

SMW/HSE/MoEFCC/153

Date: 24.09.2018

To  
**Member Secretary (Industry-2)**  
**Ministry of Environment, Forests & Climate Change**  
Agni Block, Indira Paryavaran Bhawan,  
Jor Bhagh Road, Aliganj, New Delhi - 110 003

Dear Sir,

Sub: Request to modify TOR condition - reg

Ref : Standard TOR issued by MOEF&CC vide J-11011/616/2007-1A-II(I) dttd 13<sup>th</sup> September 2018

With reference to the above referred TOR, we bring the following points to your notice for your kind consideration:

1. Deccan Fine Chemicals (India) Private Limited (DFCL) took over manufacturing facilities of M/s Syngenta India Ltd., located at Corlim- Ilhas, Goa. The parent company of M/S Syngenta India Ltd., Syngenta, Switzerland has been a major customer of DFCL since 2011. As a part of Global restructuring of manufacturing assets, Syngenta sold its Goa facility to DFCL in 2016.
2. Syngenta obtained Environmental Clearance vide letter no. F. No. J-11011/616/2007-IA-II (I) dated 30.10.2008 for a production capacity from 8700 TPA to 12650 TPA of Agrochemicals. Syngenta obtained the Consent to establish from Goa State Pollution Control Board vide order No. 5/59/09-PCB/Vol.VIII/7545 dt. 24/02/2009. The unit obtained transfer of EC in the name of DFCL vide letter F. No. J-11011/616/2007-IA-II (I) dt. 25/06/2018.
3. Syngenta India Ltd., could not expand manufacturing facilities beyond 9400 TPA due to poor business conditions in the Global Market. The Project expansion was delayed due to uncertain market conditions and change of Management.
4. To make the manufacturing facility operationally viable and to protect jobs of about 2000 employees, we propose to carry out expansion of this manufacturing facility up to 12650 TPA, restricting the water consumption, waste water generation and other

pollution loads as per Environmental Clearance issued vide F. No. J-11011/616/2007-IA-II (I) dated 30.10.2008. Details are furnished in the following table :

S NO	Description	Permitted as per EC	Implemented by Syngenta	Proposed Enhancement	Total
1	Production capacity - TPA	12650	9400	3250	12650
2	Water requirement - KLD	5475	4509	966	5475
3	Effluent generation - KLD	5000	4000	1000	5000
4	Boiler capacity - TPH	31	31	-	31

5. Syngenta conducted public consultation on 29<sup>th</sup> February 2008 for enhancement of capacity of manufacturing facilities to 12650 TPA. Minutes of Meeting of Public Consultation is attached for your kind reference.

As the scope of expansion of the project and pollution loads are same as per the earlier Environmental Clearance, for which public consultation has already been done , we request you to waive "Public Consultation " clause from the Terms of Reference issued by you.

Thanking You  
Yours faithfully,  
for Deccan Fine Chemicals (India) Pvt. Ltd.

  
Kiran Desai  
Site Head



- Encl :  
1 Copy of EC  
2. Copy EC transfer letter  
3. Copy of CTE  
4. Copy of Public hearing minutes  
5. Copy of TOR letter



भारत सरकार  
पर्यावरण एवं वन मंत्रालय  
Government of India  
Ministry of Environment & Forests  
(IA Division)

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

E-mail: [hsmalviva@gmail.com](mailto:hsmalviva@gmail.com)

Telephone: 011: 24367076

F. No. J-11011/616/2007-IA-II(I)

Dated : October 30, 2008

To

M/s Syngenta India Ltd.  
Santa Monica Works  
Village Corlim Ilhas,  
Goa-403110

[vishram.singhal@syngenta.com](mailto:vishram.singhal@syngenta.com)

**Sub: Expansion of Pesticides & Agro-Chemicals Manufacturing Unit at Santa Monica Works at Village Corlim, Ilhas, Goa by M/s Syngenta India Ltd. Environmental Clearance reg.**

Sir,

This has reference to your letter no. nil dated May 29, 2007 received in the Ministry on July 2, 2008 along with EIA/EMP and public hearing report seeking environmental clearance for the above project under the Environment Impact Assessment Notification, 2006 and subsequent communication vide letters dated July 16, 2008, 28<sup>th</sup> August 2008, September 10, 2008, September 17, 2008 and September 19, 2008.

2.0 The Ministry of Environment and Forests has examined the proposal and noted that the proposal is for environmental clearance for expansion of Pesticides & Agro-Chemicals Manufacturing Unit at Santa Monica Works at Village Corlim, Ilhas, Goa by M/s Syngenta India Ltd. The existing land area is 200 Acres out of which manufacturing Plant is in 60 Acres. Old Goa Church is at 3 km from the site and Dr. Salem Ali Bird Sanctuary is at 7.5 km from the site. Cumbarzua canal is adjacent to the site. There are two artificial reservoirs within the factory. The cost of the project is Rs. 80 Crores. The existing and proposed products are listed below-

Sl. no.	Name of the Product	Existing Capacity (TPA)	Proposed Capacity (TPA)
1.	Thiomethoxam (TMX-I)	300	300
2.	Thiomethoxam (TMX-II)	2500	4000
3.	Pretilachlor	1400	1400
4.	Monochrotophos	1500	1500
5.	Cuman/Ziram	1400	1400
6.	Profenofos	1600	1600
7.	Amino Ethyl Phenol (Intermediate)	--	750
8.	Mandipropamid Technical	---	750
9.	Ortho- Substituted Phenyl Amide Tech. (OPA)	--	1000
	<b>Total</b>	<b>8700</b>	<b>12650</b>

3.0 Additional water requirement of 3000 KLD will be met from the allocation by Public Works Department, Government of Goa for the expansion project also. The present effluent quantity is 2500 KLD which will increase to 5000 KLD which will be treated in the ETP. New ETP system having better facility to manage toxics shall be installed. Organic and Aqueous stream shall be separated. Aqueous stream shall be detoxified and organic stream shall be incinerated. The unit has online Bioassay system and regular fish survival tests are being carried out. Sodium Cyanide is destroyed/ detoxified before it goes to ETP. The ETP comprises of primary, secondary and tertiary units having biological treatment facility. Only effluent having more than 70% biodegradability is sent to ETP. Balance effluent is incinerated. This will be followed for the expansion project also. All process streams will be transferred in close loop with the vent outlet connected to well design condensers/ scrubbers. The vessels/tanks are provided with Nitrogen Blanketing wherever required. All flammable and low flash point solvents are kept under Nitrogen Blanketing to minimize losses. All vents are connected to condensers and/or scrubbers. There will be no increase in air pollution since the existing three boilers of 31 TPH will have sufficient spare capacity to cater the existing/expansion projects. The Thermic fluid heaters will also have the sufficient capacity. Stack height will be 59 m with two boilers and 30 m with G 68 boiler and 31 m with thermopack. Stacks with DG Sets will be of 12 m above ground. Process emissions will be HBr, Chlorine/HCl. The Chlorine/HCl Vents of TMX Plant and HBr Vent from PFF plant will be connected to two stage scrubbers.

