



F. No. J-11011/217/2008-IA-II (I)
Government of India
Ministry of Environment & Forests
(IA Division)

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

E-mail: ms.industry-mef@nic.in

Telephone: 011: 2436 3973

Dated: 1st September, 2009

To

Vice President,
M/s Zuari Industries Ltd,
Zuarinagar,
Goa, 403 726

zclvg@rediffmail.com

Sub: Revamp of Ammonia Plant for changeover of feedstock and fuel from Naptha to NG/RLNG and reduction of specific energy consumption along with debottlenecking the capacity of ammonia-urea plants, change over of fuel from FO to NG/RLNG in the utility boiler as also debottlenecking the capacity of NPK plant A & B alongwith product mix change at Zuari Nagar, Goa by M/s Zuari Industries Ltd. – environmental clearance reg.

Sir,

This has reference your letter no. nil dated 27th April, 2009 alongwith final EIA/EMP report seeking environment clearance under EIA Notification 2006 for above mentioned project and subsequent submission of information vide your letters dated 13th May, 2009 and 23rd July 2009.

2.0 The Ministry of Environment and Forests has examined the application. It is noted that M/s Zuari Industries Ltd. Have proposed for Revamp of Ammonia Plant for changeover of feedstock and fuel from Naptha to NG/RLNG and reduction of specific energy consumption along with debottlenecking the capacity of ammonia-urea plant, change over of fuel from FO to NG/RLNG in the utility boiler as also debottlenecking the capacity of NPK plant A & B alongwith product mix change at Zuari Nagar, Goa. Total land area of the plant is 410 ha. The existing green belt of 205 hectares already covers about 50% of the total area. The cost of the project will be Rs. 300 Crores of which Rs 10.15 Crores for capital and Rs. 1.05 Crores/annum has been earmarked for the protection of environment. The plant is operating its Ammonia-Urea plants since 1973 and NPK-A plant (earlier called NPK Plant) since 1975. The details of the products and production capacity of the plant are as given below:

Name of Products, By-Products and Intermediate Products	Existing, MTPA	Proposed activity (new/modernization/expansion), MTPA	Total, MTPA
A. Main Products			
1. Urea	376200/ 399300 [#]	118800	495000
2. Complex Fertilizers	150000*	350000	500000*

produced in NPK-A Plant			
3. Complex Fertilizers produced in NPK-B Plant	150000**	350000	500000**
B. By-Products			
1. Carbon dioxide	18950	15450	34400
2. Argon	2.2 Million Sm ³	-	2.2 Million Sm ³
C. Intermediate Products			
1. Ammonia	220000	126500	346500

#: FICC Re-assessed Capacity

*: Existing Annual capacity of 150000 MT is based on production of 28:28:0 grade which has been discontinued. Proposed Annual capacity of 500000 MT is based on production of 10:26:26 grade.

**: Existing Annual capacity of 150000 MT is based on production of 18:46:0. Proposed Annual capacity of 500000 MT is based on production of 10:26:26 grade.

3.0 It is noted that the details of the proposed revamp and debottlenecking scheme to achieve the enhanced capacity by implementing the following modifications:

1. Change over of feedstock and fuel in Ammonia Plant to NG/RLNG as well as fuel changeover in Utility Boilers and Hot air generating furnaces in NPK-A and NPK-B plants to NG/RLNG.
2. Revamping of Ammonia-Urea plants to reduce the specific energy consumption of Ammonia by about 1.0 GCal/MT Ammonia and corresponding reduction in the specific energy of Urea.
3. Debottlenecking the capacity of Ammonia plant to 1050 MTPD, Urea Plant to 1500 MTPD, NPK-A plant to 1600 MTPD and NPK-B plant to 1600 MTPD. The two complex fertiliser plants will also be equipped for Product Mix change. Present products are like DAP 18:46:0, 10:26:26, 12:32:16, 19:19:19. In future the products will be of grades like 15:15:15, 17:17:17, 14:28:14, etc. in addition to the grades already produced at present.

4.0 It is further noted that reduction in the CO₂ and SO₂ emissions will be due to fuel change over from Naphtha to NG/RLNG. All the burners will be replaced with modern design to reduce the NOx emission. There will be no open venting of any vessels in operation which release harmful or obnoxious chemicals. The prilling system has already been replaced from stationary prilling heads to Vibropriller. The routing of the scrubbing solution will be changed to improve scrubbing efficiency in the NPK plant. The scrubbing solution flow rates will be increased and an additional pre-scrubber will be installed. The consumption of water which was approximately 22700 M³/day in the design has been steadily reduced and presently is 8500 M³/day. All waste water streams in the plant including the treated domestic effluent will be recycled back to the process for Complex Fertilizer Plants which will be the net water consumers. The company will continue to maintain zero effluent discharge status even after revamp.

5.0 All the Chemical Fertilizer plants have been listed at Sl. No. 5(a) under Category 'A' and appraised at the Central level in 1st meeting of the Expert Appraisal Committee (Industry - 2) held during 24th-25th July, 2009. Public hearing/public consultation exempted as per para 7(ii) of EIA Notification, 2006.

