

**Minutes of 31<sup>st</sup> Expert Appraisal Committee (Industry-2) meeting held during 23-24 November, 2017 at Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, New Delhi - 3**

**Day One – 23<sup>rd</sup> November, 2017**

**31.1 Opening remarks by the Chairman**

**31.2 Confirmation of the Minutes of the 30<sup>th</sup> meeting of the EAC (Industry-2) held during 2-3 November, 2017 at Indira Paryavaran Bhawan, New Delhi.**

The EAC, having taken note that no comments were offered on the minutes of its 30<sup>th</sup> meeting held on 2-3 November, 2017 at New Delhi, confirmed the same.

**31.3 Environmental Clearance**

**Agenda No.31.3.1**

**Addition of Carbon black manufacturing facility in the existing plant by M/s Balkrishna Industries Limited at Village Paddhar, Taluka Bhuj, District Kutch (Gujarat) - For Environment Clearance**

**[IA/GJ/IND2/63420/2017, IA-J-11011/162/2017-IA-II(I)]**

**31.3.1.1** The project proponent and their accredited Consultant M/s Kadam Environmental Consultants made a detailed presentation on the salient features of the project and informed that:

(i) The proposal is for environment clearance to the project 'Addition of Carbon black manufacturing facility' by M/s Balkrishna Industries Limited in the existing plant at Village Paddhar, Taluka Bhuj, District Kutch (Gujarat).

(ii) The project proposal was considered by the Expert Appraisal Committee (Industry-2) in its 24<sup>th</sup> EAC meeting held during 15<sup>th</sup> June 2017 and recommended Terms of Reference (ToR) for the project. The ToR has been granted by Ministry vide letter No. J-11011/162/2017 IA II(I) dated 25<sup>th</sup> July 2017.

(iii) All Petrochemical Based processing are listed at S.N. 5(e) Schedule of environmental Impact Assessment (EIA) Notification under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).

(iv) SEIAA, Gujarat had earlier issued EC vide letter No. SEIAA/GUJ/EC/1(d)/71/2012 dated 20<sup>th</sup> March 2012 for 20 MW of Captive Power Plant to M/s Balkrishna Industries Limited.

(v) Total land area is 12,12,560 m<sup>2</sup>. Industry has already developed greenbelt in an area of 33% i.e. 4,00,144m<sup>2</sup> out of 12,12,560m<sup>2</sup> of area of the project.

(vi) The estimated project cost is Rs.120 crores. Total capital cost earmarked for pollution control measures is Rs.58.57 crore (Rs.43.57 crore for existing Tire & CPP + Rs.15 Crore for Carbon Black Plant) and the recurring cost (operation and maintenance) will be ~ Rs.144 lakhs/annum for CPP & Tire + Rs. 08 lakhs/annum for Carbon Black Plant.

(vii) Total Employment will be 300 persons during construction phase and 120 during operational phase. Industry proposed to allocate Rs.6 crores @ of 5% towards Corporate Social Responsibility.

(viii) There are 8 reserved forests within 10 km distance of the project site. Pur river (dry) is at a distance of 7.9 km in the WSW direction and Sana river (dry) is at a distance of 6.03 km in NE direction.

(ix) Ambient air quality monitoring was carried out at 8 locations during 23<sup>rd</sup> March 2017 to 23<sup>rd</sup> June 2017 and submitted baseline data indicated that ranges of concentrations of PM<sub>10</sub> (65-80 µg/m<sup>3</sup>), PM<sub>2.5</sub> (20-37 µg/m<sup>3</sup>), SO<sub>2</sub> (8.2-10.3 µg/m<sup>3</sup>) and NO<sub>2</sub> (10.9-16.2 µg/m<sup>3</sup>) respectively. AAQ modelling study for point source emissions indicates that incremental GLCs at site after the proposed project would be 7.92 µg/m<sup>3</sup>, 13.07 µg/m<sup>3</sup> and 0.74 µg/m<sup>3</sup> with respect to PM<sub>10</sub>, SO<sub>x</sub> and NO<sub>x</sub>. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

(x) Total water requirement is estimated to be 6600 cum/day (existing 5155 cum/day + additional 1445 cum/day), out of which fresh water requirement is 5500 cum/day and 1100 cum/day will be recycled through Zero Liquid Discharge (ZLD) system and will be met from Gujarat Water Infrastructure Ltd (GWIL) for which permission is received.

(xi) Total industrial effluent generation will be 1222 cum/day (existing 1132 cum/day + additional 90 cum/day) and total domestic effluent generation will be 900 cum/day (existing 880 cum/day + additional 20 cum/day). Existing ETP followed by RO and MEE (capacity 1320 cum/day) and proposed Carbon Black Plant ETP followed by RO and MEE (100 cum/day). Recycled water through ZLD will be reused back in process. Domestic Sewage will be treated in STP (existing: 600 cum/day and proposed: 300 cum/day). Treated sewage will be used for gardening and dust suppression.

(xii) The power requirement, after expansion will be 23.5 MW including existing 18 MW for existing Tyre & CPP, which will be supplied by Paschim Gujarat Vij Company Ltd (PGVCL) (sanction load is 7.5 MVA) and CPP (20 MW). Existing Unit has 4 DG sets, 2 of 250 kVA, 1 of 2000 kVA and 1 of 4.2 MW capacities as stand by. No additional DG sets will be required for proposed carbon plant.

(xiii) At present, there are 6 Boilers and 3 DG sets. Due to proposed Carbon Black plant, there will be additional 7 boilers and 3 dryers.

S. No.	Stack Attached to	Capacity	No. of working	Type of Fuel used	Fuel consumption	Stack No.	Stack Height	APCM
<b>Existing as per CCA</b>								
1	Boiler - 1	20 TPH	Stand By	Coal	2.9 MT / h	1	40 m	ESP
2	Boiler - 2	2.8 TPH	Stand By	FO	2000 Ltrs / day	1	30 m	
3	Boiler - 3 For Power Plant	66 TPH	24	Coal	Indigenous Coal: 11,880 TPM Imported Coal: 9480 TPM Lignite: 2376 TPM	1	84 m	ESP
4	Boiler - 4 For	66 TPH	24	Coal	Indigenous Coal: 11,880 TPM	1	84 m	ESP

	Power Plant				Imported Coal: 9480 TPM Lignite: 2376 TPM			
5	D.G Set stand by for 20 MW CPP	250 KVA	Stand By	HSD / LDO	15 KL / Year	NA	NA	Muffler
6	D.G Set stand	250 KVA	Stand By	Diesel	53 Litre / h	NA	NA	Muffler
7	D.G. Set	4.2 MW	Stand By	HSD / LDO	1400 Litre / h	1	54 m	
<b>Provided in CTE and is under construction</b>								
8	Boiler – 5	20 TPH	Stand By	Coal	2.9 MT / h	1	40 m	ESP
9	Boiler – 6	1.5 TPH	Stand By	FO	155 Litre / h	1	30 m	
10	D.G. Set	2000 KVA	Stand By	HSD	450 Litre / h	1	30 m	
<b>Proposed</b>								
11	Boiler-7	95 TPH	24	Offgas	92000 Nm <sup>3</sup> /h	1	105 m	
12	Boiler-8	45 TPH	24	Offgas	19000 Nm <sup>3</sup> /h	1	80 m	
13	Boiler-9	2.5 TPH	24	Waste heat	Waste Heat Recovery boiler	NA	NA	
14	Boiler-10	2.5 TPH	24	Waste heat	Waste Heat Recovery boiler	NA	NA	
15	Boiler-11	2.5 TPH	24	Waste heat	Waste Heat Recovery boiler	NA	NA	
16	Boiler-12	2.5 TPH	24	Waste heat	Waste Heat Recovery boiler	NA	NA	
17	Boiler-13	2.5 TPH	24	Waste heat	Waste Heat Recovery boiler	NA	NA	
18	Dryer-1	240 TPD	24	Offgas	9000 Nm <sup>3</sup> /h	1	50 m	Bag filter
19	Dryer-2	180 TPD	24	Offgas	7250 Nm <sup>3</sup> /h			
20	Dryer-3	80 TPD	24	Offgas	3353 Nm <sup>3</sup> /h	1	50 m	Bag filter

(xiv) Details of Process emissions generation and its management.