4.0 The project activity is listed at S.N. 5(f) under Category 'A' and the proposal was appraised at central level in 84<sup>th</sup> meeting of the Expert Appraisal Committee (Industry) held during 19<sup>th</sup> – 21<sup>st</sup> August 2008 and reconsidered in 85<sup>th</sup> meeting held during 23<sup>rd</sup> – 25<sup>th</sup> September, 2008. Public hearing meeting was held on 29<sup>th</sup> February, 2008.

3. Based on the information submitted by the Project Authorities, the Ministry of Environment and Forests hereby accords the environmental clearance to the above project under the provisions of EIA Notification dated 14<sup>th</sup> September, 2006 subject to compliance of the following specific and general conditions:

**A. SPECIFIC CONDITIONS:**

- (i) The company shall comply all the commitments made during public hearing held on 29<sup>th</sup> February 2008. The company shall submit a detailed action plan in this regards to the Ministry and its Regional office at Bangalore within three months.
- (ii) The company shall install fullfleged effluent treatment plant to treat the wastewater generated from the plant as per the discharge norms prescribed by the Goa Pollution Control Board.
- (iii) The unit shall carry out the monitoring for all Pesticides which are being produced or proposed to be produced in the ground water. Results shall be submitted to the Ministry and Ministry's Regional Office at Bangalore. Afterwards, yearly monitoring for these pesticides shall be carried out.
- (iv) Bioassay test and toxicity index shall be carried out regularly for the waste water before and after treatment and record shall be submitted with the six monthly reports.

- (v) The project authority shall install adequate air pollution control equipment with the incinerator, thermopack, boiler and DG set to achieve the standard prescribed by the SPCB or prescribed in Environmental (Projection) Rules, 1986 whichever are stringent.
- (vi) The incinerator installed in the plant shall comply with the monitoring procedure and emission & effluent standards notified vide G.S.R. 600(E) dated 18<sup>th</sup> August 2008. The monitoring shall be carried out monthly and reports shall be submitted to the Ministry's Regional office at Bangalore, CPCB Zonal office and Goa pollution control Board.
- (vii) The company shall install continuous monitoring equipment for HBr, H<sub>2</sub>S, HCl and Cl<sub>2</sub> from the stacks/vents and data shall be submitted with reports.
- (viii) The company shall provide the monitoring arrangement with all the vents for monitoring of (SO<sub>2</sub>, NO<sub>x</sub>, HBr, HCl, Cl<sub>2</sub>, H<sub>2</sub>S, CO, HC and VOC) along with PM, SPM and RSPM and reports shall be submitted to the SPCB, CPCB and Ministry's Regional Office at Bangalore.
- (ix) Chilled Brine Secondary Condensers shall be provided for control of evaporation/emission of low boiling solvents.
- (x) The project authorities shall provide the chilled brine solution in secondary condenser for condensation of the VOCs. The project authority shall ensure that the solvent recovery shall not be less than 98%.
- (xi) Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored. The emissions shall conform to the limits imposed by Goa PCB.
- (xii) Solvent management shall be as follows :
  - 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.
- (xiii) Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored. The emissions shall conform to the limits imposed by Goa PCB.
- (xiv) For control of fugitive emission and VOCs following steps shall be followed :
  - a. Closed handling system shall be provided for chemicals.
  - b. Reflux condenser shall be provided over reactors.
  - c. Solvent handling pump shall be provided with mechanical seals to prevent leakages.

- d. System of leak detection and repair of pump/pipeline based on preventive maintenance.
  - e. Solvent shall be taken from underground storage tanks to reactors through closed pipeline. Storage tanks shall be vented through trap receiver and condenser operated on chilled water.
- (xv) All the storage tanks shall be under negative pressure to avoid any leakages. Breathers, N<sub>2</sub> blanketing and condensers will be provided for all the storage tanks. Closed handling systems for chemicals and solvents will be provided. Magnetic seals will be provided for pumps/agitators for reactors for reduction of fugitive emissions. Chilled Brine based condensers shall be used to prevent VOC emissions. Solvent traps shall be installed wherever necessary.
- (xvi) All venting equipment shall have vapour recovery system. All the pumps and other equipment's where there is a likelihood of HC leakages shall be provided with Leak Detection and Repair (LDAR) system and LEL indicators and Hydrocarbon detectors. Provision for immediate isolation of such equipment, in case of a leakage will also be made. The company shall provide a well defined Leak Detection and Repair (LDAR) programme for quantification and control of fugitive emissions. The detectors sensitivity will be in ppm levels.
- (xvii) Entire quantity of the hazardous waste generated shall be disposed of as per the provisions of the Hazardous Waste (Management and Handling )Rules 1989 as amended up to date.
- (xviii) During transfer of materials, spillages shall be avoided and garland drains be constructed to avoid mixing of accidental spillages with domestic waste and storm drains.
- (xix) The company shall make adequate arrangement for control of odour nuisance from the plant premises. There shall be no odour from the unit.
- (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 make the arrangement for protection of possible fire hazards during manufacturing process in material handling.
- (xxii) Training shall be imparted to all employees on safety and health aspects of chemicals handling. As informed to the Ministry, OHSAS 18001 shall be continued. 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.
- (xxiii) Usage of PPEs by all employees/ workers shall be ensured.
- (xxiv) The company shall strictly follow all the recommendations mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP) for pesticide & chemical units.
- (xxv) The project authorities shall develop greenbelt in 33% of project area as per the guidelines of CPCB to mitigate the effect of fugitive emission. 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.

