F. No. J-11011/370/2008- IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

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

E-mail : pb.rastogi@nic.in
Telefax : 011: 2436 7668
Dated 5th October, 2010

To,

Shri Ranjan Basu
Vice President (Operation)
M/s Paradeep Phosphates Limited
Paradeep Phosphates Limited Township
Paradeep, Orissa-754145

E-mail: info@paraphos.com ; basu@paraphos.com ;

Subject: Expansion of Fertilizer Plant by retrofitting and de-bottlenecking in existing plant for manufacturing of Sulphuric Acid (2,000 TPD to 2,400 TPD) and DAP (2,400 TPD to 5,000 TPD) at Paradeep, District Jagatshignpur, Orissa by M/s Paradeep Phosphates Limited.

Ref. : 1. Ministry's even no. letter dated 12th May, 2010.
2. Your letter no. PPL/MoEF/EC/2010/01 dated 24th April, 2010.

Sir,

This has reference your letter no. PPL/MoEF/EC/2010/01 dated 24th April, 2010 alongwith a copy of EIA/EMP report, public hearing report and subsequent communications vide letter dated 24th June, 2010, 5th, 8th & 10th July, 2010 and 11th August, 2010 seeking environmental clearance under EIA Notification, 2006 for the above mentioned project.

2.0 The Ministry of Environment and Forests has examined the proposal and it is noted that M/s Paradeep Phosphates Limited have proposed for expansion of Fertilizer Plant by retrofitting and de-bottlenecking in existing plant for manufacturing of Sulphuric Acid (2,000 TPD to 2,400 TPD) and DAP (2,400 TPD to 5,000 TPD) at Paradeep, District Jagatshignpur, Orissa. The total land required for the project is 2,282.40 acres. No eco-sensitive areas are located within 15 km periphery of the plant. Environmental clearance for the DAP Phase–II and Sulphuric acid plant has been accorded by the Ministry vide letter no. J-11011/17/86-IA-II dated 23rd July, 1990. Total project cost is Rs. 125.00 Crores. The details of products and production capacity will be as follows :

S. N.	Products	Existing Capacity	Capacity after expansion / debottlenecking
1.	Sulphuric Acid	2X1000	2X 1200 TPD

		TPD	
2.	Di-Ammonium Phosphate/Phosphatic Fertilizer	4X600 TPD	4X1250 TPD
3.	Captive Power Plant	2X16 MW	2X16 MW

3.0 Sulphuric acid plant will consist of two streams, each of 1,000 TPD capacity is based on modern Double Contact Double Absorption (DCDA) process. The production of Sulphuric acid will be enhanced (2,000 TPD to 2,400 TPD) by debottlenecking. The phosphatic fertilizer plant will consist of four streams and based on wet granulation process technology. The capacity of phosphatic fertilizer plant will be enhanced from 2400 TPD to 5000 TPD by retrofitting/debottlenecking modifications.

4.0 On-line SO_2, NO_x and NH_3 analyzer will be installed to monitor ambient air quality. Alkali scrubber to SAP unit to control SO_2 and SO_3, V_2O_5 catalyst and candle filters to improve efficiency and reduce emissions; wet grinding system and fume scrubber in PAP to control fluoride and particulate matter; cyclones, venture scrubbers and mist eliminators to DAP plant to control particulate emissions and stack of adequate height will be provided to captive power plant (CPP). Total water requirement from Taldanda Canal for the proposed plant will be 15,000 m^3/day. Occasional leakages/overflow from PAP, DAP plant, off-sites and entire effluent from SAP will be treated in ETP comprising collection tank, grit chamber, oil and grease trap, equalization basin and physico-chemical treatment units like clarifloculators, thickener, filter press etc. Wastewater from CPP will be treated in the neutralization tank. Total treated effluent from ETP will be reused in Ball Mill of PAP. 'Zero' discharge will be adopted. The sewage and all other treated effluent after meeting the norms specified by CPCB / OSPCB will be used for green belt development. Phospho-gypsum will be sold to cement manufacturers or used in granulation plant to utilize Phospho-gypsum. Spent catalyst (V_2O_5) will be disposed off in environmental-friendly manner. Sulphur Muck will be used as a filler in DAP plant. ETP sludge and drained sludge will be stored in a covered shed and reused in house as a filler in DAP plant. Spent resin from DM plant, used or spent oil will be sold to authorized recyclers/reprocessor.

5.0. All the Chemical Fertilizer Units are listed at S.N. 5(a) of schedule of EIA Notification, 2006 under 'A' category and appraised at central level. Public Hearing / Public Consultation meeting was conducted by the Orissa Pollution Control Board on 14th February, 2010.