S. No.	Stack Attached to	Nos. of Stacks	Stack Height (m)	Pollutants Emitted	Air Pollution Control Measures Attached
<b>Existing</b>					
1	Mixer –Unit 1	1	30	PM	Bag Filters
2	Mixer –Unit 2	1	30	PM	Bag Filters
3	Mixer –Unit 3	1	30	PM	Bag Filters
4	Mixer –Unit 4	1	30	PM	Bag Filters
5	Mixer –Unit 5	1	30	PM	Bag Filters
6	Mixer –Unit 6	1	30	PM	Bag Filters

S. No.	Stack Attached to	Nos. of Stacks	Stack Height (m)	Pollutants Emitted	Air Pollution Control Measures Attached
7	Mixer –Unit 7	1	30	PM	Bag Filters
8	Mixer –Unit 8	1	30	PM	Bag Filters
9	Coal Crusher House	1	30	PM	Bag Filters
10	Coal Transfer Point -1	1	10	PM	Bag Filters
11	Coal Transfer Point -2	1	10	PM	Bag Filters
<b>Proposed</b>					
1	Vapor Bag Collector – Line 1	1	30	PM	Bag filters
2	Pneumatic Carbon Conveying System – Line 1	1	30	PM	Bag Filters
3	Vapor Bag Collector – Line 2	1	30	PM	Bag filters
4	Pneumatic Carbon Conveying System – Line 2	1	30	PM	Bag Filters
5	Vapor Bag Collector – Line 3	1	30	PM	Bag filters
6	Pneumatic Carbon Conveying System – Line 3	1	30	PM	Bag Filters

(xv) Details of Solid waste/ Hazardous waste generation and its management.

Type of Waste	Hazardous Waste Category	Quantity per Year			Source	Method of Collection	Treatment / Disposal
		Existing (as CCA & NOC)	Proposed	Total			
ETP Chemical Sludge	33.2	1450 MT	60 MT	1510 MT	ETP	Bag/ Drum	TSDf
Paint Waste & Residue	21.1	120 Kg	0	120 Kg	Paint Both	Bag/ Drum	TSDf
Oily Cotton Waste	33.2	6 MT	1 MT	7 MT	All Plant	Bag/ Drum	TSDf
Spent / Used Oil	5.1	371 MT	50 MT	421 MT	All Plant	Drum	Sell to registered recycler
Discarded Container & Barrel	33.1	400 MT	25 MT	425 MT	All Plant	NA	

(xvi) Public hearing was conducted by SPCB on 26<sup>th</sup> September, 2017.

(xvii) Details of certified compliance report submitted by RO, MoEF&CC. (In case of EC Proposal) - Certified Compliance Report issued on 15<sup>th</sup> May, 2017 for CPP of 20 MW.

(xviii) Following are the list of proposed products:

S. No.	Name of Products	Production capacity		
		Existing	Additional	Total
1	Tyres & Tubes	10000 TPM	-	10000 TPM
2	CPP	20 MW	-	20 MW
3	Carbon Black	-	11500 TPM	11500 TPM

**31.3.1.2** During deliberations, the EAC noted the following: -

The proposal is for environmental clearance to the project for Carbon black manufacturing of capacity 11500 TPM by M/s Balkrishna Industries Limited in a total area of 12,12,560 m<sup>2</sup> at plot No.470, 544/1, 545/1, 555 at village Paddhar, Taluka Bhuj, District Kutch (Gujarat). Presently, the unit is engaged in manufacturing tyres & tubes of capacity 10000TPM requiring no prior EC.

The project/activity is covered under category A of item 5(e) 'Petrochemical based processing' of the Schedule to the Environmental Impact Assessment Notification, 2006, and requires appraisal at central level by the sectoral EAC in the Ministry.

The ToR for the project was granted on 25<sup>th</sup> July 2017. Public hearing was conducted by the SPCB on 26<sup>th</sup> September 2017.

Total water requirement is estimated to be 6600 cum/day (existing 5155 cum/day + additional 1445 cum/day). Out of that, fresh water requirement would be 5500 cum/day (4136 cum/day for the existing & 1364 cum/day for the proposed product) to be met from Gujarat Water Infrastructure Ltd (GWIL), for which permission has been obtained. The remaining of 1100 cum/day is proposed to be met through Zero Liquid Discharge (ZLD) system.

The EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. Issues raised during the public hearing have been duly addressed by the project proponent.

Earlier, SEIAA, Gujarat had issued environmental clearance vide letter No. SEIAA/GUJ/EC/1(d)/71/2012 dated 20<sup>th</sup> March, 2012 for 20 MW of Captive Power Plant in favour of M/s Balkrishna Industries Limited. The monitoring report on compliance status of existing EC conditions, forwarded by the Ministry's Regional Office at Bhopal vide letter dated 15<sup>th</sup> May, 2017 for CPP of 20 MW (site visit carried out 19<sup>th</sup> April, 2017) is found to be satisfactory.

Consent to Operate for the existing products/utilities (Tyres and tubes, CPP) has been obtained from the Gujarat PCB, which is presently valid up to 1<sup>st</sup> December, 2021.

**31.3.1.3** *The EAC, after deliberations, recommended the project for grant of environmental clearance, subject to compliance of terms and conditions as under: -*

- *Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.*
- *As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.*
- *Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.*
- *National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21<sup>st</sup> July, 2010 and amended from time to time shall be followed.*
- *To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.*
- *Solvent management shall be carried out 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.*
- g) *All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.*
- *Total fresh water requirement shall not exceed 5500 cum/day proposed to be met from Gujarat Water Infrastructure Ltd. (GWIL). Prior permission in this regard shall be obtained from the concerned regulatory authority/CGWA.*
- *Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.*
- *Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer through pumps.*
- *Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.*
- *The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.*
- *The company shall undertake waste minimization measures as below:-*
  - a) *Metering and control of quantities of active ingredients to minimize waste.*
  - b) *Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.*
  - c) *Use of automated filling to minimize spillage.*
  - d) *Use of Close Feed system into batch reactors.*
  - e) *Venting equipment through vapour recovery system.*
  - f) *Use of high pressure hoses for equipment clearing to reduce wastewater generation.*
- *The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.*
- *All the commitments made regarding issues raised during the public hearing/ consultation meeting held on 26<sup>th</sup> September, 2017 shall be satisfactorily implemented.*
- *At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment based on public hearing issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.*
- *For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.*
- *The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.*
- *Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.*
- *Raw material storage should not exceed 3 days at any point of time.*
- *Continuous online (24X7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.*

## **Agenda No.31.3.2**

**Setting up 120 KLPD distillery (Rectified Spirit/Extra Neutral Alcohol/Ethanol) with incineration boiler to generate 5 MW power by M/s Yaragatti Sugars Pvt Ltd at Sy No.181/1, 181/2, 181/3, 181/4, 181/5, 185/1, 185/2, M Chandragi village, Taluk Ramdurg, District Belagavi (Karnataka) - For Environment Clearance**

**[IA/KA/IND2/59100/2016, J-11011/325/2016-IA II(I)]**

**31.3.2.1** The project proponent and their accredited Consultant M/s Environmental Health and Safety Consultants Pvt Ltd made a detailed presentation on the salient features of the project and informed that:

(i) The proposal is for environmental clearance to the project 'Setting up 120 KLPD distillery (Rectified Spirit/Extra Neutral Alcohol/Ethanol) with incineration boiler to generate 5MW power' by M/s Yaragatti Sugars Pvt Ltd at Survey No. 181/1, 181/2, 181/3, 181/4, 181/5, 185/1, 185/2, Village M Chandragi, Taluk Ramdurg, District Belagavi (Karnataka)

(ii) The project proposal was considered by the Expert Appraisal Committee (Industry-2) in its 14<sup>th</sup> EAC meeting held during 27<sup>th</sup> October 2016 and recommended Terms of Reference (ToR) for the Project. The ToR has been granted by Ministry vide letter J-11011/325/2016-IA II(I) dated 28<sup>th</sup> February, 2017.

(iii) All molasses based distillery are listed at S.N 5(g) of Schedule of Environmental Impact Assessment (EIA) notification under category (A) and are appraised at Central Level by Expert Appraisal Committee (EAC)

(iv) Existing land area is 13.5 ha (33 Acres 39 Guntas). It is proposed to develop greenbelt in an area of 33% i.e 11.5 acres out of 33 acres 39 Guntas of area of the project.

(v) The estimated project cost is Rs.110.01 crores including land, building, machineries, etc. Total capital cost earmarked for pollution control measures is Rs.6.2 crores and the recurring cost (operation and maintenance) will be about Rs.42 lakhs/annum. Total Employment will be 340 persons as direct & 200 persons indirect. Industry proposes to allocate Rs.55 lakhs/year @ of 2.5 % towards Corporate Social Responsibility

(vi) As per Form-1, there are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. located within 10 km of the project site. Godchi reserved forest lies- 7.25 km (SE) distance. Malaprabha river located at a distance of 17 km flowing in the SE direction and also non-perennial streams/nallas such as Karakoppa Halla (3.5 km), Huvinahalla (3.7 km), Virabhadra Halla (6 km) and Kullumatti halla (5.2 km) also located within 10 km radius.