### 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. The project authorities shall strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended. Authorization from the SPCB shall be obtained for collection, treatment, storage, and disposal of hazardous wastes.
- iv. Ambient air quality monitoring stations shall be set up in the downwind direction as well as where maximum ground level concentration are anticipated in consultation with the State Pollution Control Board.
- v. For control of process emissions, stacks of appropriate height as per the Central Pollution Control Board guidelines shall be provided. The scrubbed water shall be sent to ETP for further treatment.
- vi. The company shall undertake following Waste Minimization measures :-
  - Metering 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.
  - Maximizing recoveries
  - Use of automated material transfer system to minimize spillage.
  - Use of "Closed Feed" system into batch reactors.
- vii) The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management and Handling) Rules, 2003. Authorization from the SPCB shall be obtained for collections/treatment/ storage/disposal of hazardous wastes.
- viii. The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) 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).
- ix. A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the environmental management and monitoring functions.

- x. The adequate financial provisions shall be made in the budget of the project for implementation of the above suggested environmental safeguards. Fund so earmarked shall not be diverted for any other purposes.
- xi. The project authorities shall provide rainwater harvesting system and ground water recharge.
- xii. The implementation of the project vis-à-vis environmental action plans shall be monitored by Ministry's Regional Office /SPCB / CPCB. A six monthly compliance status report shall be submitted to monitoring agencies.
- xiii. 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 Ministry's Regional Office.
- xiv. 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.

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

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

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

9.0. The above conditions will be enforced, inter-alia under the provisions of the Water (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 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



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

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**F. No. J-11011/616/2007-IA-II(I)**  
Government of India  
Ministry of Environment, Forest and Climate Change  
(IA- II Section)

Indira Paryavaran Bhawan  
Jorbagh Road, New Delhi - 3  
Dated: 25<sup>th</sup> June, 2018

To

M/s Deccan Fine Chemicals (India) Pvt Limited,  
8-2-293/82/A/74A, Road No. 9,  
Jubilee Hills,  
Hyderabad - 500 003 (Telangana)

**Sub: Expansion of Pesticides & Agrochemicals manufacturing unit at Santa Monica Works, Village Corlim, Ilhas (Goa) - Transfer of Environmental Clearance - reg.**

Sir,

This has reference to your proposal No. IA/GA/IND2/74771/2007 dated 26<sup>th</sup> April, 2018 for transfer of environmental clearance dated 30<sup>th</sup> October, 2008 to the above project, from M/s Syngenta India Limited to M/s Deccan Fine chemicals (India) Pvt Limited.

2. The Ministry had earlier granted environmental clearance vide letter dated 30<sup>th</sup> October, 2008 in favour of M/s Syngenta India Limited for the project 'Expansion of Pesticides & Agrochemicals manufacturing unit' at Santa Monica Works, Village Corlim, Ilhas (Goa).

3. Pursuant to the Business Transfer Agreement dated 21<sup>st</sup> December, 2015 executed between M/s Syngenta India Limited and M/s Deccan Fine Chemicals (India) Pvt Limited, the former company has sold its manufacturing unit(s) located at Santa Monica Works, Village Corlim, Ilhas, Goa to M/s Deccan Fine Chemicals (India) Pvt Limited w.e.f. 1<sup>st</sup> June, 2016, and thus necessitating transfer of all requisite approvals in the new name of the company.

4. M/s Syngenta India Limited has submitted the No Objection certificate for transfer of the said environmental clearance to M/s Deccan Fine Chemicals (India) Pvt Limited.

M/s Deccan Fine Chemicals (India) Pvt Limited has submitted an affidavit to abide by the terms and conditions stipulated in the environmental clearance dated 30<sup>th</sup> October, 2008 issued in the name of M/s Syngenta India Limited.

5. In view of the above, the environmental clearance to the project for expansion of pesticides & agrochemicals manufacturing unit at Santa Monica Works, Village Corlim, Ilhas (Goa), granted by the Ministry vide letter dated 30<sup>th</sup> October, 2008, is hereby transferred from M/s Syngenta India Limited to M/s Deccan Fine Chemicals (India) Pvt Limited, on the same terms and conditions under which prior environmental clearance was initially granted.

6. This issues with approval of the competent authority.

  
25/6/2018  
(S. K. Srivastava)  
Scientist E

**Copy to: -**

1. The Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (SZ), Kendriya Sadan, 4<sup>th</sup> Floor, E&F Wings, 17<sup>th</sup> Main Road, Koramangala II Block, **Bangalore** - 560034
2. The Joint Secretary, Department of Science, Technology & Environment, 1<sup>st</sup> Floor, Pandit Deendayal Upadhyay Bhavan, Behind Pundalik Devasthan, Near Sanjay School, Porvorim, **Bardez** - 403 521 (Goa)
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhavan, East Arjun Nagar, **Delhi** - 32
4. The Member Secretary, Goa Pollution Control Board, 1<sup>st</sup> Floor, Dempo Tower, EDC Patto Plaza, **Panaji** - 403001 (Goa)
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, **New Delhi**
6. Guard File/Monitoring File/Record File

*SK*  
25/6/2018  
**(S. K. Srivastava),**  
**Scientist E**

# GOA STATE POLLUTION CONTROL BOARD

गोंय राज्य प्रदुशण नियंत्रण मंडळ

Phone Nos. : 91-832 2438567, 2438528  
2438563, 2438550  
Fax No. : 832-2438528



Dempo Towers, 1st Floor,  
EDC Plaza, Patta,  
Panaji 403 001, Goa.

