



सत्यमेव जयते

Government of India
Ministry of Environment and Forests

F. No. J-11011/523/2010- IA II (I)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003

E-mail : tchand2003@yahoo.co.uk
Telefax : 011: 24363963

Dated: 24th February 2014

To
✓ Shri M. S. Ramachandran
Vice President,
M/s DCW Limited,
Indra Palace, H-Block Connaught Circus
New Delhi.
E-mail: admin@del.dcwLtd.com / msr@del.dcwLtd.com ;
Fax No. : 011-23731141

Subject: Expansion of Trichloroethylene (from 7200 MTPA to 15480 MTPA), Poly Vinyl Chloride (from 90,000 MTPA to 150,000 MTPA), Captive Power Plant (from 58.27 MW to 108.27 MW) and addition of Chlorinated Poly Vinyl Chloride (14,400 MTPA) Unit of **M/s DCW Ltd.** at Village Kayalpattinam North, Tehsil Tiruchendur, District Thoothukudi, Tamil Nadu – **Environmental clearance - reg.**

Sir,

This is with reference to your letter dated 30th December, 2011 along with project documents including Form I, Terms of References, Pre-feasibility Report and this Ministry's letter dated 28.06.2012, granting additional TORs and your subsequent letters dated 7th July, 2012, 13th September, 2012 and 15th September, 2012 with EIA-EMP Report, Public Hearing Report for environmental clearance on the above mentioned subject.

2. The Ministry of Environment and Forests has examined the application. All Poly Vinyl Chloride Units located outside the industrial area/estate are listed at S.N. 5(e) under Category 'A' and appraised at the Central level. It is noted that the proposal is for expansion of Trichloroethylene (from 7200 MTPA to 15480 MTPA), Poly Vinyl Chloride (90,000 MTPA to 150,000 MTPA), Captive Power Plant (58.27 MW to 100.27 MW) and addition of Chlorinated Poly Vinyl Chloride (14,400 MTPA) Unit at Village Kayalpattinam North, Tehsil Tiruchendur, District Thoothukudi, Tamil Nadu. Bay of Bengal and Thamirabarani River are at a distance of 5 Km and 5.2 Km respectively. Kudirimoli Reserve Forest is located at a distance of 6 Km. Gulf of Mannar National Park, is located at distance of 31.5km from the existing DCW Limited plant (Sahapuram). No national park/eco-sensitive area is located within 10 Km from the project site. Total plot area is 2,65,803 m². It is also noted that TNPCB vide letter no 1 12/TNPCB/F.35984/RL/DCW/2013/Dated 26.06.2013 has informed that the unit has complied with the directions issued by them. MoEF vide letter no. F. No. EP/12.1/935/ Tamilnadu/3794 dated 9th July, 2013 has submitted the site inspection report including the compliance status to the environmental safeguards. The cost of project is Rs. 500 crores.

3. The existing and proposed products along with manufacturing capacity is given below:

S.N	Product / Division	Quantity (TPA)		
		Existing	Proposed	Total
1	Trichloroethylene (includes, perchloroethylene)	7200	8280	15480
2	Poly Vinyl Chloride	90,000	60,000	150,000
3	Chlorinated Poly Vinyl Chloride	NIL	14,400	14,400
4	Cogen Power Plant	58.27 MW {(2x25 MW)+(8.27 MW)}	2x25 MW	108.27 MW

Calcium carbide will be imported from China; Vinyl chloride monomer will be imported from Singapore; PVC Resin and Chlorine will be manufactured in house and Coal will be imported from Indonesia.

4. Electrostatic Precipitator along with adequate stack height will be provided to coal fired boiler. VCM will be recovered by incorporation of steam stripping tower. The exhaust from Chlorinated Poly Vinyl Chloride plant will be sent to HCl unit and then to hypochlorite unit. Effective scrubbing systems will be installed to control chlorine emissions. Fresh water consumption from River Thamirbarani and TWAD water supply will increase from 6944 m³/day to 12,792 m³/day after expansion. Industrial effluent generation after expansion will be 4237 m³/day and treated in effluent treatment plant (ETP) followed by reverse osmosis (RO). The RO rejects will be sent to Solar Evaporation Pond for evaporation. Treated effluent will be recycled/reused within factory premises. Sewage will be treated in sewage treatment plant (STP). No effluent shall be discharged outside the factory premises and 'Zero water discharge concept' will be adopted. Bio-sludge will be used for gardening. Calcium hydroxide will be used in the ETP and Calcium chloride will be sold to authorized dealer. Fly ash will be sent to cement plant. Used oil will be sent to authorized recyclers.