(vii) Ambient air quality monitoring was carried out at 8 locations during December 2016 to February 2017 and submitted baseline data indicates that ranges of concentrations of PM<sub>10</sub> (59.54 µg/m<sup>3</sup> - 66.62 µg/m<sup>3</sup>), PM<sub>2.5</sub> (21.00 µg/m<sup>3</sup> - 25.70 µg/m<sup>3</sup>), SO<sub>2</sub> (2.78 µg/m<sup>3</sup>-3.06 µg/m<sup>3</sup>) and NO<sub>2</sub> (4.31 µg/m<sup>3</sup>-5.20 µg/m<sup>3</sup>) respectively. AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.88 µg/m<sup>3</sup>, 0.323 µg/m<sup>3</sup> and 0.709 µg/m<sup>3</sup> with respect to PM<sub>10</sub>, SO<sub>x</sub> and NO<sub>x</sub>. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

(viii) Total water requirement is estimated to be 1878 cum/day of which fresh water is 960 cum/day to be met from Malaprabha river.

(ix) Effluent/ (Condensate/spentlees/washings) of 940 cum/day will be treated through Condensate polishing unit of capacity 1000 cum/day. Spentwash will be concentrated and used as fuel in the incineration boiler based on Zero Liquid discharge system.

(x) Power required during construction is 500 kWh and will be met from HESCOM. Power required during operation phase is 2.455 MW to be met from Distillery power generation unit. Unit required 1500 kVA DG set with stack height of 30 meter AGL as per CPCB norms, which will be used as standby during power failure.

(xi) Proposed 40 TPH Spentwash/ slop fired boiler will be installed with ESP with a stack of height of 70 m installed for controlling the Particulate emissions (within statutory limit of 150 mg/Nm<sup>3</sup>). Process emissions generation from proposed 40 TPH bagasse fired boiler will be managed by the installation of ESP.

(xii) Details of solid waste/ Hazardous waste generation and its management

S.No	Solid waste	Quantity TPD	Method of collection	Method of Storage	Mode of disposal
<b>Solid waste</b>					
1	Incineration Boiler Ash	8.4	Mechanical conveyor into common silo for further disposal	Ash storage yard	Mixed in required proportions and used as manure.
2	Sludge from CPU	0.03	Sludge drying beds	Storage yard	
3	Yeast sludge	12	Mechanical conveyor	Storage yard	
4	Domestic solid waste	0.09	Collection bins	Segregated. Domestic organic solid waste will be composted, while the inorganic solid waste will be handed over to nearby authorised recyclers.	Nearby municipal agencies & recyclers.
<b>Hazardous waste</b>					
5	Used oil from DG set	0.5 KL/A	Stored in leak proof sealed barrels	Hazardous waste storage area	Used as lubricants within the industry
6	Steam turbine oil waste	0.3 KL/A			

(xiii) Public hearing for the proposed project has been conducted by the State Pollution Control Board on 8<sup>th</sup> September, 2017.

(xiv) Following are the list of proposed products:

S.No	Product	Quantity
1	Ethanol (RS/EA/ENA/Ethanol)	120 KL/Day
2	Power	5 MW /h



**31.3.2.2** During deliberations, the EAC noted the following: -

The proposal is for environmental clearance to the project 'Setting up 120 KLPD distillery (Rectified Spirit/ENA/Absolute Alcohol)' by M/s Yaragatti Sugars Pvt Ltd in a total area of 13.51 ha at Survey No.181/1, 181/2, 181/3, 181/4, 181/5, 185/1, 185/2, M Village Chandragi, Taluk Ramdurg, District Belagavi (Karnataka).

The project/activity is covered under category A of item 5(g) 'Distilleries' of the Schedule to the Environmental Impact Assessment Notification, 2006, and requires appraisal at central level by the sectoral EAC in the Ministry.

The ToR for the project was granted on 28<sup>th</sup> February, 2017. Public hearing was conducted by the SPCB on 8<sup>th</sup> September, 2017.

Total water requirement is estimated to be 1878 cum/day. Out of that fresh water would be 960 cum/day to be met from Malaprabha river.

The EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. Issues raised during the public hearing have been duly addressed by the project proponent.

**31.3.2.3** *The EAC, after deliberations, recommended the project for grant of environmental clearance, subject to compliance of terms and conditions as under: -*

- *The final product shall not be used for human consumption but for industrial purposes, including as bio-fuel.*
- *Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.*
- *As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.*
- *Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.*
- *To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.*
- *Total fresh water requirement shall not exceed 720 cum/day (6 KL of water per KL of the product) to be met from Malaprabha river. Prior permission shall be obtained from the concerned regulatory authority/CGWA in this regard.*
- *Industrial/trade effluent shall be segregated into High COD/TDS and Low COD/TDS effluent streams. High TDS/COD shall be passed through stripper followed by MEE and ATFD (agitated thin film drier). Low TDS effluent stream shall be treated in ETP and then passed through RO system.*
- *Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.*
- *Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm and the solvent transfer through pumps.*
- *Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.*
- *The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.*

- *The company shall undertake waste minimization measures as below:-*
  - (a) *Metering and control of quantities of active ingredients to minimize waste.*
  - (b) *Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.*
  - (c) *Use of automated filling to minimize spillage.*
  - (d) *Use of Close Feed system into batch reactors.*
  - (e) *Venting equipment through vapour recovery system.*
  - (f) *Use of high pressure hoses for equipment clearing to reduce wastewater generation.*
- *The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.*
- *All the commitments made regarding issues raised during the public hearing/ consultation meeting held on 8<sup>th</sup> September, 2017 shall be satisfactorily implemented.*
- *At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment based on public hearing issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.*
- *For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.*
- *The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.*
- *Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.*
- *Continuous online (24X7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.*
- *There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places.*
- *Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.*
- *The energy sources for lighting purposes shall preferably be LED based. A minimum of 10-20% of the total power requirement for the industrial operations shall be met from non-conventional energy resources/solar supply.*

### **Agenda No.31.3.3**

**Expansion of Nicotine Sulphate Manufacturing Unit by M/s Nisol Manufacturing Company Pvt Ltd at Survey No.114/115 P, village Jahaj, Dharmaj - Khambhat Road, Taluka Khambhat, District Anand (Gujarat) - For Environment Clearance**

**[IA/GJ/IND2/26980/2015, J-11011/123/2015-IA II (I)]**

**31.3.3.1** The project proponent and their accredited Consultant M/s Aqua-Air Environmental Engineers Pvt. Ltd made a detailed presentation on the salient features of the project and informed that:

(i) The proposal is for environmental clearance to the project 'Expansion of Nicotine Sulphate manufacturing' by M/s Nisol Manufacturing Company Private Limited at Survey No.114/115 P, Village Jahaj, Dharmaj - Khambhat Road, Taluka Khambhat, District Anand (Gujarat).

(ii) The project proposal was considered by the Expert Appraisal Committee (Industry-2) in its 3<sup>rd</sup> EAC meeting held during 18-19 January, 2016 and recommended Terms of Reference (ToR) for the project. The ToR has been granted by Ministry vide letter No.J-11011/123/2015-IA. II (I) dated 5<sup>th</sup> March, 2016.

(iii) All Products are listed at S.N. 5(f) 'Synthetic Organic chemical industry' of Schedule of Environmental Impact Assessment (EIA) Notification under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).

(iv) Ministry has issued EC earlier vide letter No.J-11011/1280/2007-IA. II (I) dated 22<sup>nd</sup> December, 2008 for setting up Chemical manufacturing unit to M/s Nisol Manufacturing Company Private Limited.

(v) Existing land area is 46450 m<sup>2</sup> and no additional land will be used for proposed expansion. Industry has already developed greenbelt in an area of 43 % i.e. 20000 m<sup>2</sup> out of 46450 m<sup>2</sup> of area of the project. There are no National parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, and Wildlife Corridors etc. within 10 km distance of the project site.

(vi) The estimated project cost is Rs.16.39 crores. Total capital cost earmarked for pollution control measures is Rs.1.0 crore and the recurring cost (operation & maintenance) is about Rs.0.20 crores per annum. Total Employment will be 126 persons as direct & indirect after expansion. Industry proposes to allocate Rs.50 lakhs @ of 2.5 % towards Corporate Social Responsibility.

(vii) Ambient air quality monitoring was carried out at 9 locations during March, 2016 to May, 2016 and submitted baseline data indicates that the maximum concentration of PM<sub>10</sub> (80.36 µg/m<sup>3</sup>) was recorded at Project Site. The minimum concentration of PM<sub>10</sub> (75.8 µg/m<sup>3</sup>) was recorded at Village: Jantral and PM<sub>2.5</sub> (49.96 µg/m<sup>3</sup>) was recorded at the Village: Vadadla. The minimum concentration of PM<sub>2.5</sub> (36.97 µg/m<sup>3</sup>) was recorded at Village: Jantral. The maximum concentration of SO<sub>2</sub> (15.21 µg/m<sup>3</sup>) was recorded at Project Site. The minimum concentration of SO<sub>2</sub> (9.83 µg/m<sup>3</sup>) was recorded at Village: Jantral and maximum concentration of NO<sub>x</sub> (17.29 µg/m<sup>3</sup>) was recorded at Project Site. The minimum concentration of NO<sub>x</sub> (11.25 µg/m<sup>3</sup>) was recorded at Village: Jantral. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

(viii) Total water requirement is estimated to be 141 cum/day (existing 2.7 cum/day + additional 138.3 cum/day) of which fresh water is 91 cum/day to be met from bore wells. Total water requirement (141 cum/day) includes Industrial 95 cum/day, Domestic 15 cum/day and gardening 31 cum/day, also proposed to be met through ground water (bore well).

