:</u>		
98	The provisions of the Solid Waste Management Rules, 2016, e-Waste (Management) Rules, 2016, the Construction and Demolition Waste Management Rules, 2016 and the Plastics Waste Management Rules, 2016 shall be followed.	Waste management will be done as per legislative requirements.

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99	Rain water harvesting of surface as well as rooftop runoff shall be undertaken and the same water shall be used for the various activities of the project to conserve fresh water as well as to recharge ground water. Before recharging the surface run off, pre-treatment must be done to remove suspended matter.	Noted, Requirement will be complied.
100	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 Industrial Association or GIDC or GPCB or any such authority created for this purpose by the Govt. / GIDC.	Noted, Requirement will be complied.
101	Application of solar energy shall be incorporated for illumination of common areas, lighting for gardens and street lighting in addition the provision for solar water heating system shall also be provided.	Noted, Requirement will be complied.
102	The area earmarked as green area shall be used only for plantation and shall not be altered for any other purpose.	Noted, Requirement will be complied.
103	All the commitments / undertakings given to the SEAC during the appraisal process for the purpose of environmental protection and management shall be strictly adhered to.	Noted, Requirement will be complied.
104	The project proponent shall also comply with any additional condition that may be imposed by the SEAC or the SEIAA or any other competent authority for the purpose for the environmental protection and management.	Noted, Requirement will be complied.
105	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.	Noted, Requirement will be complied.
106	The project authorities must strictly adhere to the stipulations made by the Gujarat Pollution Control Board (GPCB), State Government and any statutory authority.	Noted, Requirement will be complied.
107	During material transfer there shall be no spillages and garland drain shall be constructed to avoid mixing of accidental spillages with domestic wastewater or storm water.	Noted, Requirement will be complied.
108	Pucca flooring / impervious layer shall be provided in the work areas, chemical storage areas and chemical handling areas to minimize soil contamination.	Noted, Requirement will be complied.
109	Leakages from the pipes, pumps, shall be minimal and if occurs, shall be arrested promptly.	Noted, Requirement will be complied.
110	No further expansion or modifications in the plant likely to cause environmental impacts shall be carried out without obtaining prior Environment Clearance from the concerned authority.	Noted, Requirement will be complied.

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111	The above conditions will 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 and other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules. The project proponent shall comply all the conditions mentioned in "The Companies (Corporate Social Responsibility Policy) Rules, 2014" and its amendments from time to time in a letter and spirit.	Noted, Requirement will be complied.
112	All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project prepared by M/s: Kadam Environmental Consultants, Vadodara and submitted by project proponent vide letter no. GACL/EC/EIA/2017/01 dated 24/08/2017 and commitments made during presentation before SEAC and proposed in the EIA report shall be strictly adhered to in letter and spirit.	Noted, Requirement will be complied.
113	The project proponent shall comply all the conditions maintained in the companies (corporate social responsibility policy) rule, 2014 and its amendment from time to time in a letter and spirit.	Noted, Requirement will be complied.
114	The project management shall ensure that unit complies with all the environment protection measures risk mitigation measures and safeguarding recommended in the EMP report and risk assessment study report as well as proposed by project proponent.	Noted, Requirement will be complied.
115	The project authorities shall earmark adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated hearing. The funds so provided shall not be diverted for any other purpose.	Noted, Requirement will be complied.
116	The applicant shall inform the public that the project has been accorded environmental clearance by the SEIAA and that the copies of the clearance letter are available with the GPCB and may also be seen at the website of SEIAA/SEAC/GPCB. This shall be advertised within seven days from the date of the clearance letter , in at least two local newspapers that are widely circulated in the region, one of which shall be in the Gujarati language and other in English. A copy each of the same shall be forwarded to the concerned Regional Office of the Ministry.	News is published in 2 local news papers on Oct 4, 2017.
117	The project proponent shall also comply with any additional condition that may be imposed by SEAC or the SEIAA or any other competent authority for the purpose of the Environment protection and management.	Noted, Requirement will be complied.

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118	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 authorities concerned on 1st July and 1st Jan of each calendar year.	Six monthly compliance report is being submitted timely.
119	Concealing factual data or submission of false/fabricated data & failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance & attract action under the provision of Environment (protection) act, 1986.	Agreed
120	the project authorities shall also adhere to the stipulations made by Gujarat pollution Control Board.	Noted, Requirement will be complied.
121	The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.	Noted, Requirement will be complied.
122	The company in a time bound manner shall implement this conditions. The SEIAA reserves the right to stipulate additional conditions, if the same is found necessary.	Noted, Requirement will be complied.
123	The project authorities shall inform the GPCB , regional office of MoEF & SEIAA about the date of closure & final approval of the project by the concerned authorities & the date of start of the project.	Noted, Requirement will be complied.
124	This environment clearance is valid for Seven years from the date of issue.	Clearance is valid till Sept. 2024.
125	Any appeal against this environmental clearance shall lie with NGT, if proffered within the period of 30 days as prescribed under Section 16 of the NGT act , 2010	Noted
126	Submission of any false or misleading information or data which is material to screening or scoping or appraisal or decision on the application makes this environment clearance cancelled	Noted

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Compliance report of Environmental Clearance No. J-11011/102/2009-IA II (I) dtd. 29/04/2009:[Period – Jan to June-21]