5. Public Hearing/Public Consultation meeting conducted by the Tamil Nadu Pollution Control Board on 29th November, 2011.

6. The proposal was considered by the Expert Appraisal Committee (Industry) in its 10th, 35th, 1st and 11th meetings held during 29th- 30th April, 2010, 11th - 12th May, 2012, 24th -25th September, 2012 and 26th-27th August, 2013 respectively. The Committee has recommended the proposal for environmental clearance.

7. Based on the documents furnished and presentation made to the EAC by the project proponent, and recommendation of the EAC(I) for grant of environmental clearance, 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:

A. SPECIFIC CONDITIONS:

- i) Compliance to all the environmental conditions stipulated in the environmental clearance letter nos. J-11011/4/97-IA-(II) dated 4th November, 1997 and J-11011/426-2006-IA-II(I) dated 7.6.2007, 22.10.2007, 31.05.2010 and 21.10.2010 shall be satisfactorily implemented.
- ii) The process emissions (SO₂, NO_x, HC (Methane & Non-methane) and VCM from various units shall conform to the standards prescribed under the Environment (Protection) Rules, 1986 or norms stipulated by the TNPCB whichever is stringent.

Continuous on-line stack monitoring shall be carried out. At no time, the emission levels should go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved. Stack emissions shall be monitored and efficiency of air pollution control device shall be checked regularly. The stack monitoring report shall be submitted to the Ministry's Regional Office at Bangalore, CPCB and T.N. Pollution Control Board (TNPCB).

- iii) Ambient air quality data shall be collected as per NAAQES standards notified by the Ministry on 16th September, 2009 and trend analysis w.r.t past monitoring results should also be carried out. Adequate measures based on the trend analysis shall be taken to improve the ambient air quality in the project area.
- iv) Electrostatic Precipitator alongwith adequate stack height shall be provided to coal fired boiler.
- v) Continuous ambient air quality monitoring stations for [PM10, PM2.5, VCM, NOx, CO, Cl₂, HC (Methane & Non-methane)] shall be set up in consultation with CPCB/TNPCB. Unit shall follow CPCB/MoEF calibration protocol for the calibration of continuous stack monitoring analyzers as well as ambient air quality monitoring analyzers installed in all stations. Data of stack monitoring and ambient air shall be displayed on web as well as outside the premises at prominent place for public viewing. The company shall upload the results of monitored data on its website and shall update the same periodically. It shall simultaneously be sent to the Regional office of MoEF, the respective Zonal office of CPCB and TNPCB.
- vi) In plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Adequate dust suppression systems with water spray shall be provided for storage yard, junction houses. Raw material loading and unloading area shall be covered and also provided with water spraying system. Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored and records maintained. The emissions shall conform to the limits stipulated by the TNPCB. Monitoring of fugitive emissions shall be carried out as per the guidelines of CPCB by fugitive emission detectors and reports shall be submitted to the Ministry's Regional Office at Bangalore.
- vii) Fugitive emissions of HC and VCM from product storage tank yards etc. must be regularly monitored. As proposed, acetylene sensor shall be installed in the generation area. Sensors for detecting HC and VCM leakage should also be provided at strategic locations. Leak Detection and Repair programme shall be implemented to control HC/VOC & VCM emissions. Work zone monitoring shall be carried out near the storage tanks besides monitoring of HC/VOC & VCMs in the work zone.
- viii) For further control of fugitive emissions, following steps shall be followed :
 - a. Closed handling system shall be provided for chemicals.
 - b. Reflux condenser shall be provided over reactor.
 - c. System of leak detection and repair of pump/pipeline based on preventive maintenance.
 - d. The acids shall be taken from storage tanks to reactors through closed pipeline. Storage tanks shall be vented through trap receiver and condenser operated on chilled water.
 - e. Cathodic protection shall be provided to the underground solvent storage tanks.