(ix) Total waste water generation is 63 cum/day (Industrial 50 cum/day and domestic 13 cum/day). Waste water from process & washing (45 cum/day) will be reused in process. RO reject (5 cum/day) shall be used in flushing and gardening. Domestic wastewater (13 cum/day) is disposed off by septic tank & soak pit.

(x) Power requirement after expansion will be 250 kVA (existing: 50 kVA + additional: 200 kVA) from MGVCCL. 2 No. of D.G. Set (existing: 50 kVA + additional: 320 kVA) which will be used as standby during power failure. Flue gas emission is only from D.G. Sets from existing manufacturing unit as well as after proposed expansion. There is no process gas emission from existing manufacturing unit as well as after proposed expansion.

xi) Details of Solid waste / Hazardous waste generation and its management.

Cat. No.	Hazardous/solid waste	Existing	Proposed	Mode of disposal
33.3	Discarded Bag / Plastic Gunny bag	--	10,000 No./month	Collection, Storage, Decontamination, Transportation, Disposal by selling to authorized recycler
5.1	Used Oil	--	10 Litre/month	Collection, Storage, Transportation, Disposal by selling to authorized recycler

(xii) Public Hearing for the proposed project has been conducted by the State Pollution Control Board on 7<sup>th</sup> December, 2016.

(xiii) Certified Compliance Report was given by RO, MoEF Bhopal on 4<sup>th</sup> October, 2017 & Compliance Status report was submitted on 7<sup>th</sup> October, 2017

(xiv) Following are the list of existing & proposed products:

S. No.	Product/By-product	Use	Capacity (TPM)		
			Existing	Proposed	Total
1.	Nicotine Sulphate (40%)	Used to make anti-smoking products as per USP Standards	50	50	100
2.	By-product- Spent tobacco dust	Used as de-weedicides & wormi compost mix	2064	6436	8500

**31.3.3.2** During deliberations, the EAC noted the following: -

The proposal is for environmental clearance to the project 'Expansion of Nicotine Sulphate manufacturing' from the present capacity of 50 TPM to 100 TPM by M/s Nisol Manufacturing Company Private Limited in an area of 46450 sqm at Survey No.114/115 P, Village Jahaj, Dharmaj - Khambhat Road, Taluka Khambhat, District Anand (Gujarat).

The project/activity is reportedly covered under category A of item 5(f) 'Synthetic Organic chemical industry' of the Schedule to the Environmental Impact Assessment Notification, 2006 and accordingly, the proposal has been submitted for appraisal at central level by the sectoral EAC in the Ministry.

The ToR for the project was granted on 5<sup>th</sup> March, 2016. Public hearing was conducted by the SPCB on 7<sup>th</sup> December, 2016.

Consent to Operate for the present of capacity 2114 TPM of the plant has been obtained from the Gujarat PCB, which is presently valid up to 8<sup>th</sup> April, 2019.

Earlier, the Ministry had issued environmental clearance vide letter No. J-11011/1280/2007-IA. II (I) dated 22<sup>nd</sup> December, 2008 to M/s Nisol Manufacturing Company Private Limited for setting up Chemical manufacturing unit. The monitoring report on compliance status of existing EC conditions, forwarded by the Ministry's Regional Office at Bhopal vide letter dated 4<sup>th</sup> October, 2017 (site visit carried out 21<sup>st</sup> July, 2017) was not found to be satisfactory, especially

in terms of the permission required for ground water withdrawal, which would otherwise amount to non-compliance of the EC conditions.

The project involves extraction of Nicotine from tobacco dust/leaf as a result of chemical reaction with sulphuric acid and formation of salt (Nicotine Sulphate), without any synthesis. The main processes/steps include mixing/blending, percolation with water, extraction with solvent. There was a difference of opinion on considering the project/activity under the ambit of the EIA Notification, 2006. However, there was unanimity on the fact that the final product is not a synthetic organic chemical as listed under item 5(f) to the said Notification.

Earlier the proposal for ToR was considered by the EAC in its meetings held on 18-19 May, 2015, 20-21 July, 2015 and 18-19 January, 2016. During the meetings, the Committee noted that the process involves steps namely mixing/blending, percolation with water, extraction with solvent and packing & forwarding, but without any synthesis. The Committee recommended the project/activity to be exempted from the requirement of prior EC. The same was however, not accepted by the regulatory authority and the project was granted ToR on 5<sup>th</sup> March, 2016 for preparation of the EIA/EMP report and thus to obtain EC.

**31.3.3.3** *The EAC, after deliberations and taking note of its earlier recommendations regarding applicability of the EIA Notification, 2006, preferred further examination of the proposal by the Expert Committee constituted in the Ministry to enable the regulatory authority/Ministry to take a final view in the matter.*

*In case of non-compliance of the EC conditions, the EAC desired that the Ministry may take action, as appropriate, under the extant norms/regulations.*

#### **Agenda No.31.3.4**

#### **Proposed modernization of Pesticides, Insecticides & Fungicides manufacturing unit by M/s Hikal Limited at Plot No. A-18, MIDC Mahad, District Raigad (Maharashtra) - For Environment Clearance**

**[IA/MH/IND2/70505/2016, J- 11011/318/2016-IA. II(I)]**

**31.3.4.1** The project proponent and their accredited consultant M/s Goldfinch Engineering Systems Private Limited made a detailed presentation on the salient features of the project and informed that:

(i) The proposal is for environmental clearance to the project 'Modernization of Pesticides, insecticides & fungicides manufacturing unit' by M/s Hikal Limited at Plot No A-18, MIDC Mahad, District Raigad (Maharashtra).

(ii) The project proposal was considered by the Expert Appraisal Committee (Industry-2) in its 16<sup>th</sup> EAC meeting held on 8<sup>th</sup> December 2016 and recommended Terms of Reference (ToR) for the Project. The ToR has been issued by Ministry vide letter no. J11011/318/2016-IA. II (I) dated 31<sup>st</sup> January 2017.

(iii) The project/activity is covered under category A of item 5(b) 'Pesticides' of the schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central Level by the Sectoral Expert Appraisal Committee (EAC) in the Ministry.

(iv) Existing land area is 27007 sqm and no additional land will be required. Industry has already developed greenbelt area of 6817 sqm out of 27007 sqm of area of the project.

Additional 2095 Sqm green belt will be developed at Nana-Nani Park to meet the green belt norms.

(v) The total project cost is Rs.107.92 crore, including existing investment of Rs.27.92 crores. Total capital cost earmarked for pollution control measures is Rs.8.70 Cr and the recurring cost (operation and maintenance) will be about Rs.119.88 lakhs/ annum.

(vi) Employment is provided to 165 persons and no additional manpower is required. Industry proposes to allocate Rs.200 lakhs @ of 2.5 % of total project cost towards Corporate Social Responsibility.

(vii) As per Form-1, there is no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. lies within 10 km distance. Savitri is flowing at a distance of approx. 1 Km in the North.

(viii) Ambient air quality monitoring was carried out at 8 locations during December 2016 to February 2017 and the baseline data indicates that ranges of concentrations of PM<sub>10</sub> (52.6 - 80.8 µg/m<sup>3</sup>), PM<sub>2.5</sub> (21.2 - 37.5 µg/m<sup>3</sup>), SO<sub>2</sub> (1.1- 11.3µg/m<sup>3</sup>) and NO<sub>2</sub> (2.8 – 18.1 µg/m<sup>3</sup>) respectively. Since the unit was in operation these values represent actual ambient air quality. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

(ix) Total fresh water requirement is 581 cum/day and will be met from MIDC water supply. Total trade effluent of 195 CMD is being treated in MEE, full-fledged ETP having Primary, Secondary, Tertiary treatment and RO. Consented 64 CMD will be sent to CETP drain. Remaining will be combined with cooling tower & boiler blow down & pass through Reverse Osmosis (RO). Treated water passes through RO, permeate is recycled and reused for utility and RO reject treated in MEE. Domestic waste water will be treating in proposed STP of capacity 50 CMD.

