



F. No. J-11011/119/2015-IA-II (I)
 Government of India
 Ministry of Environment, Forest & Climate Change
 Impact Assessment Division

Indira Paryavaran Bhavan,
 Vayu Wing, 3rd Floor, Aliganj,
 Jor Bagh Road, New Delhi-110 003

Dated: 7th January, 2020

To,

M/s Grasim Industries Ltd.,
 Village- Birlagram, Nagda,
 District-Ujjain-456 331 (Madhya Pradesh)

Sub: Expansion of Caustic Chlorine Products from and Value Added Derivatives along with installation of new Chloromethane Plant by M/s Grasim Industries Ltd. (Chemical Division) at Birlagram, Nagda, District Ujjain (Madhya Pradesh) – Environmental Clearance reg.

Sir,

This has reference to your online proposal No.IA/MP/IND2/26969/2015, dated 30th September, 2019 along with the EIA/EMP report and Public hearing proceedings for the above mentioned project.

2. The details of proposed products are as under –

S. No.	Particulars	Existing (TPA)	Additional (TPA)	Total (TPA)
A.	Main Products			
1.	Caustic Soda	270000	180000	450000
2.	Poly Aluminum Chloride	27720	137280	165000
3.	Stable Bleaching Powder	29436	25314	54750
4.	Chlorinated Paraffin	27000	18645	45645
5.	Chloromethane	Nil	36000	36000
6.	Chloro Sulphonic Acid	23400	Nil	23400
7.	Calcium Chloride (100 %)	54000	Nil	54000
B.	CO-Products and By-Products			
1.	Chlorine	215200	149800	365000
2.	Hydrochloric Acid (100%)	79000	56000	135000
3.	Sodium Hypochlorite (100%)	53520	36480	90000
4.	Hydrogen	6730	4670	11400
5.	Compressed Hydrogen	960	500	1460
6.	Carbon Dioxide (By-product)	23760	Nil	23760

3. The proposed project/activity is listed under category A of item 4(d) 'Chlor - Alkali Industry' and 5(f) 'Synthetic organic chemical industry' in the schedule of Environment Impact Assessment (EIA) Notification, 2006, and requires appraisal/approval at central level by sectoral Expert Appraisal Committee (EAC).

4. The terms of reference for the project was granted on 29th July, 2015 followed by validity extension of ToR vide letter dated 11th December, 2018. Public Hearing for the

proposed expansion project was conducted by State Pollution Control Board on 04th June, 2019. The Public Hearing was chaired by ADM Ujjain. The main issue raised during the public hearing are related to Employment, Water source & Water pollution, Effluent discharge, Gaseous Emission etc.

5. Project Proponent reported that the existing land area is 61.92 ha (619200 m²). No additional land will be required for proposed expansion. Industry has already developed greenbelt in an area of 38% i.e. 23.68 ha (236800 m²) out of total area of the project. Project Proponent reported that there is no National Park, Wildlife Sanctuary, Biosphere Reserve, Tiger/Elephant Reserve, and Wildlife Corridor within 10 km distance from the project site. Dam is at a distance of 2.13 km in NW direction, Bangerl Nadi flows at distance of 2.5 km in West direction, Chambal River flows at a distance of 0.6 km in West direction, Khajuri Nala is at 0.5 km in South direction.

6. Project Proponent reported that total water requirement is 6000 m³/day including fresh water requirement of 5400 m³/day proposed to be met from Chambal river. Effluent of 610 m³/day quantity is being/will be treated in Effluent Treatment Plant. The plant is being/will be based on Zero Liquid discharge system. Power requirement after expansion will be 141 MW including existing 80 MW and will be met from Outsource & Madhya Pradesh State Electricity Board (MPSEB). Existing unit has 2 Nos. DG sets of 2000 KVA capacity each, having 30 metre stack height as per CPCB norms used during power failure. Additionally, no DG sets will be required for proposed expansion project. Existing unit has 2 Hydrogen gas fired boilers of 9 TPH capacity each. No new boiler will be installed.

7. Project Proponent reported that the Ambient air quality monitoring was carried out at 8 locations during Winter Season (Dec., 2016 to Feb., 2017) and the baseline data indicates the ranges of concentrations as: PM₁₀ (63.2 to 90.1 µg/m³), PM_{2.5} (28.2 to 47.4 µg/m³), SO₂ (7.3 to 32.9 µg/m³), NO₂ (12.6 to 30.6 µg/m³), respectively. AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed expansion project would be 0.024 µg/m³, 0.085 µg/m³, 0.10 µg/m³, with respect to PM, Cl₂, HCl. The resultant concentration of PM is within the National Ambient Air Quality Standards (NAAQS).

8. The estimated project cost for expansion of the project is ₹285 Crores. Total capital cost earmarked towards environmental pollution control measures is ₹20 Crores and the recurring cost (operation and maintenance) will be about ₹3.4 Crores/annum. The expenditure towards Corporate Environment Responsibility (CER) for the project would be ₹5 Crores of the project cost as committed by the project proponent. Total employment will be 1545 persons (Regular: 245 + Contractual: 1300) including 128 persons (Regular: 28 + Contractual: 100) after expansion of the project.

9. The project proponent has informed that a case was filed in High court and transferred to NGT (Case no.77/2017 CZ) regarding pollution being caused in the river Chambal due to effluents from the industry. As per NGT order, Grasim Industries Ltd. Chemical Division received MPPCB directions, in compliance of which company has achieved ZLD in March, 2018. As on date no other case is due against the existing project.