Condition No.	Description	Status																																			
3.0	<p>Details of Products along with production capacities are given below:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Sr. no</th> <th style="text-align: center;">Products</th> <th style="text-align: center;">Existing (MTPM)</th> <th style="text-align: center;">Proposed (MTPM)</th> <th style="text-align: center;">Total (MTPM)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">01</td> <td>Caustic soda Lye (100%)/Prills/Flakes)</td> <td style="text-align: center;">22050</td> <td style="text-align: center;">1500</td> <td style="text-align: center;">23550</td> </tr> <tr> <td style="text-align: center;">02</td> <td>Chlorine</td> <td style="text-align: center;">19455</td> <td style="text-align: center;">1329</td> <td style="text-align: center;">20784</td> </tr> <tr> <td style="text-align: center;">03</td> <td>Hydrochloric Acid (100%)</td> <td style="text-align: center;">6000</td> <td style="text-align: center;">1260</td> <td style="text-align: center;">7260</td> </tr> <tr> <td style="text-align: center;">04</td> <td>Hydrogen</td> <td style="text-align: center;">546</td> <td style="text-align: center;">37.5</td> <td style="text-align: center;">583.5</td> </tr> <tr> <td style="text-align: center;">05</td> <td>Sodium Hypochlorite (100%)</td> <td style="text-align: center;">910</td> <td style="text-align: center;">109</td> <td style="text-align: center;">1019</td> </tr> <tr> <td style="text-align: center;">06</td> <td>Dil. Sulphuric Acid (78-80%)</td> <td style="text-align: center;">550</td> <td style="text-align: center;">39</td> <td style="text-align: center;">589</td> </tr> </tbody> </table>	Sr. no	Products	Existing (MTPM)	Proposed (MTPM)	Total (MTPM)	01	Caustic soda Lye (100%)/Prills/Flakes)	22050	1500	23550	02	Chlorine	19455	1329	20784	03	Hydrochloric Acid (100%)	6000	1260	7260	04	Hydrogen	546	37.5	583.5	05	Sodium Hypochlorite (100%)	910	109	1019	06	Dil. Sulphuric Acid (78-80%)	550	39	589	<p>Complied.</p> <p>Production does not exceed the capacity mentioned in EC</p>
Sr. no	Products	Existing (MTPM)	Proposed (MTPM)	Total (MTPM)																																	
01	Caustic soda Lye (100%)/Prills/Flakes)	22050	1500	23550																																	
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06	Dil. Sulphuric Acid (78-80%)	550	39	589																																	
4.0	<p>It is noted that water requirement after the proposed expansion will be 11,644.4 m³/day which will be sourced from the GIDC water supply. The effluent generation will be additional 131 m³/d. The effluent will be treated in the ETP and will be sent to existing final treated effluent collection pit from where the combined effluent will be discharged to gulf of Khambhat through the existing effluent disposal system having long underground pipeline. The sewage will be treated in STP having secondary treatment facility. The domestic effluent will be treated in the sewage treatment plant having secondary treatment facility. The treated sewage will be used for green belt. The alkaline waste water produced during secondary brine purification will be recycled. The evaporated water from the caustic evaporator after cooling and steam condensate will be recycled. The total power requirement for the project will be met through the 90 MW existing captive power plant. To control process emissions in the form of Cl₂ and HCl, scrubbers will be installed. The chlorine bearing waste gases will be led to the waste air de-chlorination system which will be scrubbed with NaOH solution to produce sodium hypo-chlorite. Brine sludge (78 MT/day) will be disposed at captive secured land fill site TSDF as per CPCB guidelines.</p>	<p>Complied.</p> <p>Water requirement and waste water generation do not exceed the limits as specified in EC & GPCB consent vide order no. AWH 111614 dtd 23.03.2021 which is valid till 26.11.2021.</p> <p>Effluent treatment, waste air dechlorination and Air Pollution Control measures are as mentioned in stipulated condition.</p>																																			
5.0	<p>Sludge from Naphtha/HSD storage tank (1 MT/year) and residue iron contaminated solvents-high boiling material (360 MT/year) will be incinerated within the industry/send for common incineration of BEIL. Used/spent oil (50 MT/year) will be sold to register re-refiners. Residue/filter cake of acid from drum filter of Phosphoric Acid (10 MT/year) and waste residue from industry use of paints during repairing work of plant/building (0.5 MT/year) will be disposed at own TSDF. Discarded barrels (2400 nos/year) will be sold to authorized recyclers. Discarded bags/liners/packing material (90 MT/year) and discarded personal protective equipment, waste gasket etc (30 MT/year) will be collected and stored after decontamination. Chemical sludge from ETP (25550 MT/year) will be thickened in a thickener and the thickened sludge will be dewatered in a centrifuge. The dewatered sludge is disposed at captive secured land fill site TSDF ETP waste from PAC plant (76.65 MT/year) and ash from incineration of hazardous waste</p>	<p>Complied</p> <ul style="list-style-type: none"> • Solid/ Hazardous waste are being disposed at BEIL /own TSDF site as per manner prescribed in GPCB consent vide order no. AWH 111614 dtd 23.03.2021 which is valid till 26.11.2021. 																																			