(x) Power requirement after modernization will be 3.5 MW including existing and will be met from Maharashtra State Power Distribution Corporation Limited (MSPDCL). Existing unit has one DG set of 125 kVA capacity and additionally 2 sets of 500 kVA will be required.

(xi) Existing unit has 2 nos. of boilers having capacities 4 TPH fired on Briquette & 5 TPH, fired on FO. One Thermopack of 2 lakh kcal/h fired on FO also available. Thermopac & both boilers have common stack of 40 m.

(xii) Details of Process emissions generation and its management are as follows:

S. No.	Equipment	Control	Stack height
1	Process	Scrubber-1	10 m

(xiii) Details of Solid waste/ Hazardous waste generation and its management are as follows:

- Sludge and filters contaminated with oil of 1.80 TPA will be Sale to authorized reprocess or / CHWTSDF for Incineration.
- Chemical sludge from waste water treatment of 67.8 TPA will be Disposal to CHWTSDF for landfill.
- Filters and filter material which have organic liquid of 6 TPA will be Disposal to CHWTSDF for incineration.
- Spent catalyst of 36 TPA will be Disposal to authorized reprocess or / CHWTSDF for Incineration.
- Used / spent oil of 0.60 TPA will be Disposal to authorized reprocess or / CHWTSDF for Incineration.
- Spent solvents of 30.00 TPA will be Disposal to authorized reprocess or / CHWTSDF for Incineration.

- Distillation Residue of 99.00 TPA will be Disposal to CHWTSDF/ co-processing to cement industries
- Process waste sludge / Residues of 300.00 TPA will be Disposal to CHWTSDF/ co-processing to cement industries
- Discarded containers / barrels / liners of 6000.00 TPA will be decontaminated / puncture/cut/disposal through MPCB approved unit.
- Discarded containers (Plastic / PP / Rubber / Glass.) of 30.00 TPA will be disposal to CHWTSDF for disposal as per waste disposal criteria.
- Evaporator salts of 4465 TPA will be disposal to CHWTSDF for landfill.

(xiv) Following are the lists of existing products, proposed products and by-products:

S. No.	Product	TPM		
		Existing	Proposed Addition/ Deletion	Total
1	Ethyclozate	03.00	(-) 01.33	01.67
2	Amitrol	15.00	(-) 15.00	00.00
3	5 Methoxy methyl Pyridine 2 , 3 Dicarboxylic acid	50.00	(+) 00.00	50.00
4	Diuron	310.00	(+) 190.00	500.00
5	Sodium Hypochloride	480.00	(-) 480.00	00.00
6	3,5 Dichloroaniline	80.00	(+) 70.00	150.00
7	2 Amino 2 Methyl isopropoxy 6 methyl propiofenone	25.00	(-) 08.33	16.67
8	4 acetoxo 6 tert butyl 8 floro 2 3 dimethylequinoline	10.00	(-) 01.67	08.33
9	Benefuresate	05.00	(+) 05.00	10.00
10	Benzophenaf	15.00	(+) 00.00	15.00
11	Clothianidin	00.00	(+) 15.00	15.00
12	Trifloxystrobin	00.00	(+) 25.00	25.00
13	Azoxystrobin	00.00	(+) 25.00	25.00
14	Thiacloprid	00.00	(+) 25.00	25.00
15	SMPGM (S-Methyl Phenyl Glycine Methylester)	00.00	(+)15.00	15.00
16	Fludioxanil	00.00	(+) 25.00	25.00
<b>Total</b>		<b>993.00</b>	<b>(-) 111.33</b>	<b>881.67</b>
<b>Formulations</b>		<b>0</b>	<b>84</b>	<b>84</b>
		<b>993.00</b>	<b>(-) 27.33</b>	<b>965.67</b>

**By-products generation:**

S. No.	By-Product	TPM		
		Existing	Proposed Addition/Deletion	Total
1	Calcium Sulphate (Gypsum)	212.542	00	212.542
2	Sodium Bromide solution (20%)	300	300	600.00

3	Spent Catalyst	0.988	00	0.988
4	Hydrochloric Acid (30 %)	50	00	50.00
5	Acetone	43.5	00	43.50
6	35% Spent Sulphuric Acid	119.75	00	119.75
7	10% H <sub>2</sub> SO <sub>4</sub> (From 3, 5 DCA mfg.)	102	00	102.00
8	Potassium bromide	0	172	172.00
9	TMA + Methanol	0	50	50.00
<b>Total</b>		<b>828.78</b>	<b>522.00</b>	<b>1350.78</b>

**31.3.4.2** During deliberations, the EAC noted the following: -

The proposal is for environmental clearance to the project 'Change in Product mix of Pesticides manufacturing unit' with the production capacity reduced from the present 993 TPM to 881.67 TPM in a total plot area of 27007 sqm by M/s Hikal Limited at Plot No A-18, MIDC Mahad, District Raigad (Maharashtra). In addition, there shall be pesticides production of 84 TPM through formulations, and the by-products increased from the present of 828.78 TPM to 1350.78 TPM.

The project/activity is covered under category A of item 5(b) 'Pesticides' of the schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central Level by the Sectoral Expert Appraisal Committee (EAC) in the Ministry.

The ToR for the project was granted on 31<sup>st</sup> January 2017 followed by amendment therein on 22<sup>nd</sup> June, 2017 for exemption from public hearing under the provisions as per para 7 III Stage (3) (b) of the EIA Notification, 2006.

Total water requirement (one time) is estimated to be 581 cum/day (existing 305 cum/day + proposed 276 cum/day), proposed to be met from MIDC water supply. Out of it, 211 cum/day is to be recovered from the RO and the sewage treatment plant for recycling in the industrial operations and thus limiting the regular fresh water requirement to 370 cum/day. Total effluent generation would be increased to 240 cum/day from the present of 130 cum/day, to be taken to the in-house ETP for primary treatment and then to the CETP for further treatment.

The EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components.

The project is reported to be established in the year 1988 i.e. prior to issue of the EIA Notification, 1994, and as such, there is no requirement of prior EC. In support of their submission in this regard, the project proponent has submitted consent to discharge issued by Maharashtra Pollution Control Board vide letter dated 20<sup>th</sup> July, 1990.

Consent to Operate for the present of capacity 993 TPM has been obtained from the Maharashtra PCB, which is presently valid up to 30<sup>th</sup> November, 2017.

**31.3.4.3** *The EAC, after deliberations, recommended the project for grant of environmental clearance, subject to compliance of terms and conditions as under: -*

- *Total production of pesticides shall include manufacturing at least 10% of bio-pesticides.*
- *Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.*



- Total effluent after treatment shall not exceed 64 cum/day to be discharged to the CETP drain. The effluent discharge shall conform to the standards prescribed under the Environment (Protection) Rules, 1986, or as specified by the State Pollution Control Board while granting Consent under the Air/Water Act, whichever is more stringent.
- Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.
- National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21<sup>st</sup> July, 2010 and amended from time to time shall be followed.
- To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.
- Solvent management, if any, shall be carried out 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.
  - g) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.
- Total fresh water requirement shall not exceed 370 cum/day proposed to be met from MIDC supply. Prior permission in this regard shall be obtained from the concerned regulatory authority.
- Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer through pumps.
- Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.
- The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.
- The company shall undertake waste minimization measures as below:-
  - a) Metering and control of quantities of active ingredients to minimize waste.
  - b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
  - c) Use of automated filling to minimize spillage.
  - d) Use of Close Feed system into batch reactors.
  - e) Venting equipment through vapour recovery system.
  - f) Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment based on public hearing issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.

- *The company shall make all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.*
- *The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.*
- *Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.*
- *Continuous online (24X7) monitoring system for stack emissions and the effluent, shall be installed for measurement of flow/discharge and the pollutants concentration, and the emission and effluent monitoring data to be transmitted to the CPCB and SPCB server as per the directions of CPCB in this regard.*
- *Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions. Raw material storage should not exceed 3 days at any point of time.*
- *The energy sources for lighting purposes shall preferably be LED based. A minimum of 10-20% of the total power requirement for the industrial operations shall be met from non-conventional energy resources/solar supply.*

### **Agenda No.31.3.5**

#### **Manufacturing Active Pharmaceutical Ingredients (APIs) by M/s Spentica Life Science at Survey No. 247/1, Village Hadala, Taluka Rajkot, District Rajkot (Gujarat) - For Environment Clearance**

#### **[IA/GJ/IND2/61180/2016, J-11011/368/2016-IA II(I)]**

**31.3.5.1** The project proponent and their accredited consultant M/s T.R. Associates (Ahmedabad) made a detailed presentation on the salient features of the project and informed that:

- (i) The proposal is for environmental clearance to the project 'Active Pharmaceutical Ingredients manufacturing unit' by M/s Spentica Life Science at Survey No. 247/1, Village Hadala, Taluka Rajkot, District Rajkot (Gujarat).
- (ii) The project proposal was considered by the expert appraisal committee (Industry 2) in its 18<sup>th</sup> meeting held during 23-25 January, 2017 and recommended Terms of Reference for the project. The ToR has been granted by Ministry vide letter No.J - 11011/368/2016-IA II (I) dated 29<sup>th</sup> April, 2017.
- (iii) All Synthetic Organic Chemicals Industry projects, located outside the notified industrial area/estate and not fall into small scale unit criteria are listed at S.N.5(f) of schedule of Environmental Impact Assessment (EIA) notification under Category 'A' and are appraised at Central level by the Expert Appraisal Committee (EAC).
- (iv) Total land of 6833 m<sup>2</sup> will be used for proposed project. It is proposed to develop greenbelt in an area of 33.5% i.e. 2288 m<sup>2</sup> out of 6833 m<sup>2</sup> area of the project.
- (v) The estimated project cost is Rs.3.6 crore. Total capital cost earmarked for pollution control measures is Rs.72.5 lakhs and the recurring cost (operation and maintenance) will be about Rs.38 lakhs/annum. Total employment will be 20 persons as a direct. Industry proposes to allocate Rs.9 lakhs @ of 2.5% towards Corporate Social Responsibility.

