

F. No. J-11011/357/2007-IA II (I)  
Government of India  
Ministry of Environment and Forests  
(I.A. Division)



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Dated 23<sup>rd</sup> August,, 2007

To,

M/s Jayshree Chemicals Ltd.  
Jayshree-761025  
Ganjam,  
Orissa

Email- [jclgm@hotmail.com](mailto:jclgm@hotmail.com) / [jclgm@yahoo.com](mailto:jclgm@yahoo.com)

Sub: Expansion of Chlor Alkali Caustic Soda (Membrane Cell) Plant (58,400 to 70,000 TPA) at Ganjam, Chatrapur, Orissa by M/s Jayshree Chemicals Ltd. - Environmental Clearance reg.

Sir,

This has reference to your letter no. JC/P(W)/191/2007-08 dated 7<sup>th</sup> April, 2007, in application form (schedule II) and questionnaire for environmental appraisal as per EIA notification, 1994, seeking environmental clearance for the above project. The proposal is considered and processed under the Environment Impact Assessment Notification, 2006 for environmental appraisal.

2.0 The Ministry of Environment and forests has examined your application and noted that M/s Jayshree Chemicals Ltd have proposed for the expansion of Chlor-Alkali Plant Caustic Soda Plant (Membrane Cell) Plant (58,400 to 70,000 TPA) at Ganjam, Chatrapur, Orissa. Expansion will be done within existing plot and no additional land will be acquired. Production will be expanded in two phases. The details products and product capacity are as given below:

Name of products, by-products and Intermediate products	Existing	Proposed activity (New/modernization/ expansion)	Total
A. Main Products	NaOH by Mercury Cell	1 <sup>st</sup> phase 100 TPD by Membrane cell. 2 <sup>nd</sup> phase 100 TPD by conversion	200 TPD by 2010
A. By Products	Liquid Chlorine	64+64 TPD	128 TPD
C. Intermediate Products	HCL	77+77 TPD	154 TPD
Hydrochloric acid Sodium Hypochlorite	Calcium-Hypochlorite	45+45 TPD	90 TPD

3.0 Total cost of the project for phase I and II will be Rs. 180.00 Crores. Rs. 1.6 Crores have been kept for environmental measures.

4.0 Ambient air quality was monitored at 5 locations during October-December, 2006 and data submitted indicated SPM (30 - 89  $\mu\text{g}/\text{m}^3$ ), RPM (70 - 80  $\mu\text{g}/\text{m}^3$ ),  $\text{SO}_2$  (3.2 - 6.2  $\mu\text{g}/\text{m}^3$ ),  $\text{NO}_x$  (6.9 - 11.9  $\mu\text{g}/\text{m}^3$ ), and CO (72 - 130  $\mu\text{g}/\text{m}^3$ ) and were within the permissible limits. No  $\text{Cl}_2$  or HCl vapour is anticipated due to sophistication in the process modification. Venting  $\text{Cl}_2$  will be used to manufacture Sodium Hypochlorite as a saleable product.

5.0 Total water requirement after expansion will be 2,340  $\text{m}^3/\text{d}$ . 20  $\text{m}^3/\text{d}$  and 120  $\text{m}^3/\text{d}$  wastewater from DM Plant and domestic sources respectively will be discharged. Process wastewater will be neutralized and chemically treated to remove impurities. Domestic wastewater will be treated in septic tank and used for gardening. Process water (10  $\text{m}^3/\text{d}$ ) will be stored in guard pond and be discharged to the Estuary.

6.0 ETP sludge (3-4 TPM), process sludge (8 MTPM), Mercurated sludge (5 MTPM) will be generated as solid waste. Sludge from the 1<sup>st</sup> phase will be hazardous in nature. Mercurated sludge will be treated by  $\text{Na}_2\text{S}_5$  and will pass through vacuum drum filter and squeezed brine will be taken back to the process and sludge will be stored in SLF designed as per CPCB guidelines.

7.0 Public hearing meeting was held on 22<sup>nd</sup> May, 2006.

8.0 The project activity Chlor-Alkali products with  $\geq 300$  TPD are listed at S.N. 4(d) under Category 'A' if located outside the notified industrial area/ estate. The proposed unit is of 233 TPD (70,000 TPA in 300 working days) and located outside notified industrial area and as such falls under Category 'A' and is appraised at the Central level.

