

F.No. J-11011/84/2016- IA II(I)
 Government of India
 Ministry of Environment, Forest and Climate Change
 (IA-II Division)

Indira Paryavaran Bhawan
 Jorbagh Road, New Delhi - 3
 Dated: 1st May, 2018

To,
 M/s Sree Rayalaseema Alkalies and Allied Chemicals Ltd,
 Gondiparla,
Kurnool (Andhra Pradesh)

Sub: Expansion of Chlor-Alkali Plant and Synthetic Organic Chemicals (Chloromethanes/ Chloro-difluoromethane) by M/s Sree Rayalaseema Alkalies and Allied Chemicals Limited at Sy. No. 51/1, 2A, 2B, 2C1, 2C2, 2C3, 56/1, 58/1, 59/1, 60, 62/3/2D2, 2C1/A2, 2C1/A3, 2C2/C, 2G/1, 2E, 2F, 1A, 1B, 62A, 62 B, 63, 64, 70/C2, 72/P, Village Gondiparla, Mandal and District Kurnool (Andhra Pradesh) - Environmental Clearance - reg.

Ref.: Online proposal No. IA/AP/IND2/50625/2016 dated 15th February, 2018

Sir,

This has reference to your online proposal No. IA/AP/IND2/50625/2016 dated 15th February, 2018 for environmental clearance to the above project, along with the documents including Form-1, Terms of Reference (ToR), EIA/ EMP report containing the public hearing proceedings/details.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance to the project for expansion of Chlor-Alkali Plant from 820 TPD to 1620 TPD and Synthetic Organic Chemicals (Chloromethanes/Chloro-difluoromethane) from 117.45 TPD to 244.90 TPD by M/s Sree Rayalaseema Alkalies and Allied Chemicals Limited in a total area of 152.4 ha at Sy. No.51/1, 2A, 2B, 2C1, 2C2, 2C3, 56/1, 58/1, 59/1, 60, 62/3/2D2, 2C1/A2, 2C1/A3, 2C2/C, 2G/1, 2E, 2F, 1A, 1B, 62A, 62 B, 63, 64, 70/C2, 72/P, Village Gondiparla, Mandal and District Kurnool (Andhra Pradesh), with the details as under: -

S. No.	Product	Unit	Production Capacity		
			Existing	Proposed	Total
I. Chlor-Alkali Plant					
1	Caustic Soda Lye (Or) Flakes	TPD	520	500	1020
	Potassium Hydroxide Lye (or) Flakes (100 % basis)				
2	Liquid Chlorine	TPD	300	300	600
II. Chloromethanes					
1	Methyl Chloride	TPD	0.45	10	10.45
2	Methylene Chloride	TPD	61	61	122
3	Chloroform	TPD	56	46.45	102.45
III. Chlorodifluoromethane					
1	Chlorodifluoromethane (R22)	TPD	--	10	10
IV. Captive Power Plant					
1	Captive Power Plant (Coal based)	MW	76	--	76
2	Power generation Furnace Oil**	MW	31	--	31
V. Oil and Fatty Acid Division					
1	Oil and Fatty Acid Products (Non EC Products)	TPD	498	--	498

** Shall be kept as standby.



S. No.	By-product	Unit	Production Capacity		
			Existing	Proposed	Total
I. Chlor-Alkali Plant					
1	Hydrochloric Acid (100%)	TPD	173	140	313
2	Sodium Hypochlorite (100% Cl ₂ basis)	TPD	8	7	15
3	Barium Sulphate	TPD	5	5	10
4	Potassium carbonate	TPD	50	--	50
5	Sodium Sulphate	TPD	--	10	10
II. Chloromethanes					
1	Carbon tetrachloride*	TPD	7.6	7.6	15.2
2	Hydrochloric Acid (100 %)	TPD	23.5	23.5	47
III. Chlorodifluoromethane					
1	Hydrochloric Acid (100 %)	TPD	--	8.27	8.27

*Carbon Tetrachloride (CCl₄) generated will be sold as a feed stock to Authorized users/excess will be incinerated.

3. The project cost is estimated to be Rs.360 crores. The capital cost earmarked for pollution control measures is Rs.8 crores and the recurring cost (operation and maintenance) would be about Rs.6.52 crores per annum. It is proposed to allocate Rs.9 crores @ 2.5% towards Corporate Social Responsibility. Greenbelt has been developed in an area of 89.03 ha, thus covering 58.42% of the total project area. There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km.