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

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

11. The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. Issues raised during the public hearing has been properly addressed in the EIA/EMP report. The EAC has deliberated the proposal and has made due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC have found the proposal in order and have recommended for grant of Environmental Clearance (EC).

12. The proposal was considered by the Expert Appraisal Committee (Industry-2) in its meeting held on **20-22 November, 2019**, wherein the project proponent and their accredited consultant presented the EIA/EMP Report. The Committee found the EIA/EMP report to be satisfactory, complying with the ToR, and **recommended** the project for grant of environmental clearance.

13. The Ministry of Environment, Forest and Climate Change has examined the proposal in accordance with the Environmental Impact Assessment Notification, 2006 and further amendments there to and hereby accords the environmental clearance under the provisions thereof to the above mentioned proposal of **M/s Grasim Industries Ltd. (Chemical Division) for Expansion of Caustic Chlorine Products from 2,70,000 TPA to 4,50,000 TPA of Caustic soda and Value Added Derivatives along with installation of new Chloromethane Plant (Para 2 of Page 1), located at Birlagram, Nagda, District Ujjain, Madhya Pradesh** subject to compliance of the followings terms and conditions and environmental safeguards mentioned below:-

A. Specific Conditions:

- (i) This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, as may be applicable.**
- (ii) Necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, shall be obtained from the State Pollution Control Board.
- (iii) As already committed by the project proponent, ZLD shall be ensured and no waste/treated water shall be discharged outside the premises.
- (iv) 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.
- (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, if any, shall be carried out as follows company shall undertake waste minimization measures as below:-
- (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.
- (vii) Odour shall be prevented at the source and effective odour management scheme shall be implemented.
- (viii) Total fresh water requirement shall not exceed 5400 m³/day proposed to be met from Chambal River. Prior permission in this regard shall be obtained from the concerned regulatory authority.
- (ix) Rain water harvesting structures shall be provided to reduce dependency of fresh surface water for industrial purposes. In any case, no ground water shall be used for the plant.
- (x) The storm water from the premises shall be collected and discharged through a separate conveyance system.
- (xi) Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm and the solvent transfer through pumps.
- (xii) ETP sludge, process inorganic & evaporation salt shall be disposed through Captive Secured Landfill.
- (xiii) 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.
- (xiv) 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.

- (xv) The green belt of 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.
- (xvi) As proposed ₹5 Crores shall be allocated for CER. The CER funds shall be utilized for greenbelt development, skill development and check dam construction, as suggested during public hearing. The CER plan shall be completed within a period of two years or before commissioning of the project.
- (xvii) 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.
- (xviii) 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.
- (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 ZLD, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises. For continuous discharge the unit shall install pH, TSS, BOD, COD and flow meter at the ETP outlet.
- (xxi) The energy sources for lighting purposes shall preferably be LED based.
- (xxii) Transportation of raw materials/products should be carefully performed using GPS enabled vehicles.
- (xxiii) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act. PP shall submit the six monthly compliance report to the Regional Office of the Ministry.
- (xxiv) The project proponent shall conduct 3D modeling for risk management and mitigation measures as the flammable and hazardous chemicals are being stored and processed in the Plant. PP shall conduct a study comprise the details of detectors and its locations and outcome of the study shall be implemented and the compliance shall be submitted six monthly to the Regional Office of the Ministry.
- (xxv) There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places.

14. The project proponent shall strictly comply the sector specific conditions as mentioned in the Ministry's Office Memorandum No. 22-34/2018-IA.III, dated 9th August, 2018. The said OM is available at the Ministry's website (PARIVESH portal i.e. www.parivesh.nic.in). The grant of Environmental Clearance is further subject to compliance of generic conditions as mentioned in the Ministry's Office Memorandum No. 22-34/2018-IA.III, dated 9th August, 2018.

15. The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment, Forest & Climate Change, its regional office, Central Pollution Control Board and State Pollution Control Board.

16. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer(s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

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

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

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

20. 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; Environment (Protection) Act, 1986; Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991, read with subsequent amendments therein and also any other orders passed by the Hon'ble Supreme Court of India/High Court of Madhya Pradesh/Hon'ble NGT and any other Court of Law relating to the subject matter.

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


(Dr. R. B. Lal)

Scientist 'E'/Additional Director

(डा. आर. बी. लाल)
(Dr. R. B. LAL)

वैज्ञानिक 'ई'/Scientist 'E'
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min. of Environment, Forest and Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New Delhi

Copy to: -

1. Principal Secretary, Environment, Forest and Climate Change Department, Govt. of Madhya Pradesh.
2. The Principal Chief Conservator of Forests (PCCF), Satpuda Bhawan, Bhopal, Madhya Pradesh.
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi -32.
4. The Chairman, Madhya Pradesh State Pollution Control Board, Paryavaran Parisar, E-5, Arera Colony, Bhopal - 462 016, Madhya Pradesh.
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 3.
6. Member Secretary, Central Ground Water Authority, 18/11, Jamnagar House, Man Singh Road,

New Delhi-110011.

7. District Collector, Ujjain, Madhya Pradesh.
8. Guard File/ Record File/ Monitoring File/ Website of MoEF&CC


(Dr. R. B. Lal)
Scientist 'E'/Additional Director