9.0 Based on the information submitted by you, the Ministry of Environment and Forests hereby accords environmental clearance to above project under the provisions of EIA Notification dated 14<sup>th</sup> September 2006, subject to the compliance of the following Specific and General conditions:

**A. SPECIFIC CONDITIONS:**

- (i) All the mercury cell shall be converted to membrane cell by 2009 and no mercury cell based plant shall be operated after 2009.
- (ii) A study shall be carried out indicating impact of drawl of 2340  $\text{m}^3/\text{day}$  ground water on the salinity of water due to ingress of saline water and submitted to the ministry within three months from the date of issue of this letter.
- (iii) Project proponent shall carry out regular monitoring of the ground water and soil around secured landfill as well as State Pollution Control Board regarding Hg content in the water.

- (iv) Prior 'Permission' for the drawl of 2340 m<sup>3</sup>/d. ground water from SGWB/CGWA shall be obtained.
- (v) The project proponent shall obtain "Permission" and recommendations of the Chief Wild Life Warden and State Forest Department regarding impact of proposed expansion on the Olive Ridley Turtle Nesting Ground.
- (vi) The project proponent shall obtain 'Permission' and recommendation of the Archeological Survey of India regarding impact of proposed expansion on the Potaghad archeological site.
- (vii) The Company shall install Chlorine gas detectors to detect leakage of Chlorine at liquid Chlorine storage tanks, Sodium hypo plant, HCL synthesis unit and Electrolysis area. The company shall install on-line analyzer in HCL plant and hypo stack with recording facility.
- (viii) The vent gases from Sodium hydrochloride plant and HCL acid 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<sub>2</sub>.
- (ix) Green belt shall be developed in 8.97 ha. out of total 51.74 ha. 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.
- (x) Brine sludge, chemical sludge and incineration ash should be disposed of in secured landfill.


**B. GENERAL CONDITIONS :**

- (i) The project authorities shall strictly adhere to the stipulations of the SPCB/state government or any statutory body.
- (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.
- (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.

- (iv) The gaseous emissions (SO<sub>2</sub>, NO<sub>x</sub>, 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.
- (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.
- (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.
- (vii) All the storage tanks will be under negative pressure to avoid any leakages. Breather valves, N<sub>2</sub> blanketing and secondary condensers with brine chilling system shall be provided for all the storage tanks to minimize vapour losses. All liquid raw material shall be stored in storage Tanks and Drums.
- (viii) The company shall undertake following Waste Minimization measures.
- Metering and control of quantities of active ingredients to minimize waste.
  - Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
  - Use of automated filling to minimize spillage.
  - Use of "Close Feed" system into batch reactors.
  - Venting equipment through vapour recovery system.
  - Use of high pressure hoses for equipment cleaning to reduce wastewater generation.
- (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 Boards/Central Pollution Control Board.
- (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. Authorization from the SPCB shall be obtained for collection, treatment, storage, and disposal of hazardous wastes.

- (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).
- (xii) The company shall develop rain water harvesting structures to harvest the run off water for recharge of ground water and to reduce requirement of the fresh water.
- (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.
- (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.
- (xv) The project proponent shall also comply with all the environmental protection measures and safeguards proposed in the EIA/EMP report.
- (xvi) A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
- (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.
- (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.
- (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 SPCB/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.

- (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.
- (xxi) All the CREP recommendations suggested for the caustic soda plant by the CPCB shall be implemented effectively and report submitted to MOEF/CPCB/Orrisa Pollution Control Board.
- 10.0 The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- 11.0 The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.
- 12.0 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 (Management and Handling) Rules, 2003 and the Public Liability Insurance Act, 1991 along with their amendments and rules.



**(H. S. Malviya)**  
**Joint Director**

Copy to :-

1. The Secretary, Department of Environment, Govt. of Orrisa, Bhubaneswar, Orissa.
2. Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
3. Chairman, Orissa Pollution Control Board, Parivesh Bhavan, A/118, Neelkanthhanagar, Unit-8, Bhuvaneswar - 751 012, Orissa.
4. The Chief Conservator of Forests (Eastern), Regional Office (EZ), A/3, Chandrasekharapur, Bhuvaneswar - 751 023, Orissa.
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Guard File.
7. Record File.



**(H.S. Malviya)**  
**Joint Director**