EC Compliance Report of Gujarat Alkalies and Chemicals Limited- Dahej
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Condition No.	Description	Status
	<p>(27.38 MT/year) will be disposed at own TSDF. Copper scrap from scrap copper tubing/pipes used in Cl₂ bottling and plants (1 MT/year), lead scrap from scrap lead washers used in chlorine tonners (2 MT/ year), Nickel scrap from scrap nickel tubes of plants (1 MT/ year) will be sold to registered recyclers.</p> <p>Waste asbestos material (0.5 MT / year) from scrap of used asbestos gloves in plants will disposed at TSDF after solidification/encapsulation. Waste nitrate salt (in-organic salt) from heating salt for CCU (50 MT/year) will be disposed at own captive secured landfill facility. Discarded lead batteries (8 MT/year) will be sold to registered authorized re- processors. Spent catalyst (waste palladium catalyst) (0.6 MT/year) will be sold to authorized & approved vendors. Spent carbon (waste activated carbon (5 MT/year) will be incinerated within-the industry/send for common incineration of BEIL. Concentrated organic waste liquid (96 MT/year) will be incinerated within the industry/send for common incineration of BEIL.</p>	<p>Also quantity of wastes does not exceed the limits as mentioned in EC.</p>
<p>The project activity is listed at 4(d) in the Schedule of EIA Notification, 2006 and is of 'A' Category. The Expert Committee (Industry) recommended the project for environmental clearance in its meeting held on 18th -20th March 2009 as per para 7(ii) of EIA Notification, 2006 subject to specific and general conditions.</p>		
<p>Based on the information submitted by the project proponent, the Ministry of Environment and Forests hereby accords environmental clearance to above project under the provisions of EIA Notification dated 14th September 2006 subject to the compliance of the following Specific and General conditions:</p>		
<p>A. SPECIFIC CONDITIONS:</p>		
<p>i)</p>	<p>The process effluent generation from the proposed expansion shall not exceed 131 m³/d. The effluent after treatment in the ETP and conforming to the prescribed standards shall be discharged through underground pipeline into the Gulf of Khambhat. The domestic effluent shall be treated in sewage treatment plant and treated effluent shall be used for green belt development.</p>	<p>Complied</p> <p>Quantity of Effluent is within limit and is being treated and disposed in compliance with prescribed standards.</p>
<p>ii)</p>	<p>Gaseous emissions from the gas turbine and thermic fluid heater shall be dispersed through stack of height as per CPCB standards. Particulate emissions shall conform to the prescribed standards. For dispersion of emissions from the DG set, stack height as per CPCB standards shall be provided. Emissions from the D G Sets shall conform to the standards prescribed by the CPCB.</p>	<p>Complied</p> <p>Stack of adequate height is provided for dispersion of gaseous emissions as well as emissions from DG Sets. D.G set is operated occasionally.</p>

EC Compliance Report of Gujarat Alkalies and Chemicals Limited- Dahej
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iii)	The Company shall install online chlorine gas detectors to detect leakage of chlorine at liquid chlorine storage tanks, chlorine bottling area, sodium hypo plant at vent pipe, HCl synthesis unit and electrolyser area. Caustic scrubber shall be provided in the HCl plant for absorption of chlorine/HCl from the stack. Dykes of adequate height shall be provided around the HCl acid tanks to collect the acid within the dyke walls in the event of catastrophic failure of the tank.	Complied Online chlorine gas detectors have been installed at strategic locations to detect leakage of chlorine. Caustic scrubbers are provided in all the 5 HCl plant. Dykes with adequate wall height are provided around the HCl tanks.
iv)	The vent gases from Sodium hypochlorite plant and HCl acid plant shall be controlled at source by effective absorption system. Waste Chlorine gas shall be used in preparation of HC. The vent gases shall be discharged from the stacks of adequate height for effective dispersion. Chlorine sensors shall be installed to monitor Cl ₂ .	Complied Caustic scrubbers are installed to control emission from vent of Sodium. 2 Nos. of Cl ₂ Sensors are installed and connected to GPCB server.
v)	The solid waste including ETP sludge shall be disposed of in the secured landfill site within the plant premises approved by the Gujarat State Pollution Control Board. Construction of secured landfill facility shall be as per the CPCB guidelines.	Complied Solid waste including ETP sludge is disposed in our captive TSDF as per guidelines.
vi)	The company shall develop rainwater-harvesting structures to harvest the run-off water from the rooftops and by laying a separate storm water drainage system for recharge of ground water and to reduce the withdrawal from the ground water.	Complied Rainwater Harvesting ponds with total Approx. 30000 M ³ capacities are developed. Photographs as Annexure I
vii)	Green belt of adequate width and density in an area of 30 ha shall be provided to mitigate the effect of fugitive emission all around the plant. The development of green belt along the boundary walls, open space and avenue roads should be in consultation with the local DFO or any of the agencies having expertise in this area.	Complied Green Belt with adequate width and density has been developed in available space. Further, we are developing 40 Hactres of green belt in surrounding villages.

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Condition No.	Description	Status
GENERAL CONDITIONS:		
i)	The project authorities shall strictly adhere to the stipulations made by the Gujarat State Pollution Control Board.	Norms stipulated in GPCB Consent are/shall be strictly followed.
ii)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment & Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Any expansion or modifications in future shall be carried out only after obtaining approval of MoEFCC & Regulatory authorities as per applicability of laws.
iii)	The project authorities shall strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous chemicals Rules, 1989 as amended in October, 1994 and January, 2000. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained.	Complied We abide by the rules and regulations under various legislations.
iv)	The project authorities shall strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management, Handling and Trans-boundary Movement Rules) Rules, 2008. Authorization from the State Pollution Control Board must be obtained for collections/ treatment storage/ disposal of hazardous wastes	Complied Authorization under Hazardous and other Wastes Rules, 2016 is included under Consent vide order no. AWH 111614
v)	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) 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 EPA ~Rules, 1989 viz. 75 dBA (day time) and 70 (dBA (night time).	Complied Source control of Noise is done and Noise monitoring is also carried out by In house staff as well as by third party to ensure Noise below the prescribed standards. Noise monitoring reports are attached as Annexure_II
vi)	Occupational health surveillance programme shall be undertaken as regular exercise for all the employees, specifically for those engaged in handling hazardous substances. The first aid facilities in the occupational health centre should be strengthened and the medical records of each employee should be maintained separately.	Complied Health Inspection of all employees is regularly carried out. We have full-fledged OHC within our premises. Medical records are maintained.