## CONSENT TO ESTABLISH (NOC)

Order No. 5/59/09-PCB/Vol.VIII/7545

24/02/09

**Consent to Establish for expansion of an existing unit, under section 25(1)(a) of the Water (Prevention and Control of Pollution) Act, 1974 and under section 21 (1) of the Air (Prevention and Control of Pollution) Act, 1981.**

1. Consent to Establish under section 25(1)(a) of the Water (Prevention and Control of Pollution) Act, 1974 (Central Act 6 of 1974) and under section 21 (1) of the Air (Prevention and Control of Pollution) Act, 1981 (as amended upto 1987 (Central Act 14 of 1981) and the rules and orders made there under is hereby granted to:

**M/s Syngenta India Limited**  
(expansion of the unit)

hereinafter referred as 'the applicant', authorizing him / her / them to establish a unit / trade / activity at the below mentioned site:

**Survey no. 28, Corlim Village, Ilhas Goa.**


2. This Consent to Establish is valid for the manufacture / production / activity as mentioned below:

Sr.No.	Description	Quantity/month
1.	Thiamethoxam	1500 TPA
2.	AE Phenol	750 TPA
3.	Mandipropamide	750 TPA
4.	OPA	1000 TPA
5.	Total Agrochemicals	11,500 TPA
5.	New Effluent Treatment Plant is proposed as part of the expansion project	2500 cum/day

3. The unit should set up air pollution control system/s, effluent/ sewage treatment system/s, so as to meet the standards prescribed in Schedule 1 (Rule 3) of the Environment (Protection) Rules, 1986 for the relevant industry as well as for other parameters should meet the standards prescribed under the General standards of the said Rules.
4. The unit should obtain all permissions / approvals as required under the prevalent Rules / Acts in force.
5. The unit should obtain permission from the Forest Department / Wild Life Board wherever applicable.
6. This Consent to Establish is valid upto commissioning of the above or three years which ever is earlier.
7. The unit should maintain log book and carry out monitoring of water quality of the Cumbarjua Canal 50 meters upstream of the point of discharge during high tide and 50 meters down steam of point of discharge during low tide every fortnight and submit analysis report .
8. The unit should comply with the conditions stipulated in the Environmental Clearance granted by the Ministry of Environment and Forests, Govt. of India.
9. The unit should increase the capacity of storage of hazardous solid waste to be disposed in the Common Hazardous Waste, Treatment and Disposal Facility.
10. The process of establishing a Common Hazardous Waste, Treatment and Disposal Facility should be expedited to comply with the provisions of the Hazardous Waste ( Management & Handling) Rules, 1989 as amended and the directions issued by the Hon Supreme Court.
11. On completion of the expansion of the unit, the daily quantity of industrial effluent from the unit shall not exceed 5000 Kld and should be treated in an effluent treatment plant so as to meet the parameters prescribed by this Board in the Consent issued by this Board vide no. 5/59/95-PCB/6744 dated 29/01/09 and standards specified in Schedule I (Rule 3) of the Environment (Protection) Act, 1986 for the

relevant industry.

12. The applicant shall apply for Consents to Operate of the Board as required under section 25(1) (b&c) of the Water (Prevention and Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 in the prescribed application form, 45 days before commissioning of the plant.
13. The applicant shall comply with all the conditions and instructions as provided in the GENERAL CONDITIONS annexed herewith.

  
Member Secretary  
For GOA STATE POLLUTION CONTROL BOARD

To,  
M/s Syngenta India Limited  
Santa Monica Works  
Corlim, Ilhas Goa.

c.c. to:

1. Concerned file
2. Guard file

Proceedings of the Environmental Public Hearing held on 29/02/08 at 11.00 am at Old Goa Residency Hall, Old Goa with respect to M/s Syngenta India Ltd., Santa Monica Works, Corlim, Ilhas Goa, survey no. 28, Corlim, Tiswadi Taluka, North Goa District, for their proposed expansion of the activities by manufacturing two new Active ingredients viz. Mandipropamide and o-Substituted Phenyl Amide (OPA) and also for expanding the facilities for the manufacture of Thiamethoxam and AE Phenol.

This Public Hearing is conducted as per the Revised EIA Notification dated 14/09/06. The Addl. Collector - I, North Goa, Shri Swapnil Naik welcomed the public for the Environmental Public Hearing, and requested the public present to express their views/ objections / suggestions if any, after the applicant gives its presentation, and the same will be recorded and forwarded to the concerned Regulatory Authority, for obtaining Environmental Clearance.

The representatives of the applicant have thereafter made a Power Point presentation by explaining the contents thereof in Konkani language.

Thereafter the Chairman called upon those present to seek information or clarification on the project from the applicant, if desired.

Accordingly, the following individuals have raised the issues / gave suggestions which are as under:

It was brought to the notice of the Committee that the date for submission of written objections is stated as 30 days from the date of conducting of Public Hearing.

**Shri Uday Rane** stated that:

- Since the last 30 years this company is existing and has benefited the people of the State and he fully supports the same as it will provide employment to the local people.

**Shri Floriano Lobo, Chairman Goa Env. Action Group** stated that:

- He is not against development, but his organization is for development and progress.
- He desired to know whether there would be progress or destruction of the ecology due to the expansion of the plant, more specifically with regards to the flora and fauna present in the State and shown in the clip during the presentation..
- He questioned on the emissions from the incinerators that will be dispersed and how they will effect the nearby villages. Particularly, the effect of dioxins and furons will felt only after 20 years. The destruction removal efficiency and capability of the incinerators should be checked and certified by the Pollution Control Board.
- The parent company was responsible for the destruction of life in River Rhime in Switzerland.

**Shri Durgadas Gaunkar – Dhulapi Village, President of Gawada, Kunbi, Velip and Dangar Federation** stated that:

- Population consist of 95% tribal people which does not make a mention in the Report.
- The land where the company stands is agricultural area.
- The company has not benefited the local people as only 3 people are employed from the Dhulapi village out of 1500 employees. The presentation does not show these figures.
- The land belongs to the villagers but the people of this village are not benefited by this company.
- He raised the following queries- REIA report is prepared in Summer of 2005. As per the new Notification the report should be prepared under the EIA, the same is outdated and has requested to re-conduct the Public Hearing.
- Phosphamidon and Monocrophotos are infamous chemicals that Syngenta voluntarily agreed to phase out on a country to country basis several years ago and replace with newer generation pesticides, he desired to know whether Monocorphotos was deregistered for all uses in USA in 1988.
- Is GSPCB aware about the company's predecessor responsible for the watershed event where the Rhime river was declared biologically dead due to the company's discharges
- Has the Govt. authorities checked whether the workers working in the plant have received proper training and information about the hazards to the toxic chemicals
- Whether the Local authorities and the State authorities are provided with the detailed information about the chemicals used in the plant
- Whether the residents of adjacent villages of Dhulapi and Mangado are made aware about the hazards of the toxic chemicals used in the plant.
- Whether regular check ups of the machinery were made and replace the damaged pars and faulty instruments
- Whether there are facilities with the GSPCB for cross checking of the production
- Why the Syngenta wants to start the new production only in Goa and why not in other branches of the company
- Why there is no mention of the World Heritage site at Old Goa which is just 2.5 kms from the plant is not mentioned in the REIA report
- Why Salim Ali Bird Sanctuary is not refereed in the REIA.  
He also submitted written objection.