- (vi) As per Form-1, there are Aji river, Kob river, Demi river, Aji Dam-2, Mitana Dam within 10km distance of the project site. Demi river is flowing at a distance of 4.9 km in the ENE direction, Aji river is flowing at a distance of 8 km in the WSW direction, Kob river is flowing at a distance of 5.29 km in the SSW direction, Aji Dam-2 is flowing at a distance of 8.17 km in the South and Mitana Dam is flowing at a distance of 9.3 km in the North.
- (vii) Ambient air quality monitoring was carried out at 8 locations during December 2016 to February 2017 and submitted baseline data indicates that ranges of concentrations of PM<sub>10</sub> (60.99 to 93.60 µg/m<sup>3</sup>), PM<sub>2.5</sub> (26.77 to 41.89 µg/m<sup>3</sup>), SO<sub>2</sub> (10.87 to 25.36 µg/m<sup>3</sup>) and NO<sub>2</sub> (17.27 to 34.88 µg/m<sup>3</sup>) respectively. AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.8 µg/m<sup>3</sup>, 0.2 µg/m<sup>3</sup> and 0.9 µg/m<sup>3</sup> with respect to PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub>. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).
- (viii) Total water requirement is 36 cum/day, of which fresh water requirement is 28 cum/day and will be met from Dug well.
- (ix) Effluent of 10.2 cum/day (4.7 cum/day high COD stream, 5.5 cum/day low COD stream) will be treated through Conventional Effluent Treatment Plant followed by MEE will be based on Zero Liquid Discharge system.
- (x) Power requirement of proposed project will be 100 kVA and will be met from Paschim Gujarat Vij Company Limited (PGVCL). 100 kVA DG Set will be used as standby during power failure. Stack (height 6.5 m) will be provided as per CPCB norms to the proposed DG sets
- (xi) Coal/ Briquettes fired 1 TPH Steam Boiler will be installed. Cyclone Separator followed by Bag Filter with a stack height of 30 m will be installed for controlling the Particulate Emissions (within statutory limit of 150 mg/Nm<sup>3</sup>).
- (xii) Details of process emissions generation and its management.

S. No.	Vent attached to	Vent Height	Expected Pollutant	Air Pollution Control System
1	Reactor of 2-Nitro 4- Thiocyno Aniline	12 m	Chlorine gas	Caustic scrubber Adequate stack Height
2	Reactor of 1H- 1,2,4- Triazole	12 m	Ammonia gas	HCl scrubber Adequate stack height
3	Dryer	12 m	VOC	Activated Carbon column and adequate stack height

- (xiii) Details of solid waste/hazardous waste generation and its management.

S. No.	Description	Category	Quantity (TPA)	Mode of Disposal
1	ETP Sludge & Evaporation Residue	35.3	80	Collection, storage and disposal at approved TSDF Site
2	Distillation Residue	20.3	367.5	Collection and treatment in offsite CHWIF to which unit will take membership.
3	Process residue and Waste	28.1	1.2	Collection, storage and disposal at approved TSDF Site
4	Date Expired Products	28.5	30.7	Collection, storage and disposal at approved CHWIF Site

5	Spent Carbon	28.3	26	Collection, storage and disposal at approved CHWIF Site
6	Spent Solvent	28.6	85.5	Collection, storage and disposal at approved CHWIF Site
7	Used/Spent Oil	5.1	0.1	Collection, storage and used within premises as a lubricant / sold to registered recycler.
8	Discarded Bags/drums/containers	33.1	1.5	Collection, storage & sell to authorized vendor

(xiv) Public hearing for the proposed project has been conducted by the State Pollution Control Board on 16<sup>th</sup> August, 2017.

(xv) Following are the list of proposed products.

**Product and their Capacities**

S. No.	Name of Product	Quantity (TPM)
1	1,3-Dichloroacetone	8.5
2	1H-1,2,4-Triazole	6.4
3	4-Amino-1,2,4-Triazole	7.6
4	2-Nitro 4-Thicyno Aniline	11.5
5	Chemphor Sulphonic Acid	2.9
6	Octenidine Hydrochloride	0.9
7	Pralidoxime iodide	2.56
8	Ropivacaine Hydrochloride Monohydrate	0.57
9	RASAGILINE –L-HEMITARTRATE	0.0776

**By-product and their Capacities**

S.No.	Name of By-Product	Quantity (TPM)
1	Basic chromium sulphate	67.01
2	Spent Hydrochloric Acid (20%)	26.84
3	NaOCl solution from NaOH scrubber of Chlorine gas	0.06

**31.3.5.2** During deliberations, the EAC noted the following: -

The proposal is for environmental clearance to the project 'Active Pharmaceutical Ingredients manufacturing unit' with the production capacity of 41.007 TPM by M/s Spentica Life Science in a total area of 6833 m<sup>2</sup> in Survey No. 247/1, Village Hadala, Taluka Rajkot, District Rajkot (Gujarat).

The project/activity is covered under category A of item 5(f) 'Synthetic Organic Chemicals Industry' of the Schedule to the Environmental Impact Assessment Notification, 2006, and requires appraisal at central level by the sectoral EAC in the Ministry.

The ToR for the project was granted on 29<sup>th</sup> April, 2017. Public hearing was conducted by the SPCB on 16<sup>th</sup> August, 2017.

Total estimated water requirement is 36 cum/day, which includes fresh water demand of 28 cum/day proposed to be met from Dug well.

The EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. Issues raised during the public hearing have been duly addressed by the project proponent.

**31.3.5.3** *The EAC, after deliberations, recommended the project for grant of environmental clearance, subject to compliance of terms and conditions as under: -*

- *Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.*
- *As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.*
- *Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.*
- *National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21<sup>st</sup> July, 2010 and amended from time to time shall be followed.*
- *To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. Sulphur content should not exceed 0.5% in the coal for use in coal fired boiler (1 TPH) to control particulate emissions within permissible limits. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.*
- *Solvent management shall be carried out 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.*
  - (g) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.*
- *Total fresh water requirement shall not exceed 28 cum/day to be met from dug well. Prior permission in this regard shall be obtained from the concerned regulatory authority/CGWA.*
- *Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.*
- *Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer through pumps.*
- *Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.*
- *The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.*
- *The company shall undertake waste minimization measures as below:-*
  - (i) Metering and control of quantities of active ingredients to minimize waste.*
  - (ii) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.*
  - (iii) Use of automated filling to minimize spillage.*
  - (iv) Use of Close Feed system into batch reactors.*
  - (v) Venting equipment through vapour recovery system.*
  - (vi) Use of high pressure hoses for equipment clearing to reduce wastewater generation.*
- *The green belt of at least 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road*

sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.

- All the commitments made regarding issues raised during the public hearing/ consultation meeting held on 16<sup>th</sup> August, 2017 shall be satisfactorily implemented.
- At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment based on public hearing issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.
- For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
- The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- Continuous online (24X7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.
- Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions. Raw material storage should not exceed 3 days at any point of time.
- The energy sources for lighting purposes shall preferably be LED based. A minimum of 10-20% of the total power requirement for the industrial operations shall be met from non-conventional energy resources/solar supply.

### **Agenda No.31.3.6**

**Setting up of LPG bottling plant, (3x600 MT capacity, horizontal mounded bullet) by M/s IOCL SITARGANJ at Plot no. 6A, SIDCUL Industrial Area, Sector-1, SIDCUL, Sitarganj, District Udham Singh Nagar (Uttarakhand)-For Environment Clearance**

**[IA/UK/IND2/61790/2017, IA-J-11011/21/2017-IA-II(I)]**

**31.3.6.1** The project proponent and their accredited consultant M/s ABC Techno Labs India Private Limited, Chennai, made a detailed presentation on the salient features of the project and informed that:

(i) The proposal is for environmental clearance to the project 'Setting up of LPG bottling Plant' of capacity 120 TMTA (3x600 MT capacity, horizontal mounded bullet) at Sitarganj by M/s Indian Oil Corporation Limited at Plot no. 6A, SIDCUL Industrial Area, Sector – 1, SIDCUL, Sitarganj, District Udham Singh Nagar (Uttarakhand).