- ix) The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution.
- x) Total fresh water requirement from Thamirbarani River after expansion shall not exceed 11822 m³/day and prior permission shall be obtained from the competent authority.
- xi) Industrial effluent generation shall not exceed 4237 m³/day after expansion. Effluent shall be treated in effluent treatment plant and treated water shall be passed through reverse osmosis (RO). The RO rejects will be sent to Solar Evaporation Pond for evaporation. Water quality of treated effluent shall meet the norms prescribed by CPCB/SPCB. Treated effluent will be recycled/reused within factory premises. Water quality of treated effluent from ETP shall be monitored regularly. Domestic wastewater shall be treated in STP.
- xii) As proposed, no effluent shall be discharged outside the factory premises and 'Zero water discharge concept' will be adopted.
- xiii) Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- xiv) The project authorities must strictly comply with the rules and regulation with regard to handling and disposal of Hazardous Waste (Management, Handling and Trans Boundary Movement) Rules, 2008 wherever applicable. Authorization from the State Pollution Control Board must be obtained for collections / treatment / storage / disposal of hazardous wastes.
- xv) Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 as amendment in 2003. Fly ash shall be provided to cement and brick manufacturers for further utilization
- xvi) During transfer of materials, spillages shall be avoided and garland drains should be constructed to avoid mixing of accidental spillages with domestic waste and storm water drains.
- xvii) 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.
- xviii) The company shall undertake following waste minimization measures :-
 - 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.
- xix) The Company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. Fire fighting system shall be as per norms.

- xx) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- xxi) The company shall strictly follow all the recommendation mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP).
- xxii) To prevent fire and explosion at oil and gas facility, potential ignition sources shall be kept to a minimum and adequate separation distance between potential ignition sources and flammable material shall be in place.
- xxiii) Company shall prepare project specific environmental manual for the compliance to conditions stipulated and a copy shall be made available at the project site for the compliance. Company shall adopt Corporate Environment Policy as per the Ministry's O.M. No. J-11013/41/2006-IA.II(I) dated 26th April, 2011 and implemented.
- xxiv) All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.
- xxv) All the commitments made to the public during public hearing/public consultation meeting held on 29th November, 2011 shall be satisfactorily implemented and adequate budget provision shall be made accordingly.
- xxvi) Green belt shall be developed in 33% of the plant area as per the guidelines of CPCB in consultation with the DFO.
- xxvii) At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program should be ensured accordingly in a time bound manner.
- xxviii) The Company shall submit within three months their policy towards Corporate Environment Responsibility which shall inter-alia address (i) Standard operating process/ procedure to being into focus any infringement/deviation/violation of environmental or forest norms/conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) System of reporting of non compliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.
- xxix) Provision shall be made for the housing for the construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile sewage treatment plant, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structure to be removed after the completion of the project. All the construction wastes shall be managed so that there is no impact on the surrounding environment.

B. GENERAL CONDITIONS:

- i. The project authorities shall strictly adhere to the stipulations made by the T.N. Pollution Control Board.
- ii. No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA/SEAC and 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. 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 station is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.
- iv. 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).
- v. The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.
- vi. 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.
- vii. Usage of Personnel Protection Equipments (PPEs) by all employees/ workers shall be ensured.
- viii. The company shall also 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 relating to the project shall be implemented.
- ix. The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villages and administration.
- x. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- xi. A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
- xii. The company shall earmark sufficient funds toward capital cost and recurring cost/annum 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 earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.
- xiii. A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, ZilaParisad/Municipal Corporation, Urban local Body and the local NGO, if any, from who suggestions/ representations, if any, were received while processing the proposal.
- xiv. 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, the respective Zonal Office of CPCB and the T.N. Pollution Control Board. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- xv. 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 by e-mail.

- xvi. 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.
- xvii. 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.

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

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

4.0 The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986 Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules.


(Dr. T. Chandini)
Director

Copy to :-

1. The Principal Secretary, Department of Environment, Ground Floor, Panagal Buildings 1, Jeenis Road, Saidapet, Chennai - 600 015.
2. The Chief Conservator of Forests, Regional Office (Southern Zone, Bangalore)KendriyaSadana, 4th Floor, E&F Wing, II Block Koramangala, Bangalore-560034.
3. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
4. The Chairman, Tamil Nadu Pollution Control Board, Corporate Office, 76, Anna Salai, Guindy, Chennai - 600 032.
5. Joint Secretary, IA II(I), Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
7. Guard File/Monitoring File/Record File.

(Dr.T. Chandini)
Director