**Mr. Edwin De Sa - Professor of Physics, Goa University, residing opposite the Syngenta Plant,** stated that:

- His bedroom is located opposite the plant of M/s Syngenta and in the last five years it is not possible to keep the windows of the room open due to the smell emanating from the factory and has lowered the quality of life. He questioned the company authorities regarding the same on a number of occasions, but has not received a satisfactory reply



- The figures shown in the EIA and the presentation are impressive. However, the methodology adopted to obtain them are not specified in the report. All parameters are function of time.
- He stated that monitoring stations should be installed in the villages and he offers his own house as a sampling site for air pollution. He stated that the monitoring should not be restricted to the company premises only.
- Particulate carbon emissions from the incinerator are responsible for the smell. During the night the wind blows towards the residential houses and the emissions generating smell disturb the sleep of the residents in the vicinity. All the gaseous effluent are received by the residents.
- He desired that continuous monitoring of gaseous emissions /effluents should be carried out.
- Desired that GSPC should monitor all the effluents discharged in the Cumbarjua canal.
- Effluent is discharged into the Cumbarjua canal and the pesticides are likely to accumulate in the canal as the canal connects both Mandovi and Zuari and there is a difference of time in the tidal movements.

•  
**Dr. Joe De Souza – Ex Professor of Goa University stated that:**

- Monitoring of the sampling is done in the opposite direction of the wind and hence does not reflect the actual values.
- The company has stated regarding the Central Excise and the Foreign Currency earnings due to the operation of the plant.
- Employment opportunities are not given to the locals. Most of the revenue goes to the Central Govt. and only 3% of the revenue benefits the State.
- The changing in scientific data after two years does not make any difference.
- There are a lot of anomalies in the Report, no consistency in the readings of the parameters is contradictory to each other. All figures are contradictory in nature and are full of discrepancies
- GSPCB does not have equipments to detect the heavy metals and pesticides and gaseous metals.
- The Pollution Control Board should also carry out its own Environment Impact Assessment and depend only on the EIA reports submitted by the Company.
- The results depicted in the data does not contain bio-accumulation of the pesticides produced in animals but only general chemicals present in the environment.
- There is no co-relation with the environmental data presented at the hearing.
- Goa State Pollution Control Board have no instruments to detect the presence of heavy metals and pesticides
- The GSPCB has issued Consents for higher production level and the company actually only produces 10% of the capacity.

also increase the transportation on roads which could lead to accidents. The EIA report does not speak regarding the same.

- The EIA report does not state the methodology and the study carried out to state that Cumbarjua canal has a carrying capacity of 5000 cum/day of effluent generated by the company.

**Prof. Tushar Anveker - St. Xaviers College, Mapusa,** stated that:

- The data provided in the EIA report to be verified by an independent agency before granting permission for expansion.

**Adv. Nilesh Shirodkar – ex-employee of Syngenta** stated that:

- All the environmental parameters should be controlled and at least 50% employment should be given to the locals as such expansion of the project should be allowed.

**Dr. Claude Alvares, Director, Goa Foundation** stated that:

- Since all the employees of the company are present in the hall for the public hearing, there is probably no body attending to the plant and this could be dangerous to the public. He objected to the employees of the company occupying the front rows for the hearing and said that this was a Company hearing and not a Public Hearing.
  - He desired to know whether the company informed the Ministry of Env. & Forests, Govt. of India had rejected the expansion proposal of the company. As per the 73<sup>rd</sup> amendment of the Constitution, project rejected by the Village Panchayat cannot be allowed as the Panchayat has to grant permission under section 68 of the Panchayat Act.
  - Since the last two –three years there have been over 73 Public Hearings in Goa and he has attended more than 30 of them and not a single project has been rejected by the Ministry and this one is only a circus. Environmental Clearances are issued on the basis of cash given to the concerned Minister.
  - He informed the public that within 3 to 4 month Clearance will be issued by the MOEF irrespective of the objections of the Village Panchayat and the people attending the hearing today.
  - He desired to know whether the company had commenced any construction activity including land development, cutting trees etc. as the same is under the EIA Notification prior to obtaining Environmental Clearance.
  - Why is the company submitting the REIA done in 2005. As per the Revised Notification of 2006 there is no provision for REIA report. The company should carry out a detailed EIA report for all seasons and then come for public consultations.
  - The incinerator is utilized for disposal of chlorinated waste and hence the EIA report should have stressed on the monitoring of dioxins released from the incinerator and the impact in the vicinity on the water, air, land, flora and fauna. However, the EIA report is silent on the same and only one stack analysis report from a laboratory in Belgium has been annexed.
- He also desired whether the company would apply the same

Goa. He further stated that this proposal would have been rejected in Switzerland.

- At present there is no laboratory in the Country which can carry out dioxin monitoring and analysis in the Country. Central Pollution Control Board has recently established a small facility. The monitoring as presented in the report is done by the company itself.
- The laboratory recognized by MoEF are not authorized to carry out EIA studies and the work carried out by the said laboratory is not permissible and illegal and hence this report cannot be considered for taking decisions on the expansion of the plant.
- The EIA should be repeated as it has failed the tests especially with regards to monitoring of dioxins and their impact on the environment. It is the responsibility of the company to prove that they are not releasing dioxins in the atmosphere. The method adopted in the report with regards to destruction of dioxins is unacceptable and the company should utilize the formula prescribed by the United States Environment Protection Agency (USEPA) The method adopted in the EIA report on basis of analysis of ash from the incinerator is not acceptable and is not an International practice. He deplored the erection of three incinerators for burning of hazardous waste and said that this is not an environmentally sound practice.
- As per the provisions of the Hazardous Waste (Management and Handling) Rules, which came in force in 2003, it is mandatory for the company to follow a waste reduction and recycling policy. However, the report is silent in this regard.
- ETP sludge of pH is 12.5 and is dumped in the Dharbandora quarry. Permission for the same has not been granted by the Goa State Pollution Control Board. The same is in violation of the hazardous waste Rules, as such the company should be shut down as per the provisions of the Hazardous Waste (Management and Handling) Rules and the Supreme Court Orders.
- The 73<sup>rd</sup> minutes of the Expert Committee states that the company should produce authorization from the Goa State Pollution Control Board for disposal of sludge from their ETP in a quarry at Dharbandora and also obtain permission from the PWD for additional water requirement. Both these have not been produced.
- He desired to know why is the company not harvesting rain water. The analysis report of the ground water indicates that the same meets standards for physico – chemical parameters. He desired to know why the ground water does not meet the drinking water standards, as the disposal of sludge or operation of the unit caused ground water contamination.
- The EIA report is a total failure and the same has to be re-drafted.
- The company has not disclosed its profits and it appears from the opposition of the local villagers that the local population has

- Monocrotophous was de-registered in USA, 20 years ago. The company still manufactures the same in the Goa plant.