4. The total water requirement is estimated to be 15167 KLD, out of which fresh water demand of 14650 KLD shall be met from Tungabhadra river through infiltration wells. Remaining 517 KLD shall be obtained from recycled water.

Total effluent generated from different industrial operations is estimated to be 1754 KLD, which will be taken to the Effluent Treatment plant for treatment. The treated water shall be reused for process units and greenbelt development. There will be no discharge of treated/untreated waste water from the unit, and thus conforming to Zero Liquid Discharge.

5. After expansion, power requirement shall be 125 MW proposed to be met from AP Transco and captive power plant. The details of sources of air emissions namely coal fired boilers, DG sets and oil and H₂ fired boiler are as under:-

S.No	Description	Existing	Proposed	Total after expansion	Stack height (m)
1	Coal Fired Boiler*	110 TPH	-	110 TPH	89
		100 TPH	-	100 TPH	69
		45 TPH	-	45 TPH	55
2	DG Sets	5 x 6.2 MW	-	5 x 6.2 MW	-
		1 x 160 kVA	-	1 x 160 kVA	3
		1 x 285 kVA	-	1 x 285 kVA	3
		1 x 400 kVA	-	1 x 400 kVA	4
		1 x 500 kVA	1 x 500 kVA	2 x 500 kVA	5
3	Oil and H ₂ fired boiler**	3 TPH	-	3 TPH	-
4	WHRB connected to DG sets**	3 TPH	-	3 TPH	-
5	Oil fired boiler**	3 TPH	-	3 TPH	-

*Electro Static Precipitators with appropriate stack height shall be installed to control the particulate emissions within statutory limit of 115 mg/Nm³.

** DG sets will be used during load shut down by AP TRANSCO

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6. Details of Process emissions generation and its management:

The gaseous emissions from Chlor-Alkali process are Chlorine and Hydrogen Chloride vapors. Scrubbers are provided to neutralize sniff gases effectively. The secondary gaseous pollutant from chloro-alkali plant is hydrogen chloride gas emissions. To avoid emissions in the plant, tail gas vents are connected to a water scrubber and the lean acid formed is used for absorption of Hydrogen chloride gas in absorber.

The gaseous emission from Chloromethane plant is chlorine and hydrogen chloride vapours. HCl gas produced from thermal chlorination unit shall be used to produce methyl chloride. Excess HCl available is absorbed in HCl absorber to produce 32% HCl. To avoid emissions from HCl absorber, tail gas vents are connected to a tail gas tower followed by organic stripper to remove organics. The gaseous emission from Chlorodifluoromethane plant is HCl which would be sent to Hydrochloric acid absorption system, to produce 28 to 30% HCl.

Details of solid waste/Hazardous waste generation and its management:

Sludge is generated during brine purification stage. Barium sulfate is being recovered presently and it is proposed to recover sodium sulfate additionally, which are sold as by products. The sludge generated from effluent treatment plant shall be disposed to landfill which contains mostly inorganics. Used silica gel, calcium chloride, Calcium Fluoride, Antimony Pentoxide and Spent sulfuric acid are the wastes generated from the Chloromethane and Chlorodifluoromethane process. Used silica gel and calcium chloride are sent to secured landfill within plant premises. Spent sulfuric acid sold as by-product and Calcium Fluoride is sold to hydrogen fluoride manufacturers. Waste oil and used batteries from the DG sets shall be sent to authorized recyclers. Other solid wastes expected from the unit are containers, empty drums which shall be returned to the product seller or sold to authorized buyers after detoxification. Coal ash from boiler shall be sold to brick manufacturers.

7. The project/activity is covered under category A of item 4(d) 'Chlor-Alkali industry' and 5(f) 'Synthetic organic chemicals industry' of the Schedule to the Environmental Impact Assessment Notification, 2006, and requires appraisal at Central level by the sectoral EAC in the Ministry.

8. The ToR for the project was granted on 21st June, 2016. Public hearing was conducted by the SPCB on 29th November, 2017.

9. The proposal was considered by the Expert Appraisal Committee (Industry-2) in its 35th meeting held during 27-28 March, 2018. The project proponent and their accredited consultant M/s Team Labs and Consultants, presented the EIA / EMP report as per the ToR. The Committee found the EIA / EMP Report to be satisfactory and complying with the ToR. The Committee has recommended the proposal for grant of environmental clearance.