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vii)	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA and Risk analysis Report. The Company must also undertake social welfare/community development measures in the surrounding villages, such as health care, education and drinking water supply facilities.	Complied. Adequate Environment Management System is in place. Detail of CSR activities is Attached Annex-III
viii)	A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and monitoring functions.	Complied EMC with Full fledged laboratory facilities is available to ensure overall environment management. Detailed Organogram is attached as Annexure_IV
ix)	The project authorities shall provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment & Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purpose.	Complied Adequate budget for Environment management is allocated for proper environment management.
x)	The implementation of the project vis-a-vis environmental action plans will be monitored by Ministry's regional office at Bhopal/State Pollution Control Board /Central Pollution Control Board. A six monthly compliance status report should be submitted to monitoring agencies.	Complied Six monthly compliance report is being submitted at MOEFCC regional office as well as GPCB. It is posted on website of the company.

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Condition No.	Description	Status
xi)	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 State Pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in . This should 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 should be forwarded to the Regionaloffice.	Complied
xii)	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 commencing the land development work, if any.	Complied The date of financial closure is 31/03/2022.
08	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Conditions stipulated in EC are being/ will be implemented.
09	The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner shall implement these conditions.	Agreed
10	Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act, 1997.	--
11	The above conditions will 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 (M, H & TM) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments andrules.	Complied Conditions mentioned in EC as well as other environmental legislations with subsequent amendments shall be complied.

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Compliance report of EC No. J-11011/825/2008-IA II(I) dtd 16/08/2007

Condition No.	Description	Status															
2.0	<p>The Ministry of Environment and Forests has examined your application and noted that M/s. Gujarat Alkalies & Chemicals Ltd. have proposed for the expansion of Chlor-Alkali Plant Caustic Soda Plant (18,182 MTPM to 22,050 MTPM) at Dahej, Vagra, Bharuch, Gujarat Expansion will be done within existing plot and no additional land will be acquired. Production will be expanded by increasing the number of membrane electrolyzers in existing plant. The details products and product capacity are as given below:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Name of product</th> <th style="text-align: center;">Existing capacity (MTPM)</th> <th style="text-align: center;">Proposed expansion (MTPM)</th> </tr> </thead> <tbody> <tr> <td>Caustic Soda (Lye/Prills/Flakes-100%)</td> <td style="text-align: center;">18,182</td> <td style="text-align: center;">3,868</td> </tr> <tr> <td>Chlorine</td> <td style="text-align: center;">16,110</td> <td style="text-align: center;">3,345</td> </tr> <tr> <td>Hydrogen</td> <td style="text-align: center;">445</td> <td style="text-align: center;">101</td> </tr> <tr> <td>78%-80% Dilute Sulphuric Acid</td> <td style="text-align: center;">300</td> <td style="text-align: center;">250</td> </tr> </tbody> </table>	Name of product	Existing capacity (MTPM)	Proposed expansion (MTPM)	Caustic Soda (Lye/Prills/Flakes-100%)	18,182	3,868	Chlorine	16,110	3,345	Hydrogen	445	101	78%-80% Dilute Sulphuric Acid	300	250	<p>Complied as per latest Environmental Clearance No. J-11011/102/2009-IA 11(1) dtd. 29/04/2009. and 30/10/2009</p>
Name of product	Existing capacity (MTPM)	Proposed expansion (MTPM)															
Caustic Soda (Lye/Prills/Flakes-100%)	18,182	3,868															
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Hydrogen	445	101															
78%-80% Dilute Sulphuric Acid	300	250															
3.0	<p>Production of HCl (100%) and Sodium Hypochlorite will not exceed the limit of 6,000 MTPM and 910 MTPM respectively. Total cost of the project is Rs. 33.3741 Crores.</p>	<p style="text-align: center;">Complied</p> <p>As per latest Environmental Clearance No. J-11011/102/2009-IA 11(1) dtd.29/04/2009 & 30/10/2009.</p>															
4.0	<p>All the waste chlorine bearing gaseous emission streams will lead to the waste air de-chlorination unit to scrub through a 3-stage scrubber with caustic solutions. Sodium Hypochlorite will be scrubbed from scrubbed solutions. Ventury scrubber will be provided to the incinerator. Low NOx burner will be provided to CPP. Cyclone, scrubber, mist eliminator will be provided to spray dryer. Scrubbers will also be provided to Phosphoric Acid Plant.</p>	<p style="text-align: center;">Complied.</p> <p>Chlorine bearing wastes gaseous are scrubbed in waste air de-chlorination unit. Venturi scrubber, Cyclone separator, Mist eliminator, low NoX burner, etc is provided as APC measures.</p>															
5.0	<p>Total water requirement from GIDC supply for the expansion project will be 774 M³/d (Total 10,052.54 M³/d). GIDC has accorded permission for 11362.5 M³/d supply and water to GACL, Dahej. Total effluent will be 3,908 M³/d, and out of this 200 M³/d will be consumed in-house for gardening, green belt etc. Rest 3,708 M³/d effluent from brine treatment section, caustic concentration section etc. will be treated in the ETP and will be discharged into gulf of Khambhat through the existing underground pipeline only as per the permission accorded by the GPCB.</p>	<p style="text-align: center;">Complied</p> <p>Total water requirement is as per GPCB Consent vide order no. AWH 111614 dtd 23.03.2021 which is valid till 26.11.2021</p>															
6.0	<p>Solid waste will be generated in the form of brine sludge (60 MTPD), sewage sludge (30 kg/hr) chemical sludge from wastewater treatment (70 MTPD). Incineration ash (75 kg/day), Cu, Pb & Ni Scrap (4 MTPA); Solvent residue (30 MTPM) will be generated. Discarded batteries (8 MTPA), used oil (15 MTPA) will be sold to authorized recyclers. Brine sludge, chemical sludge and incineration ash will be disposed of in own SLF</p>	<p style="text-align: center;">Complied</p> <p>•Solid/ Hazardous waste are being disposed at BEIL /own TSDF site as per manner prescribed in GPCB consent vide order no. AWH 111614</p>															