**Dr. Dhume – Environemnt Action Group** stated that

- Copy of Public Hearing minutes should be available in the Panchayat
- If there is any effect on the environment due to the operation of the factory it should be shut down.

**Mr. Anand Shirvoikar**

- As per the EIA report the samples were collected in summer 2005. He desired to know why the same are not collected during monsoons.
- He desired to know whether the monitoring was done during the day or the night.
- He desired to know the amount of trees present before the commencement of the plant and the present status
- The smell comes from the factory comes in the mornings and late in the evenings and the stack monitoring has not been carried out during that period.

**Mr. Deepak Karmalkar – Computer Engineer and Environmental Teacher - Old Goa** stated that:

- He sought information regarding the company from the Internet and it reflected as follows: 4 million gallons waste was dumped in the Atlantic ocean, 4 lakhs tons of DDT has been dumped in Tanzania. 30 tons 35 different chemicals are dumped in the river Rhine killing 5 lakh fish.
- Explosion in the pesticide plant at Pakistan.
- What disaster management plan has been prepared if disaster takes place in the area, no information is given as to where and how the people will run.
- Monocrofotous is an insecticide and extremely toxic to birds and used as bird poison, and harmful to humans

**Mr. Soter De Souza- Member of Madkai Peaceful Society** stated that:

- The EIA report prepared by the company has to assessed by the Environment department .
- Since there will be expansion, there will be increase in capacity of storage of chemicals.
- The report does not mention the species which are become extinct due to the operation of this plant. In case of accident what would be the impact and effect on human life.
- How many Goans will be really employed by the company
- Whether this expansion project was rejected in any part of India.
- Impact on the infrastructure along the transportation route not reflected in the EIA report.

**Shri Venkatesh Chodnekar** stated that:

**Shri Raghuvir Naik** stated that:

- There is always gas leakage at nights. Inquiry at the gate is futile as the company officials do not entertain the complaints of the local people.
- Siren is rung for the safety of the employees and not for the safety of the villagers. Mock drill has to be conducted for the safety of the villagers.
- For the last 35 years the company has not done anything for the benefit of the local villagers.

**Dr. Kashinath Jhalmi - Ex-MLA** stated that :

- Since the project is for expansion, the details of the chemical reaction, base line data etc for the new products has not been included in the EIA report. A detailed report has to be placed before the public as per the amended EIA notification particularly with regards to the impact on environment due to manufacture of new products. Public Hearing should be re-conducted as these important facts are considered in the report.
- A comprehensive EIA report should be prepared with all the required information should be prepared giving all the relevant data.

**Shri Mathany Saldanha** stated that:

- The total details of the new products should be submitted.
- What are the standards adopted in other parts of the World where such products are manufactured. The same standards should be adopted at this facility.
- The report should not be prepared by the company but should be prepared independently by Goa State Pollution Control Board and Central Pollution Control Board.

**Shri Amol Narvekar** stated that:

- The questions raised by the public during the hearing should be addressed and a hearing should be held afresh

**Shri Atchut Dulapkar** stated that the attendance sheet has not been stamped by the Goa State Pollution Control Board.

**Shri Pandurang Kunkolienkar – General. Secretary of Gawada, Kunbi, Velip and Dangar Federation** stated that:

- The presentation does not show any houses in the vicinity of the plant, but only shows the ecology around.
- The rain water which is accumulated in the lake near the plant damages the houses
- He desired to know the employment opportunities given to his community, he desired to have a first hand information on the functioning of the plant.
- The company should adopt the village adjoining to the plant and strive for the development of the Village.

**Shri Tushar Usgaonkar** stated that:

- The plant started operation in 1970's and as of now the pollution control equipments are being modified. If there has to be development then precautions have to be taken for controlling the pollution levels and standards should be prescribed.
- Factory should be allowed to expand and measures should be taken to control the pollution, so also employment could be provided to the local people.
- GSPC and the Govt. should ensure that pollution measures should be monitored.
- He fully supported the expansion proposal of the company

**Shri Goraknath Kerkar** stated that:

- The operation of the company has not benefited the locals and they have to suffer due to the smell generated from the operation of the plant.
- He also desired to know what measures the company has taken in case of emergency. He strongly opposed the expansion of the project.

**Mrs. Pritham Gaunkar** stated that she is a representative of the Self Help Group was invited by M/s Syngenta for a meeting and they were requested to support the expansion project

#### **Clarification of the Company**

**Shri Rajiv Aunde, representative of M/s Tera clarified as follows:**

\* The Ministry of Env. & Forests has published a Manual on Preparation of EIA. The said Manual prescribes the methodology and procedures/ and locations of monitoring.

\* Effort has been made to prepare the EIA report as specified in the Manual of MoEF and have an impartial and scientific assessment.

\* Since their company does not have the expertise in all fields, they have outsourced the work to experts in the relevant fields.

\* Dr, Nayak, Professor and Head Dept. of Marine Science, Goa University, has carried out monitoring of the Cumbarjua canal, and the modeling for the same has been done by Dr. Anand – Ex- Dy. Director and Head Ocean Engg. Dept., National Institute of Oceanography. Risk Assessment studies has been carried out by D.K. Joshi, Consultant, Terra Firma.

\* The stack analysis report for dioxins has been carried out by SGS India Pvt. Ltd. and analysed in at Belgium. The same agency carries out dioxin monitoring for CPCB and Maharashtra State Pollution Control Board. He agreed that chlorinated waste is incinerated and hence frequency of dioxins monitored needs to be increased. He agreed to include this in the EMP

\* The company has installed a highly sophisticated incinerator supplied by M/s Thermax which is a reputed company. The said incinerator has five levels of pollution control systems. The incinerator meets all the guidelines prescribed by the Central Pollution Control Board. The pollution control

Considering this level of pollution control equipment it is highly unlikely that particulate organic carbon can be emitted from this incinerator is responsible for the same.