(ii) The project proposal was considered by the Expert Appraisal Committee (Industry -2) in its 20<sup>th</sup> EAC meeting held during 28<sup>th</sup> February 2017 and recommended Terms of Reference (ToR) for the project. The ToR has been issued by Ministry vide letter No. J-11011/21/2017-IA-II(I) dated 29<sup>th</sup> April 2017.

(iii) All products are listed at S No. 6(b) of schedule of Environmental Impact Assessment (EIA) Notification under category 'A' and are appraised at central level by Expert Appraisal Committee (EAC).

(iv) The new proposed IOCL LPG Bottling Plant at Sitarganj will be located on 30 acres area of land; which is sufficient for its proposed installation. It is proposed to develop greenbelt in an area of 34% i.e., 40,469 m<sup>2</sup> out of 1,21,387 m<sup>2</sup> of total area of the project.

(v) The estimated project cost is Rs.160.09 crores for installation/construction of new LPG bottling facility of 3x600 MT LPG storage in horizontal mounded bullets at SIDCUL, Sitarganj. Total capital cost earmarked for pollution control measures is Rs.44.5 lakhs and the recurring cost (operation and maintenance) will be about Rs.13.5 lakhs/annum.

(vi) The plant will hire 100 labours/workers on a contract basis from the nearby local area during the construction phase. While during the Operation phase, the plant will hire 20 workers on a permanent. Indian Oil has increased the contribution towards CSR activities with time. The budget for CSR has gradually increased from 0.5% of previous year's Net Profit (which was in place since 1991) to 2% of previous year's Retained Profit (from 2009 onwards). With the promulgation of Companies Act, 2013 and rules thereof, Indian Oil has aligned its CSR activities and policies as per the Act.

(vii) As per Form-1, there are no National parks, wildlife sanctuaries, Biosphere reserves, Tiger/ Elephant Reserves, Wildlife Corridors etc. within 10 km distance. There is an irrigation canal – 70 m (East), Kailash river and Baigul river lies 2 km away from the project site.

(viii) Ambient air quality monitoring was carried out at eight locations during January to March 2017 and submitted baseline data indicates that ranges of concentrations of PM<sub>10</sub> (42.6-64.4 µg/m<sup>3</sup>), PM<sub>2.5</sub> (23.8-44.6 µg/m<sup>3</sup>), SO<sub>2</sub> (7.3-18.6 µg/m<sup>3</sup>) and NO<sub>x</sub> (9.6-25.7 µg/m<sup>3</sup>) respectively. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

(ix) Total water requirement is 4 cum/day proposed to be met from SIDCUL infrastructures facilities (source of water is Baigul river).

(x) Approx. 3.4 cum/day effluent (2.4 cum/day sewage and 1 cum/day from washing cylinder) will be generated. The 2.4 cum/day of water will be treated in septic tanks and soak pits. While the 1 cum/day of effluent generated by cylinder washing will be treated through sedimentation trap and will be reused for washing cylinders & green belt.

(xi) Power required for operating the plant will be 450 kVA. The power will be sourced from UPCL (Uttarakhand Power Corporation Ltd). The DG set required during the construction phase is 1x250 kVA and during Power Failure time are 1x750 kVA & 1x250 kVA. The proposed unit does not have any fired boiler.

(xii) Process emissions generation and its management  
During operation of new proposed LPG plant, there will not be any process emission sources. No emissions will be generated during the bottling operations as the entire bottling process will be carried out in a closed circuit through piping from a storage area to filling shed. Very small quantity of fugitive emissions of hydrocarbon may result from unloading hose, faulty bottling, leaking cylinders and minor leaks. Gas detectors have been placed at the LPG plant at strategic locations to detect the concentration of hydrocarbon in the premises.

(xiii) No industrial solid waste will be generated during the bottling process. Damaged cylinders will be segregated & stored on site prior to disposal as scrap metal. The hazardous wastes generated at the LPG plant will be about 1000 liters per annum spent oil from DG set which will be stored in MS drums and sent to UEPPCB authorized recyclers. From the LPG bottling plant, very negligible domestic solid waste of 20 kg/day in construction phase & 5 kg/day in Operation phase will be generated, which will be collected and disposed of as per provision of Municipal Solid Wastes rules.

(xiv) Public hearing is exempted under the provisions as per para 7 III Stage (3) (b) of the EIA Notification, 2006 is the site located in SIDCUL, Sitarganj notified industrial area of Udham Singh Nagar district, Uttarakhand.

(xv) Following are the list of existing and proposed products – LPG 1800 MT.

List of Facilities:

- Unloading of LPG from road tankers in one gantry with eight bays.
- Storage of LPG in above ground Bullet tanks (3×600 MT).
- LPG Pump House (2 Bottling Pumps).
- LPG Compressors (4 LPG compressors).
- The Bottling Plant will be having two Carousel with 24 filling points each and associated facilities.

**31.3.6.2** During deliberations, the EAC noted the following: -

The proposal is for environmental clearance to the project 'Setting up of LPG Bottling Plant' having storage capacity 3x600 MT (horizontal mounded bullet) and bottling capacity of 120 TMTA, in a total area of 30 acres in Sitarganj by M/s Indian Oil Corporation Limited at Plot no. 6A, SIDCUL Industrial Area, Sector-1, SIDCUL, Sitarganj, District Udham Singh Nagar (Uttarakhand).

The project/activity is covered under category B of item 6(b) 'Isolated storage & handling of hazardous chemicals' of the Schedule to the Environmental Impact Assessment Notification, 2006. However, due to SEIAA not functional in the State, the project was considered at Central Level by the sectoral Expert Appraisal Committee (EAC) in the Ministry.

The ToR for the project was granted on 29<sup>th</sup> April 2017 with exemption from public hearing under the provisions as per para 7 III Stage (3) (b) of the EIA Notification, 2006.

Total water requirement is estimated to be 4 cum/day proposed to be met from SIDCUL infrastructures facilities.

The EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components.

**31.3.6.3** *The EAC, after deliberations, recommended the project for grant of environmental clearance, subject to compliance of terms and conditions as under: -*

- *Consent to Establish/Operate for the project shall be obtained from the Pondicherry Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.*
- *As proposed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.*
- *Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016 and Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.*
- *During construction phase, air pollution and the solid waste management aspects need to be properly addressed ensuring compliance of the Construction and Demolition Waste Management Rules, 2016.*
- *The green belt of 5-10 m width shall be developed in nearly 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc.*



*Selection of plant species shall be as per the CPCB guidelines and in consultation with the State Forest Department.*

- *At least 5% of the total project cost shall be allocated for Enterprise Social Commitment and the details along with time bound action plan shall be submitted to the Ministry's Regional Office.*
- *Regular monitoring of VOC and HC in the work zone area in the plant premises should be carried out and data be submitted to Ministry's Regional Office, CPCB and State Pollution Control Board. Quarterly monitoring for fugitive emissions should be carried out as per the guidelines of CPCB and reports submitted to Ministry's Regional Office.*
- *The project proponent shall conduct a traffic density survey on the approach road to be used for transportation of LPG tankers and LPG cylinders.*
- *Necessary approvals from Chief Controller of Explosives, as applicable, shall be obtained before commissioning of the project. Requisite On-site and Off-site Disaster Management Plans shall be prepared and implemented.*
- *Emergency Response Plan should be based on the guidelines prepared by OISD, DGMS and Govt. of India. Mock drill should be conducted once a month.*
- *Additional safety measures should be taken by using remote operated shut off valve, Double Block & Bleed valve (DBB), impervious dyke wall and un-bonded flexible roof drain pipe, if applicable.*
- *Occupational health surveillance of worker should be done on a regular basis and records maintained as per the Factory Act.*
- *The norms/guidelines of Oil Industry Safety Directorate (OISD) for installation and design of equipments and operation of the LPG Bottling Plants shall be strictly followed. Safety audit to be carried out and report submitted to the Regional Office.*
- *No packing/loading/unloading of LPG cylinders shall be made on road/outside factory premises. Vehicles loaded/unloaded with LPG cylinders shall be parked inside the plant premises only and not on road sides.*
- *Road tankers should be equipped to the standard specified in national regulations reputable code. Vehicles should be mobilized during transfer operations and equipped to prevent untimely movement. Loading/unloading bays should be protected against impact. Fire-resistant coatings shall be provided to tanks/vessels.*
- *Sections of pipeline and storage systems that can be isolated with valves or blinds should be equipped with safety valves to protect against possible damage as liquid LPG expands with increases in temperature.*
- *High and low-level alarms shall be fitted to plant storage tanks which can detect overfilling. However, proper supervision shall be done every time.*
- *For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.*
- *Water sprinkling has to be undertaken on regular basis to control the polluting particles.*

#### **31.4 Term of Reference**

##### **Agenda No.31.4.1**

**Expansion project for manufacturing of synthetic organic Chemicals, Active Pharmaceutical Ingredients and Pesticide Technical by M/s Pax chem Ltd at Plot No. W-156, TTC Industrial Area, Pawane, Navi Mumbai (Maharashtra) - For reconsideration of ToR**

**[IA/MH/IND2/64578/2017, IA-J-11011/228/2017-IA-II(I)]**

**31.4.1.1** The project involves expansion of synthetic organic chemicals, APIs and Pesticide Technical manufacturing from the present capacity of 111 TPM to 811 TPM by M/s Pax chem

Ltd in an area of 1150 sqm at Plot No.W-156, TTC Industrial Area, Pawane, Navi Mumbai (Maharashtra).