6.0 Draft Terms of References (TORs) were discussed during the 2nd Meeting of the Expert Appraisal Committee (Industry) held during 20th & 21st August, 2009 for preparation of EIA/EMP. The proposal was considered in 12th & 13th meeting of the Expert Appraisal Committee-2 (Industry) held during 15th–16th July, 2010 and 19th–20th August, 2010 respectively and recommended for the environmental clearance

7.0 Based on the information submitted, 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 company shall comply with all the conditions stipulated in the environmental clearance issued vide letter no. J-11011/17/86-IA-II dated 23rd July, 1990.

ii) On-line SO_2, NO_x and NH_3 analyzer shall be installed to monitor ambient air. The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.

iii) The gaseous emissions ($PM_{2.5}$, PM_{10}, SO_2, NO_X, HCl, NH_3 and urea dust) from various units shall conform to the prescribed standards. At no time, the emissions 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.

iv) As proposed, wet scrubbing system to DAP and Alkali scrubbing system to PAP Plant shall be provided to control fluoride and emissions. Cyclones, venture scrubbers and mist eliminators alongwith stack of adequate height shall be provided to DAP Plant to control particulate emissions. Alkali scrubber shall be provided to SAP unit to control SO_2 and SO_3. V_2O_5 catalyst and candle filters shall be provided to SAP unit to improve efficiency and reduce emissions. $PM_{2.5}$, PM_{10}, SO_2, NO_X, HCl, NH_3 and fertilizer dust emissions shall be monitored.

v) Double Contact Double Absorption (DCDA) process shall be adopted in Sulfuric acid plant (SAP). Continuous SO_2 monitoring system shall be provided in the stack of SAP unit. Fluorine Recovery Unit (FRU) shall be installed for recovering Fluoro-silicic acid and Fluoride levels shall be monitored in ambient air.

vi) Fugitive emissions from different sources shall be controlled, regularly monitored and reports submitted to the Regional Office at Bhubaneswer. To control fugitive emissions, regular monitoring of shop floor environment shall be carried. Leakages in the form of gases, liquid and dust emission shall be checked and mitigative measures taken. The company shall provide de-dusting system at all the transfer points in the bagging system.

vii) The company shall upload the status of compliance of the stipulated environmental clearance conditions, including 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 the Orissa Pollution Control Board. The levels of RSPM, (PM10 & PM2.5), NH_3 and NOx (ambient levels) and emissions from the stacks shall be monitored and displayed at a convenient location near the main gate of the company and at important public places.

viii) Specific energy consumption shall not exceed 5.127G cal/MT of urea production. Optimization of cycle of concentration (COC) to 6 and blow down frequency from the cooling towers shall be reduced.

ix) Steam stripping system shall be installed in the ammonia plant to recover ammonia as well as bottom water from condensate.

x) Total water requirement from Taldanda Canal shall not exceed 15,000 m^3/day and prio permission shall be obtained for drawl of water from the Competent Authority. A copy of permission shall be submitted to the Ministry's Regional Office at Bhubaneswer within 3 months of issue of environment clearance letter.

xi) All the pond water shall be completely recycled and reused. 'Zero' discharge shall be adopted and no wastewater shall be discharged outside the premises.

xii) The specific water consumption and wastewater generation shall not exceed 5.1 m^3/MT of urea and 0.9 m^3/MT of urea respectively. Accordingly, the company shall undertake measures for water conservation.

xiii) The wastewater from Phospohoric acid plant (gypsum slurry) shall be sent to gypsum pond. The overflow from PAP, DAP plant, off-sites and entire effluent from SAP shall be treated in effluent treatment plant (ETP). The wastewater from captive power plant (CPP) shall be treated in the neutralization tank. Wastewater from the existing gypsum pond shall be pumped to ETP for further treatment. Treated effluent from ETP shall be reused in Ball Mill of PAP. The sewage and all other effluents shall treated in the sewage treatment plant (STP) and used for green belt development after meeting the norms specified by CPCB and OSPCB..

xiv) Ground water shall be monitored in and around the project site through peizometer wells as per CPCB guidelines.

xv) Another gypsum pond with protective liner shall be constructed as per recommendations of NEERI as per CPCB guidelines.

xvi) Phospho-gypsum shall be sold to cement manufacturers or a granulation plant shall be installed as proposed to utilize Phospho-gypsum.