\* He further clarified that the World Heritage Site and the Dr. Salim Ali Bird Sanctuary has been mentioned in Item 3.1.1, page 54 in the Chapter on Land and Environment and in Form I submitted to MoEF.

\* Regarding new generation pesticides - Dept. of Agriculture, Govt. of India has published a list of 140 pesticides that are permitted in the Country. Some of these have already been banned in developed Countries.

\* The older generation pesticides i.e organo chlorine requirement was applied and 5 kg per hectares and were persistent. The application of second generation pesticide is 1 litre/hectare. The new generation pesticide are bio-degradable, non flammable, non oxidizing and non carcinogenic and have LD 50 more than 2000 mg/Kg. they are also odourless. Their application is at the rate of 100 gms/hectare hence the requirement of pesticide would drastically reduce. The country is getting access to such higher technology pesticides through this project.

\* The company has stopped manufacture of Monoerotophos. The Material Safety Data Sheet of the raw materials required for the new products is available with the company. The raw materials are non explosives and non carcinogenic.

\* The waste reduction methods adopted by the company would be included in the report. The company has got inplant controls such as segregation, holding tanks, ISBL pits. The effluent is detoxified using solvents extraction, hydrolysis and cooking. Only effluents which are 70% biodegradable are sent to the ETP.

\* The company has established a R& D centre. The company has 35 manufacturing sites out of which only 4 sites have R & D centres and one of them happens to be in Goa.

\* The Chapter I and IV of the REIA report has all the relevant information about the new product and the processes.

\* The company has three levels of safety measures which include computerized DCS control system, on line monitoring, double scrubber and condenser provided for vents. The reactors are covered

\* All drivers are trained for accidents and disaster management and the company has a separate crew to deal with road accidents. This crew has helped during various road accidents occurred in the State.

\* He stated that siren is an early warning system and off site emergency plan has been prepared and available with the District Magistrate in case of natural disasters like earthquakes such early warnings are not available and yet we have to take care of our elders.

**Shri Ulhas Joglekar** of M/s Terra Firma stated that the Country is predominantly dependent on agriculture and it is necessary to phase out older generation pesticides and produce new generation pesticides.

**Dr. G.N. Nayak** Head of Marine Science, Dept. of Goa University has stated that he has worked on river Mandovi, Zuari and Cumbarjua canal since 1988. He has carried out four projects for the MoEF, Govt. of India on the same.

He stated that our riverine system is ...

period to carrying out sampling analysis. Sampling has been carried out during pre-monsoons in the year 2005 and 2007 and the methodology adopted is the same as carried out to the earlier 4 projects. He said that there is no doubt about the quality of the data and the same could have been published in an International Journals if it was not being carried out for the company. He also stated that he has studied Mayem lake environment with reference to mining impact and such a report was used in the Court of Law to take appropriate steps to control pollution entering the lake.

Dr. Anand, Ex-Dy. Director, Head of the Department of Ocean Engineering, National Institute of Oceanography, Goa stated that the software used for modeling purpose has been developed at M/s Environ Software Pvt. Ltd., Bangalore and has been extensively used in the R & D and sponsored programmes by the National Institute of Oceanography and its Regional Centres at Mumbai and Kochi. Also this model is being used by the Environ Software for various Consultancy projects sponsored by Reliance Industries Ltd., at Jamnagar and other prestigious projects in India. Input for the model is based on 15 days continuous measurements at designed locations in the Cumbarjua canal covering parameters, tides, currents, chemical and biological parameters. Results of the modeling studies reveal that there is a good flushing in the Cumbarjua canal and hence possibility of any stagnation is unlikely. Answering to the question of 5000 cum/day discharged quantity, it is clarified that with good engineering solutions it is possible to achieve the 5000 cum/day discharge. For this purpose, the total discharge has been split into two separate discharges of 2500 cum/day each and taken by two separate pipe lines and discharged within the extreme boundaries of Syngenta with the help of two separate designed diffuser systems. With this arrangement, the model results show that the released effluent at these two discharged locations attain the ambient quality within around  $\pm 50$  metres on either side of the diffuser.

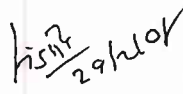
Since there has been a discrepancy in the advertisement and brought to the notice by the public, 30 days time has been given to file the objections/suggestions from the date of hearing and the objections received will be then forwarded to the concerned the Regulatory authority to the Goa State Pollution Control Board. The company has objected to the same

The recorded minutes were accordingly read out to the public in English and Konkani and subsequently after receiving suggestions and as agreed were signed by the Addl. Collector – I and Assistant Environmental Engineer, GSPCB.

131 no. of people present for the Hearing have signed the attendance sheet.

On this 29<sup>th</sup> day of February, 2008.

  
( Shri Swapnil Naik )

  
( Shri Sanjeev Joglekar )



**No.J-11011/616/2007-IA -II (I)**  
Government of India  
Minister of Environment, Forest and Climate Change  
Impact Assessment Division

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Indira Paryavaran Bhavan,  
Vayu Wing, 3rd Floor, Aliganj,  
Jor Bagh Road, New Delhi-110003  
13 Sep 2018

To,

M/s M/S. DECCAN FINE CHEMICALS (INDIA) PVT. LTD.,  
Santa Monica Works, Corlim-Ilhas, Goa,  
North Goa-403110  
Goa

**Tel.No.0832-2460111; Email:geetali.thakur@deccanchemicals.com**

Sir/Madam,

This has reference to the proposal submitted in the Ministry of Environment, Forest and Climate Change to prescribe the Terms of Reference (TOR) for undertaking detailed EIA study for the purpose of obtaining Environmental Clearance in accordance with the provisions of the EIA Notification, 2006. For this purpose, the proponent had submitted online information in the prescribed format (Form-1 ) along with a Pre-feasibility Report. The details of the proposal are given below:

- |   |  |
|---|--|
| <b>1. Proposal No.:</b>                 | IA/GA/IND2/76138/2018  |
| <b>2. Name of the Proposal:</b>         | Expansion of Agrochemicals by Deccan Fine Chemicals (India) Pvt. Ltd.                  |
| <b>3. Category of the Proposal:</b>     | Industrial Projects - 2  |
| <b>4. Project/Activity applied for:</b> | 5(b) Pesticides industry and pesticide specific intermediates (excluding formulations) |
| <b>5. Date of submission for TOR:</b>   | 13 Aug 2018  |