10. Based on the proposal submitted by the project proponent and recommendations of EAC (Industry-2), the Ministry of Environment, Forest and Climate change hereby accords environmental clearance to the project '**Expansion of Chlor-Alkali Plant from 820 TPD to 1620 TPD and Synthetic Organic Chemicals (Chloromethanes/Chloro-difluoromethane) from 117.45 TPD to 244.90 TPD**' by M/s Sree Rayalaseema Alkalies and Allied Chemicals Limited at Sy. No.51/1, 2A, 2B, 2C1, 2C2, 2C3, 56/1, 58/1, 59/1, 60, 62/3/2D2, 2C1/A2, 2C1/A3, 2C2/C, 2G/1, 2E, 2F, 1A, 1B, 62A, 62 B, 63, 64, 70/C2, 72/P, Village Gondiparla, Mandal and District Kurnool (Andhra Pradesh),



under the provisions of the EIA Notification, 2006, subject to the compliance of terms and conditions as below:

- (i) Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- (ii) As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.
- (iii) Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.
- (iv) National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R.608(E) dated 21st July, 2010 and amended from time to time shall be followed.
- (v) To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.
- (vi) Solvent management shall be carried out as follows:
 - (a) Reactor shall be connected to chilled brine condenser system.
 - (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages.
 - (c) The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 98% recovery.
 - (d) Solvents shall be stored in a separate space specified with all safety measures.
 - (e) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.
 - (f) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.
 - (g) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.
- (vii) Total fresh water requirement shall not exceed 15167 cum/day to be met from Tungabhadra river through infiltration wells. Prior permission in this regard shall be obtained from the concerned regulatory authority/CGWA.
- (viii) Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- (ix) Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer through pumps.
- (x) Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.
- (xi) The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.



- (xii) The company shall undertake waste minimization measures as below:-
 - (a) Metering and control of quantities of active ingredients to minimize waste.
 - (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
 - (c) Use of automated filling to minimize spillage.
 - (d) Use of Close Feed system into batch reactors.
 - (e) Venting equipment through vapour recovery system.
 - (f) Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- (xiii) The green belt of at least 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- (xiv) All the commitments made regarding issues raised during the public hearing/ consultation meeting held on 29th November, 2017 shall be satisfactorily implemented.
- (xv) At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment based on public hearing issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.
- (xvi) For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
- (xvii) The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- (xviii) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- (xix) Storage of raw materials shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.
- (xx) Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.

10.1 The grant of Environmental Clearance is further subject to compliance of other generic conditions as under:-

- (i) The project authorities must strictly adhere to the stipulations made by the state Pollution Control Board (SPCB), State Government and/ or any other statutory authority.
- (ii) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. 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.

- (iii) The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one stations each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.
- (iv) The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be complied with.
- (v) 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).
- (vi) The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial operations within the plant.
- (vii) 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 imparted.
- (viii) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, risk mitigation measures and public hearing shall be implemented.
- (ix) The company shall undertake all measures for improving socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villagers, administration and other stake holders. Also eco-developmental measures shall be undertaken for overall improvement of the environment.
- (x) A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
- (xi) The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.
- (xii) A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parisad/ Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- (xiii) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard




copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.

- (xiv) The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional offices of MoEF&CC by e-mail.
- (xv) The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at <http://moef.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.

11. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.


12. The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.

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


1/5/2018
(S. K. Srivastava)
Scientist E

Copy to: -

1. The Principal Chief Conservator of Forests (HoFF), Government of Andhra Pradesh, Aranya Bhavan, Sankurathri Residency, Agathavarappadu, Mahatma Gandhi Inner Ring Road, Pedakakani Mandal, **Guntur** - 522509 (Andhra Pradesh)
2. The Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (SEZ), I and II Floor, Handloom Export Promotion Council, 34, Cathedral Garden Road, Nungambakkam, **Chennai** - 34
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhavan, East Arjun Nagar, **Delhi** - 32
4. The Member Secretary, Andhra Pradesh Pollution Control Board, Paryavaran Bhavan, A-III, Industrial Estate, Sanath Nagar, **Hyderabad** (Andhra Pradesh)
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, **New Delhi**
6. Guard File/Monitoring File/Record File


1/5/2018
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