EC Compliance Report of Gujarat Alkalies and Chemicals Limited- Dahej
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Condition No.	Description	Status
		Also quantity of wastes does not exceed the limit mentioned in EC dtd 29.04.2009.
The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14 th Sept., 2006 subject to compliance of the following specific and general conditions		
A. SPECIFIC CONDITIONS:		
i)	The project authorities shall comply with the stipulations made by ministry in its environmental clearance letter issued F, NO. J-11011/93/96-IA II dated 30 th Oct., 1996	Complied. Stipulations made in Existing EC and GPCB Consent are being/ will be strictly followed.
ii)	The Company shall install Chlorine gas detectors to detect leakage of Chlorine at liquid Chlorine storage tanks. Sodium hydro plant, HCl synthesis unit and Electrolysis area. The company shall install on-line analyser in HCl plant and hypo stack with recording facility.	Complied. Online chlorine gas detectors have been installed at all these locations to detect leakage of chlorine. Online Monitoring Systems at HCL and Hypo vents have been installed and linked with GPCB server.
iii)	The vent gases from Sodium Hypochlorite plant and HCl Plant shall be controlled at source by effective absorption system so that Chlorine concentration in the vent gases shall not exceed 5 ppm. Waste Chlorine gas shall be used in preparation of HCl. The vent gases shall be discharged from the stacks of adequate height for effective dispersion. Additional Chlorine sensors shall be installed to monitor Cl ₂ . ESP shall be installed to minimize emissions.	Complied. <ul style="list-style-type: none"> • Caustic scrubbers are installed to control emission from vent of Sodium. 2 Nos. of Cl₂ Sensors are installed and connected to GPCB server. • Waste Chlorine gas is being used in preparation of HCl through HCl synthesis plant.
iv)	Green belt shall be developed in 33% plot area to mitigate the effects of fugitive emissions all around the plant. The development of green belt shall be as per the Central Pollution Control Board guidelines.	Complied. Green Belt with adequate width and density has been developed Further, we are developing 40 acres of green belt in surrounding villages.

EC Compliance Report of Gujarat Alkalies and Chemicals Limited- Dahej
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Condition No.s	Description	Status
v)	Ventury scrubber to the incinerator and scrubbers to Phosphoric Acid Plant should be provided. Cyclone, scrubber, mist eliminator should be provided to spray dryer. Low NOx burner should be provided to CPP. The stack emissions from various sources should not exceed 50 mg/Nm ³ .	<p style="text-align: center;">Complied.</p> <p>Incinerator has been dismantled in 2018.</p> <p>Caustic and water scrubber is provided at the outlet of PAP vents. Multi Cyclone separator, water Scrubber, mist eliminator and ventury is provided at spray dryer. Low NOx burner is available at the stack of CPP. It is ensured to control Stack emissions within stipulated norms from every stack well within limits through adequate Air pollution control measures. Stack analysis reports are regularly submitted along with six monthly compliance reports.</p>
vi)	Capacity of the existing ETP of Caustic Soda Plant shall be augmented and treated effluent should be discharged into Gulf of Khambhat through the existing underground pipeline only as per the permission accorded by the GPCB.	<p style="text-align: center;">Complied.</p> <p>ETP of adequate capacity has been provided and treated effluent is discharged into Gulf of Khambhat as suggested by NIO and is in compliance with GPCB consent.</p>
vii)	Wastewater generated during brine filtration and secondary brine purification, steam condensate and evaporated water from the caustic evaporator after cooling shall be recycled.	<p style="text-align: center;">Complied.</p> <p>Schemes for Recycling/reusing of steam and evaporated water have been implemented.</p>

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viii)	Brine sludge, chemical sludge and incineration ash should be disposed off in own secured landfill.	Complied. Brine sludge, and chemical sludge is being disposed in our captive TSDF site.
GENERAL CONDITIONS :		
Condition No.	Description	Status
i)	The project authorities shall strict adhere to the stipulations of the SPCB / State Government or any statutory body.	Complied.
ii)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. 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 to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Complied Any expansion or modifications in future shall be carried out only after obtaining approval of MoEFCC & Regulatory authorities as per applicability of legislations.
iii)	At no time, the emissions shall exceed the prescribed limits. In the event of failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	Complied Regular monitoring and preventive maintenance is carried out to ensure emissions under limits.
iv)	The gaseous emissions (SO ₂ , NO _x , HCl, CO) and particulate matter along with RSPM levels from various process units shall conform to the standards prescribed by the concerned authorities from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency.	Complied. Utmost care is taken to ensure the discharge of gaseous emissions under prescribed limits. Copies of gaseous emission analysis reports for last six months are attached as Annex-VII