In this regard, under the provisions of the EIA Notification 2006 as amended, the Standard TOR for the purpose of preparing environment impact assessment report and environment management plan for obtaining prior environment clearance is prescribed with public consultation as follows:

## **STANDARD TERMS OF REFERENCE (TOR) FOR EIA/EMP REPORT FOR PROJECTS/ ACTIVITIES REQUIRING ENVIRONMENT CLEARANCE**

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### **5(b): STANDARD TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY FOR PESTICIDES INDUSTRY AND PESTICIDE SPECIFIC INTERMEDIATES (EXCLUDING FORMULATIONS) AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT**

#### **A. STANDARD TERMS OF REFERENCE**

##### **1) Executive Summary**

##### **2) Introduction**

- i. Details of the EIA Consultant including NABET accreditation
- ii. Information about the project proponent
- iii. Importance and benefits of the project

##### **3) Project Description**

- i. Cost of project and time of completion.
- ii. Products with capacities for the proposed project.
- iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
- iv. List of raw materials required and their source along with mode of transportation.
- v. Other chemicals and materials required with quantities and storage capacities
- vi. Details of Emission, effluents, hazardous waste generation and their management.
- vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
- viii. Process description along with major equipments and machineries, process flow sheet (quantative) from raw material to products to be provided
- ix. Hazard identification and details of proposed safety systems.
- x. Expansion/modernization proposals:
  - a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing Iexisting operation of the project from SPCB shall be attached with the EIA-EMP report.

## **STANDARD TERMS OF REFERENCE (TOR) FOR EIA/EMP REPORT FOR PROJECTS/ACTIVITIES REQUIRING ENVIRONMENT CLEARANCE**

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- b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

#### **4) Site Details**

- i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.
- ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places)
- iii. Details w.r.t. option analysis for selection of site
- iv. Co-ordinates (lat-long) of all four corners of the site.
- v. Google map-Earth downloaded of the project site.
- vi. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
- vii. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
- viii. Landuse break-up of total land of the project site (identified and acquired), government/private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area)
- ix. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area
- x. Geological features and Geo-hydrological status of the study area shall be included.
- xi. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects)
- xii. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
- xiii. R&R details in respect of land in line with state Government policy

#### **5) Forest and wildlife related issues (if applicable):**

- i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable)

## **STANDARD TERMS OF REFERENCE (TOR) FOR EIA/EMP REPORT FOR PROJECTS/ACTIVITIES REQUIRING ENVIRONMENT CLEARANCE**

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- ii. Landuse map based on High resolution satellite imagery (GPS) of the proposed site delineating the forestland (*in case of projects involving forest land more than 40 ha*)
- iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.
- iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon
- v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area
- vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife.

### **6) Environmental Status**

- i. Determination of atmospheric inversion level at the project site and site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
- ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO<sub>2</sub>, NO<sub>x</sub>, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
- iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with - min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
- iv. Surface water quality of nearby River (100m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
- v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC, if yes give details.
- vi. Ground water monitoring at minimum at 8 locations shall be included.
- vii. Noise levels monitoring at 8 locations within the study area.
- viii. Soil Characteristic as per CPCB guidelines.
- ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
- x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
- xi. Socio-economic status of the study area.

## **STANDARD TERMS OF REFERENCE (TOR) FOR EIA/EMP REPORT FOR PROJECTS/ACTIVITIES REQUIRING ENVIRONMENT CLEARANCE**

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### **7) Impact and Environment Management Plan**

- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
- ii. Water Quality modelling - in case of discharge in water body
- iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor-cum-rail transport shall be examined.
- iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
- v. Details of stack emission and action plan for control of emissions to meet standards.
- vi. Measures for fugitive emission control
- vii. Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
- viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
- ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
- x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
- xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
- xii. Action plan for post-project environmental monitoring shall be submitted.

## **STANDARD TERMS OF REFERENCE (TOR) FOR EIA/EMP REPORT FOR PROJECTS/ ACTIVITIES REQUIRING ENVIRONMENT CLEARANCE**

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- xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

### **8) Occupational health**

- i. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers
- ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.
- iii. Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,
- iv. Annual report of health status of workers with special reference to Occupational Health and Safety.

### **9) Corporate Environment Policy**

- i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
- ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
- iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
- iv. Does the company have system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report

- 10)** Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.

### **11) Enterprise Social Commitment (ESC)**

- i. Adequate funds (at least 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time

## **STANDARD TERMS OF REFERENCE (TOR) FOR EIA/EMP REPORT FOR PROJECTS/ACTIVITIES REQUIRING ENVIRONMENT CLEARANCE**

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bound action plan shall be included. Socio-economic development activities need to be elaborated upon.

- 12) Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.
- 13) 'A tabular chart with index for point wise compliance of above TOR.

### **B. SPECIFIC TERMS OF REFERENCE FOR EIA STUDIES FOR PESTICIDES INDUSTRY AND PESTICIDE SPECIFIC INTERMEDIATES (EXCLUDING FORMULATIONS)**

1. Commitment that no banned pesticides will be manufactured.
2. Details on solvents to be used, measures for solvent recovery and for emissions control.
3. Details of process emissions from the proposed unit and its arrangement to control.
4. Ambient air quality data should include VOC, other process-specific pollutants\* like NH<sub>3</sub>\*, chlorine\*, HCl\*, HBr\*, H<sub>2</sub>S\*, HF\*, CS<sub>2</sub> etc., (\*-as applicable)
5. Work zone monitoring arrangements for hazardous chemicals.
6. Detailed effluent treatment scheme including segregation for units adopting 'Zero' liquid discharge.
7. Action plan for odour control to be submitted.
8. A copy of the Memorandum of Understanding signed with cement manufacturers indicating clearly that they co-process organic solid/hazardous waste generated.
9. Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF, if any.
10. Material Safety Data Sheet for all the Chemicals are being used/will be used.
11. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
12. Details of incinerator if to be installed.
13. Risk assessment for storage and handling of hazardous chemicals/solvents. Action plan for handling & safety system to be incorporated.
14. Arrangements for ensuring health and safety of workers engaged in handling of toxic materials.

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