6.0 Based on the information submitted by project authorities, 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) The project authority shall treat the industrial and domestic effluent as per the standards notified under Environmental (Protect) rules 1986 or prescribed by the Goa Pollution Control Board whichever are stringent. The treated wastewater shall be recycled/reused/used for irrigation/green belt development and zero discharge shall be maintained.
- ii) The water consumption shall not exceed 8500 KLD and the permission for drawl of same shall be obtained from the concerned Department and a copy shall be submitted to the Ministry and its Regional Office at Bangalore within 3 months.
- iii) The project authorities shall install efficient air pollution control system like vibropriller to Urea Prilling Tower, low NO_x burners to reformer, scrubbers, Ammonia stripper etc. to control particulate and gaseous emissions from the plant to achieve the prescribed standards.
- iv) The gaseous emissions (SO₂, NO_x, NH₃, urea dust) and particulate matter from various process units shall conform to the standards prescribed by the concerned authorities from time to time. Emission data shall be periodically monitored and reports submitted to Ministry's Regional Office, CPCB and SPCB.
- v) The company shall undertake measures to reduce fugitive emissions especially of ammonia. The company shall submit the Risk Assessment study report for the storage and handling of ammonia in the campus.
- vi) The company shall install the hooter system for leak detection of ammonia in the plant premises.
- vii) The proponent shall upload the status of compliance of the stipulated EC conditions, including monitored data on their 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 the SPCB. The criteria pollutant namely; SPM, RSPM, SO₂, NO_x (Ambient levels as well as stack emissions) or NH₃, indicated for the project shall be monitored and displayed at the convenient location near the main gate of the Company in the public domain.
- viii) Spent catalysts shall be sold to authorized vendors for its metal value. The other solids wastes shall be segregated and stored in the separate storage space and finally sold to the authorized vendors.
- ix) As proposed the company shall maintain the green belt covering 50% land area of the plant to mitigate the effect of fugitive emissions and noise as per the guidelines CPCB.
- x) The company shall implement all the recommendations made in the Charter on Corporate Responsibility for Environmental Protection (CREP) for fertilizer industries.

- xi) Occupational health surveillance of the workers shall be carried out on a regular basis and records shall be maintained as per the Factories Act.
- xii) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

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 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.
- (v) 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.
- (vi) 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 "Closed Feed" system into batch reactors.
 - Venting equipment through vapour recovery system.
 - Use of high pressure hoses for equipment cleaning to reduce wastewater generation.
- (vii) 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.
- (viii) 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.

- (ix) 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).
- (x) The company shall develop rain water harvesting structures to harvest the run off water for recharge of ground water.
- (xi) 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.
- (xii) The project proponent shall also comply with all the environmental protection measures and safeguards proposed in the EIA/EMP report.
- (xiii) A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
- (xiv) The project authorities shall earmark adequate 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.
- (xv) 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.
- (xvi) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both on hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.
- (xvii) A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations if any, were received while processing the proposal. The clearance letter shall also put up on the website of the Company by the proponent.
- (xviii) 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 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.

(xix) The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent 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 alongwith the status of compliance of EC conditions and shall also be sent to the respective regional Office of the MoEF by e-mail.

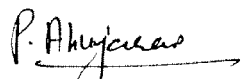
(xx) The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.

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

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

9.0 Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, Second Floor, Trikot-I, Bhikaji Cama Place, New Delhi-110066, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act, 1997.

10.0 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.


(Dr. P L Ahujarai)
Director

Copy to : -

1. The Secretary, Department of Environment and Forests, Govt. of Goa, Secretariat Panji.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi – 110032.
3. The Chairman, Goa State Pollution Control Board, Panji.
4. The Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office (SZ), Bangalore.
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi-110003.
6. Guard file.
7. Record file


(Dr. P L Ahujarai)
Director

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Ministry of Environment and Forests
(I.A. Division)

Paryavaran Bhawan, CGO Complex,
Lodhi Road, New Delhi – 110 003
E-mail : ms.industry-mef@nic.in
Telefax: 011 – 2436 3973
Dated: October 30, 2009

CORRIGENDUM

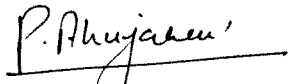
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Sir,

This is in continuation of this Ministry's earlier letter of even no. dated 1st September, 2009 and your communication dated 11th September, 2009 on the above mentioned subject requesting the Ministry for amendment in environmental clearance.

2. The matter has been examined. Following amendments are made in the environmental clearance order of even no. dated 1st September, 2009:

- i. The line 8th of para 4 of environmental clearance dated 1st September, 2009 may be read as "the total water requirement for the existing as well as proposed expansion is estimated to be 10135m³/d. The company would draw 8500m³/d from the existing sources i.e. PWD, Government of Goa and rest of the water from the captive lake having capacity of 235MG."
- ii. The Specific condition no.ii may be read as water consumption shall not exceed 10135m³/d.
- iii. All the other conditions in the environmental clearance dated 1st September, 2009 shall remain same.


(Dr. P. L. Ahujarai)
Director

To
The Vice President,
M/s Zuari Industries Limited
Zuarinagar, Goa-403726

Copy to:

1. The Chairman, Central Pollution Control Board , Parivesh Bhavan, CBD-cum-office complex, East Arjun Nagar, New Delhi 110032.
2. The Chairman, Goa State Pollution Control Board , Panaji.
3. The Chief Conservator of Forests, (Central), Ministry of Environment and Forests, Regional office(SZ), Bangalore.
4. Monitoring cell, MoEF
5. Guard file/ Record file.