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v)	The locations of ambient air quality monitoring stations shall be reviewed in consultation with the State Pollution Control Board (SPCB) and additional stations shall be installed, if required, in the downwind direction as well as where maximum ground level concentrations are anticipated.	<p style="text-align: center;">Complied.</p> <p>Locations of ambient air quality monitoring are selected as per CPCB guidelines. At present continuous ambient air monitoring is being done at three fixed locations on 24 hourly basis and also monthly ambient air monitoring is being done at three different locations on monthly basis. Annex_V</p>
vi)	Dedicated scrubbers and stacks of appropriate height as per the Central Pollution Control Board guidelines shall be provided to control the emissions from various vents. The scrubbed water shall be sent to ETP for further treatment.	<p style="text-align: center;">Complied.</p> <p>Scrubbers are attached with various stacks with adequate height which is under compliance with Amended GPCB consent.</p>
vii)	All the storage tanks will be under negative pressure to avoid any leakages. Breather valves, N2 blanketing and secondary condensers with brine chilling system shall be provided for all the storage tanks to minimise vapour losses. All liquid raw material shall be stored in storage tanks and drums.	<p style="text-align: center;">Complied.</p> <p>All feasible precautions are taken to avoid leakages/minimise vapour losses.</p>
viii)	<p>The company shall undertake following Waste Minimisation measures:</p> <ul style="list-style-type: none"> • Metering and control of quantities of active ingredients to minimise waste • Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. • Use of automated filling to minimise spillage • Use of "Close Feed" system into batch reactors. • Venting equipment through vapour recovery system. <p>Use of high-pressure hoses for equipment cleaning to reduce waste water generation</p>	<p style="text-align: center;">Complied.</p> <p>The waste chlorine gas is scrubbed with Caustic Soda solution to produce sellable Sodium Hypochlorite.</p>
ix)	Fugitive emissions in the work zone environment, product, and raw materials storage area shall be regularly monitored. The emissions shall conform to the limits imposed by the State Pollution Control Board/Central Pollution Control Board	<p style="text-align: center;">Complied.</p> <p>Fugitive emission is monitored & recorded through online Sensor with proper alarm and display facilities Refer Annex- VI for sample of such readings.</p>

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x)	The project authorities shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October, 1994 and January 2000 and Hazardous Waste (Management and Handling) Rules, 1989, as amended from time to time. Authorisation from the SPCB shall be obtained for collection, treatment, storage and disposal of hazardous waste.	We abide by the rules and regulations under various legislations
xi)	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 Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Complied. Source control of Noise is done and Noise monitoring is also carried out by In-house staff as well as by third party to ensure Noise below the prescribed standards.
xii)	The company shall develop rainwater harvesting structures to harvest the run off water for recharge of ground water and to reduce requirement of the fresh water.	Complied. Rain water harvesting ponds are developed with a total approx. 30,000 M ³ storage capacity. Attached as Annexure_I
xiii)	Occupational health surveillance of the workers shall be carried out on a regular basis and records shall be maintained as per the Factories Act	Complied. Health Inspection of all employees is regularly carried out. We have full-fledged OHC within our premises. Medical records are maintained.
xiv)	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment. The eco-development plan should be submitted to the SPCB within three months of receipt of this letter for approval.	Complied. Details of eco development measures including community welfare measures. Enclosed as Annexure-III.
xv)	The project proponent shall also comply with all the environmental protection measures and safeguards proposed in the EIA/EMP report.	Complied.
xvi)	A separate Environment Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental management and Monitoring function	Complied. EMC with Full-fledged laboratory facilities is available to ensure overall environment management. EMC with qualification & designations of staff is enclosed as Annexure: IV

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xvii)	The project authorities shall earmark separate funds to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	Complied. Adequate budget for Environment management is allocated for proper environment management.
xviii)	The implementation of the project vis-à-vis environmental action plans shall be monitored by the concerned Regional Office of the Ministry/SPCB/CPCB. A six monthly compliance status report shall be submitted to monitoring agencies and shall be posted on the website of the Company	Complied. Six monthly compliance report is being submitted at MOEFCC regional office as well as GPCB. It is posted on website of the company.
xix)	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 SPCBL Committee and may also be seen at Website of the Ministry at http://envfor.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	Complied.
xx	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.	Complied. The date of financial closure is 31/03/2022.
xxi)	All the CREP recommendations suggested for the Caustic Soda Plant by the CPCB shall be implemented effectively and report submitted to MOEF/CPCB/Gujarat Pollution Control Board.	Complied.
8.0	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory	Conditions stipulated in EC are being/ will be implemented.
9.0	The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.	--

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10.0	The above conditions will 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 and Handling) Rules, 2003 as amended from time to time and the Public Liability Insurance Act, 1991 along with their amendments and rules.	Complied. Conditions mentioned in EC as well as other environmental legislations with subsequent amendments shall be complied.
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Compliance Report of Environment Clearance No. 11011/93/96-IA.II dtd 30/10/1997 for Caustic Soda Plant: -[Period – July-20 to Dec-20]