xvii) Spent catalyst (V_2O_5) shall be properly stored as per the CPCB guidelines and disposed off to TSDF. Sulphur muck and ETP sludge shall be reused in-house as filler in DAP plant. Spent resin from DM plant shall be sold to authorized agency. Used or spent oil shall be disposed off to authorized reprocessor.

xviii) As proposed, green belt shall be developed in 854 acres (37 %) out of total 2,282.40 acres.

xix) Action plan prepared for the complete remediation of the site shall be implemented in consultation with NEERI within 5 years of the issue of this environment clearance and six monthly report submitted to the Ministry and its Regional Office at Bhubaneswer.

xx) All the recommendation mentioned in the risk assessment report shall be implemented in a time bound manner and an action plan shall be prepared and submitted to the Ministry and its Regional Office at Bhubaneswer.

xxi) Risk analysis shall be done again after one year and report submitted to the Ministry and its Regional Office at Bhubaneswer. Efforts shall also be made to reduce risks mentioned in the risk assessment report.

xxii) The ammonia unloading arms in the jetty shall be provided with 'Quick Release Couplings' for automatic disconnection of ships from unloading arm during unloading in case of bad weather.

xxiii) Total quantity of Ammonia storage in the Plant shall not exceed 40,000 Tons at a time.

xxiv) The company shall undertake adequate protection measures for handling of ammonia vapour in case of plant upset condition. Safety valve exhaust and drains shall be connected to flare and vent stack. During transfer of materials, spillages shall be avoided and garland drains shall be constructed to avoid mixing of accidental spillages with domestic waste and storm drains.

xxv) The company shall make the arrangement for protection of possible fire hazards as per OISD 117 during manufacturing process in material handling.

xxvi) Occupational health surveillance of the workers shall be carried out on a regular basis and records shall be maintained as per the Factories Act.

xxvii) All the recommendations made in the Charter on Corporate Responsibility for Environmental Protection (CREP) for fertilizer industries shall be implemented.

xxviii) 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 Orissa Pollution Control Board (OPCB)/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) The gaseous emissions (SO_2, HCl, NOx, NH_3, fertilizer 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 at Bhubaneswer, CPCB and OPCB.

(iv) All the waste waters generated from the various processes shall be recycled/reuse in the plant and 'zero' discharge shall be maintained. The domestic waste water shall be treated in septic tanks and treated waste shall be used for irrigation in the green belt.

(v) 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.

(vi) The locations of ambient air quality monitoring stations shall be reviewed in consultation with the OPCB and additional stations shall be installed, if required, in the downwind direction as well as where maximum ground level concentrations are anticipated.

(vii) 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.

(viii) All the storage tanks will be under negative pressure to avoid any leakages. Breather valves, N_2 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.

(ix) 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 ?Closed Feed? system into batch reactors.
- Venting equipment through vapour recovery system.
- Use of high pressure hoses for equipment cleaning to reduce wastewater generation.

(x) 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.

(xi) The project authorities shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 and Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008 as amended time to time.

(xii) 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).

(xiii) The company shall develop rain water harvesting structures to harvest the run off water for recharge of ground water.

(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) A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.

(xvi) As proposed, Rs. 25.02 Crores and Rs. 1.24 Crores shall be earmarked towards capital cost and recurring cost/annum for pollution control measures 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.

(xvii) The implementation of the project vis-à-vis environmental action plans shall be monitored by the concerned Regional Office of the Ministry/OPCB/CPCB. A six monthly compliance status report shall be submitted to monitoring agencies and shall be posted on the website of the Company.

(xviii) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad/Municipal Corporation, Urban local Body and the local NGO, if any, from who suggestions/representations, if any, were received while processing the proposal.

(xix) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated E C 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 Orissa Pollution Control Board.

(xx) 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.

(xxi) 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 OPCB/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.

(xxii) 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.

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

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

10.0 Any appeal against this environmental clearance shall lie with the National Appellate Authority, if preferred, within a period of 30 days as prescribed under section 11 of the National Environment Appellate Authority Act, 1997.

11.0 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 Wastes (Management and Handling) Rules, 2003/ 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

(Dr. P. B. Rastogi)
Scientist 'F'

Copy to :

1. The Secretary, Department of Environment, Govt. of Orissa, 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, Nikanthhanagar, Unit-8, Bhuvaneswar - 751 012, Orissa.
4. The Chief Conservator of Forests (Eastern), Regional Office (EZ), A/3, Chandrasekharpur, Bhuvaneswar - 751 023, Orissa.
5. Adviser (IA), 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. Monitoring Cell
8. Guard File.
9. Record File.

(Dr. P. B. Rastogi)
Scientist 'F'