Condition No.	Subject	Compliance Status
2.i	Project authorities must strictly adhere to the stipulations made by GPCB and the state Govt.	We shall abide by all the stipulations made in EC as well as CTE/CTO
2.ii	No further expansion and modification of the plant should be carried out without prior approval of ministry.	Complied. Further expansion is carried out and modification done is after taking necessary approval/clearance from ministry and GPCB.
2.iii	Gaseous (Cl ₂ , HCl, Sox, HC, NO _x) and particulate emissions from various process vents and storage tanks should conform to standards prescribed under schedule VI of EP rules or norms stipulated by SPCB whichever is more stringent. In the event of failure of any pollution control systems adopted by the unit the respective unit should be put out of operation immediately and should not be started until the control measure are rectified.	Complied. Gaseous emissions from each process vents is controlled with suitable APC and the quality is continuously monitored with online detectors installed which is also connected with GPCB server.
2 (iv)	At least five ambient air quality stations should be established in the downwind as well as where maximum ground level concentrations of SPM, so ₂ , NO _x , HC and Cl ₂ are anticipated. The selection of AAQ monitoring station should be based on modelling exercise to represent short term GL concentration, sensitive targets in consultation with SPCB. Stack emission should also be regularly monitored by installing CEMS devices in consultation with SPCB Data on AAQ an stack emission should be submitted regularly to this ministry (R.O Bhopal). Once in six months and the SPCB once in three months along with statistical analysis and interpretation	Complied. Air quality monitoring stations are established as per guidelines for monitoring the quality in downward directions by third party for the applicable parameters Air quality monitoring reports during last six months are enclosed as Annexure-V Stack emission monitoring data for last six months are enclosed as Annexure-VII

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v)	Fugitive emissions should be controlled regularly monitored and data recorded chlorine sensors should be installed in the chlorine storage area at lower level between the tanks.	Complied. Fugitive emission of chlorine is monitored and recorded continuously at 24 vulnerable locations throughout the plants. Copies of few recording strips for last six months are enclosed as Annexure-VI.
vi)	The quantity of Waste water generated should not exceed the norm of 1.0 m3/tonnes of caustic soda produced, (except cooling tower blow down) as stipulated in schedule- VI part B of the EPA rules, 1986. Liquid effluents coming out of plant should conform to the standard as prescribed in the EPA-1986/ SPCB whichever is more stringent. Recycling and reuse of effluent should be maximized to the extent possible.	Complied. The quantity of Waste water generated is ensured to be within the norms. Quality of Liquid effluent is monitored regularly by GPCB approved third agency. Monitoring reports agency for last six months is enclosed as Annexure-VIII.
vii)	The excess treated water effluent may be disposed off into the Narmada Estuary through a closed pipeline. The location of marine outfall point should be as per the recommendation of NIO. Continuous monitoring of the marine environment surrounding the marine outfall point should be undertaken and record maintained. The monitoring data should be submitted to the ministry (R.O Bhopal) and the SPCB once in six month	Complied. Marine monitoring was carried out in May-2021 by competent and MoEFCC recognized agency. Monitoring Report is enclosed as Annex_IX
viii)	Occupational health surveillance program should be Undertaken as a regular exercise especially wrt exposure to the chlorine, thermal stresses and noise pollution.	Complied. Regular Occupational health surveillance program is carried out by medical officers. And record of the same are maintained.
ix)	Greenbelt of adequate width (2000 and 2500 trees/ha) should be developed and covering minimum area of 13.75 ha using native plants species suitable for the soil in the region in consultation with the local DFO and central arid zone research institute. Final treated effluent should be used for irrigating the green belt to the extent possible	Complied. Land is covered with around 25000 nos. of trees. Further, we are developing 40 acres of green belt in surrounding villages. Final treated effluent from Sewage treatment plant is being utilized in Green belt
x)	Suitable alarm system and standard procedure for transmitting the information on accidental release of chlorine to the nearby area and proper focal point should be established. Steps should also be taken to ensure access to information on weather conditions prevailing at that time and weather forecast. Wind socks at appropriate locations should be provided.	Complied. 24 nos of Chlorine sensors are installed at strategic locations and are connected with control rooms with alarm systems for early detection of leakage if any. 18 Nos of windsocks are provided at suitable locations.

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xi	Efforts should be made involving other industries operating in the area for development of facilities to combat any emergency situation that may arise in case of an accident	Complied. Mutual Aid plan surrounding industries is already in place to combat any emergency situation that may arise in case of an accident
xii)	Hazardous waste should be handled as per the Hazardous waste rules-1989 of te EPA-1986. authorization from GPCB for safe collection, treatment , storage and disposal of hazardous waste should also be obtained	Complied. We are having hazardous waste consent & authorization vide order no. AWH 111614 dtd 23.03.2021 which is valid till 26.11.2021
Xiii	Handling, manufacturing storage and transportation of hazardous chemicals should be carried out in accordance with The MSIHC Rules-1989 as amended in October 1994	Complied. Proper Handling, manufacturing storage and transportation is carried out with due care.
xiv	A separate environmental management cell with full fledged laboratory facilities should be established to carry out various functions related to EMP measures and monitoring	Complied. Separate environmental management cell with full-fledged laboratory facilities is available. Please see Annexure-IV
xv)	Funds earmarked for the Environment protection should not be diverted for any other purpose and year wise expenditure should be reported to this ministry and to the SPCB	Complied. More than 120 Lakhs has been allocated for the year 2021-22 for Safety & environment related activities.
3	The ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the ministry. Six monthly status report on project vis-a-vis implementation of Environmental measure should be submitted to the ministry and R.O Bhopal/ CPCB/SPCB	We shall abide by all the stipulations made in EC as well as CTE/CTO by MoEFCC-RO
4	The ministry reserves the right to further impose additional conditions or alter the extent the conditions if found necessary these conditions will be fully implemented by the project authority within the stipulated time frame.	We shall abide by all the stipulations made in EC as well as CTE/CTO by MoEFCC-RO
5	The above conditions will be enforced implemented under the Water act-1974, Air act-1981, EPA-1986, Public liability insurance act-1991, EIA notification-1994 and their amendments and rules.	We shall abide by all the stipulations made in EC as well as CTE/CTO by MoEFCC-RO

Compliance Report of Environment Clearance No. J.13011/29/95-IA-II dtd 09/09/1996 for Power Plant: -[Period – Jan to June 2021]

Condition No.	Subject	Compliance Status
2 i.	The conditions stipulated by Gujarat pollution control board vide their letter no, PC7BRCH-1411/9256 dtd 20.04.1995 should be effectively implemented.	Complied. We shall strictly adhere with the conditions mentioned in CCA of GPCB
2 (iii)	NOx emission	NOx emission remains quite below limit. Please refer analysis report for last six months enclosed as Annexure-VII.

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2. iv	The stacks of height not less than 60 m shall be provided with continuous stack monitoring devices	Complied. Stacks of height 60 m is provided with continuous stack monitoring devices
2.v	Closed circuit cooling device should be provided and the evaporation loses should not exceed 1 %	Complied.
2(vi)	Liquid effluent shall be treated to conform to the prescribed standard before discharge to sea. effort shall be made to utilize the treated effluent to the maximum extent in green belt creation, dust suppression,etc	Complied. Treated liquid effluent conforms to the prescribed standard. Please refer analysis reports for the last six months enclosed as Annexure-VIII
2(vii)	Air quality monitoring shall be carried out in and around the power plant and analysis of the data so collected should be undertaken and the finding should be submitted to ministry every six moth	Complied. Air quality monitoring reports for last six months are enclosed as Annexure-V
2. viii	The workers in high nose area should be provided with ear protection devices and their use should be also enforced. Adequate noise control measures should be provided to ensure that noise level area within 85 dBa and regular maintenance of equipments shall be undertaken.	Complied. Workers in high nose area are provided with ear protection devices and their use is also enforced and timely training is provided. Noise level in the area is ensured within 85 dBa
2(ix)	Afforestation & green belt.	Land is covered with around 25000 nos. of trees. Further, we are developing 40 acres of green belt in surrounding villages. Final treated effluent from Sewage treatment plant is being utilized in Green belt
2(x)	Continuous monitoring of Ground water should be undertaken by establishing a network of observation wells in consultation with central ground water board. Results and data so obtained should be analyzed to ascertain the status of water quality in the impact zone	Complied. Ground water monitoring reports during last six months are enclosed as Annexure-X
2(xi)	Keeping in view that chlorine storage are involved in the project premises, operating discipline should be maintained by conducting mock drills, replacement of turnout components, quality controlled. The chlorine tanks should be adequately insulated and provided with water curtain to minimize the effect of heat radiation. The hypo system should be a part of emergency preparedness plan,	Complied. Mock drills are conducted every six months to check emergency preparedness. Details of ON-SITE Mock drill conducted on 01.03.21 is Enclosed as Annexure-XI Necessary safety systems are regularly maintained and upkeepment is done and record maintained.

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2.xii	The landfill sites identified for disposal o solid waste should be properly lined and care should be taken to ensure that ground water is not contaminated due to leaching	Complied. Utmost care is taken to prevent leaching of contaminants to Ground water. SLFFs are made with Composite liner systems and proper Leachate collection system as per directions of National Productivity Council
2.xiii	Fund to be kept in separate account should be allocated for implementation of environment mitigative measures with scope for enhancement in future, Details on the breakup, year wise, item wise should be submitted	Complied. More than 120 Lakhs has been allocated for the year 2021-22 for Safety & environment related activities.
2.xiv	Full cooperation should be extended to scientists, officers of R.O of the ministry at Bhopal, SPCB who would be monitoring the compliance of environmental status. Complete set of impact assessment report and the management plans should be forwarded to the regional offices for their use during monitoring.	We adhere by the rules and regulations of Ministry and GPCB/CPCB and always cooperate and assist the officers of regulatory authorities while monitoring and inspection activities.
2.xv	Monitoring committee should be constituted for reviewing the compliance to various safeguards measures by involving recognized local NGOs, PCBs, Institutions, experts.	Complied. Committee meeting regarding safety and environment aspects is organized every three months
3	The ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the ministry	Complied. We shall abide by all the stipulations made in EC as well as CTE/CTO by MoEFCC-RO
4	For any deviation or alteration in the project proposed for those submitted to ministry for clearance, a fresh reference should be made to assess the adequacy of conditions imposed and to add additional environmental protection measures required if any	We shall abide by all the stipulations made in EC as well as CTE/CTO by MoEFCC-RO
5	The above stipulations should be enforced inter alia under the Water act-1974, Air act-1981, EPA-1986, Public liability insurance act-1991, EIA notification-1994 and its amendments	We shall abide by all the stipulations made in EC as well as relevant environmental legislations.