The project/activities are covered under category A of item 5(b) 'Pesticides' and Category B of item 5(f) 'Synthetic organic chemicals' of the schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central Level by the Sectoral Expert Appraisal Committee (EAC) in the Ministry.

**31.4.1.2** The proposal was earlier considered by the EAC in its 28<sup>th</sup> meeting held on 18-20 September, 2017, wherein the Committee asked for details of the existing products and their capacities. In response, the information provided by the project proponent are as under: -

S. No.	Existing Product	Capacity (TPM)
1	Surface Active Agents/Textile Auxiliaries	3
2	Antioxidant/ Styrenated Phenol	5
3	Plasticizers	1
4	Polyester Polyols	2
5	Chlorosulphonated products	100

**31.4.1.3** During deliberations in the meeting, the project proponent proposed not to go for manufacturing the pesticide chemical (Bornopol of 50 TPM), and sought for revision in the product series accordingly. The total production capacity after the proposed expansion would thus be increased from the present of 111 TPM to 761 TPM (excluding pesticides).

**31.4.1.4** *The EAC, after further deliberations, recommended the expansion project of Synthetic Organic Chemicals and APIs from 111 TPM to 761 TPM, for grant of terms of reference for preparation of EIA/EMP reports to enable consideration of the proposal for environmental clearance. The ToR shall include the standard ToR as specified/notified applicable for such projects/activities, and the additional terms and conditions as under:*

- *Public consultation is exempted in terms of the provisions as per para 7 III Stage (3) (b) of the EIA Notification, 2006.*
- *ESR plan for 5 years @ 2.5% of the project cost in consultation with nearby villagers to be submitted.*
- *Layout plan earmarking space for development of green belt of 5-10 m width along the plant periphery, and also ensuring 33% of the project area to be developed as green area with native species plantation.*
- *Compliance report for the existing environmental clearance, if any, duly certified by the concerned Regional Office of the Ministry to be submitted.*

*The Committee also directed the project proponent to submit the EIA/EMP report to SEIAA/SEAC, as the products proposed now (excluding Bronopol) falls under Category B of item 5(f) 'Synthetic organic chemicals' of the schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at State level by the SEAC/SEIAA.*

#### **Agenda No.31.4.2**

**Establishment of synthetic organic industry at survey No.63+1, 64/1,64/4,70,71,72,74/11,45 (Phase-II), Village Mahagaon, Taluka and District Palghar (Maharashtra) by M/s Jesons Industries Ltd - For reconsideration of ToR**

**[IA/MH/IND2/64045/2017, IA-J-11011/193/2017-IA-II (I)]**

**31.4.2.1** The project envisages setting up synthetic organic chemicals industry (including Pressure Sensitive Adhesive) of total capacity of 2,00,000 TPA by M/s Jesons Industries Ltd in

a total area of 10.86 acres at survey No. 63+1, 64/1,64/4,70,71,72,74/11,45 (Phase-II), Village Mahagaon, Taluka & District Palghar (Maharashtra).

The project/activity is covered under category A of item 5(f) of total capacity of 'Synthetic Organic Chemical Industry' of Schedule of Environmental Impact Assessment (EIA) Notification, 2006 and requires appraisal at Central Level by the sectoral EAC in the Ministry.

**31.4.2.2** The proposal was earlier considered by the EAC in its 23<sup>rd</sup> meeting held on 3-5 May, 2017, wherein the Committee asked for information to be submitted in respect of environmental sensitivity within 10 km radius, alternate site analysis, recommendation from concerned State authority, revised Form-1, revised layout plan earmarking space for 10 m green belt of perennial trees. The desired inputs/information have since been provided by the project proponent, and was found in order.

**31.4.2.3** *The EAC, after further deliberations, recommended the project for grant of terms of reference for preparation of EIA/EMP reports and thus to enable consideration of the proposal for environmental clearance. The ToR shall include the standard ToR as specified/notified applicable for such projects/activities, and the additional terms and conditions as under:*

- *Public consultation shall be conducted as per the EIA Notification, 2006.*
- *ESR plan for 5 years @ 2.5% of the project cost in consultation with nearby villagers to be submitted.*
- *Layout plan earmarking space for development of green belt of 5-10 m width along the plant periphery, and also ensuring 33% of the project area to be developed as green area with native species plantation.*
- *Compliance report for the existing environmental clearance, if any, duly certified by the concerned Regional Office of the Ministry to be submitted.*

### **Agenda No.31.4.3**

**Tapti Decommissioning Project and associated intra-field pipelines by M/s BG Exploration and Production India Ltd in Tapti Field at Mumbai City (Maharashtra) - For reconsideration of ToR**

**[IA/MH/IND2/64681/2017, IA-J-11011/225/2017-IA-II (I)]**

**31.4.3.1** The proposal is for grant of terms of reference to the Tapti Decommissioning Project and associated intra-field pipelines in Tapti Field at Mumbai City (Maharashtra) by M/s BG Exploration and Production India Ltd.

**31.4.3.2** The proposal was earlier considered by the EAC in its 24<sup>th</sup> meeting held on 14-16 June, 2017, wherein the Committee asked project proponent to submit the plan in consensus with OISD guidelines, permission/concurrence from the Indian Coast Guard, permission from the Indian Navy (Western Command), navigation clearance from DG Shipping, action plan to follow the national and international norms for offshore decommissioning, concurrence from the Department of fisheries, etc.

**31.4.3.3** *The EAC, after deliberations, opined that the said project/activity is not listed in the schedule to the EIA Notification, 2006, and thus not requiring the prior environmental clearance. The proposal was, therefore, not recommended by the Committee.*

#### **Agenda No.31.4.4**

#### **Construction of Ennore installation for storing and transportation on petroleum products by M/s BPCL at Vallur & Athipattu village, near Ennore, District Thiruvallur (Tamil Nadu) - For amendment in EC**

**[IA/TN/IND2/52975/2014, J-11011/34/2015-IA-II(I)]**

**31.4.4.1** The project for 'Setting up a Coastal Terminal for Petroleum Storage and Distribution at Ennore' (Vallur & Athipattu village) by M/s BPCL at Ponneri Taluk, Thiruvallur District (Tamil Nadu) was granted environmental/CRZ clearance by the Ministry on 18<sup>th</sup> April, 2016 subject to compliance of certain terms and conditions as environmental safeguards.

**31.4.4.2** The project proponent had earlier requested for amendment/correction in the said EC, to incorporate additional storage/tankage of 4 nos for Ethanol and 4 nos for Bio Diesel due to increase in percentage of addition of Ethanol with MS and proposed blending of Bio Diesel with HSD as per the directive of Ministry of Petroleum and Natural Gas, Govt of India. It was further informed that due to market expansion, 2 nos of Aviation Turbine fuel tanks and 2 nos of Superior Kerosene Oil tanks, are also to be installed. The details of proposed additional storages are as under:-

1	Ethanol 4X1931=7724 KL	Above ground vertical tank
2	Bio Diesel 4X1871=7484 KL	
3	ATF 2X8242= 16484 KL	
4	SKO 2X8242= 16484 KL	

**31.4.4.3** The proposal for amendment in the environmental clearance was considered by the EAC in its 18<sup>th</sup> meeting held during 23-25 January, 2017. The Committee recommended the proposal as proposed by the project proponent. However, while seeking approval of the competent authority on recommendations of the EAC, it was noted that the project involves additional storage to be created for Ethanol, Bio-diesel, ATF and SKO and thus doesn't qualify for amendment in the existing EC. It was decided to take the proposal to the EAC again for reconsideration of the project under expansion category.

**31.4.4.4** *The EAC, after examination and further deliberations, rejected the proposal for amendment in the EC dated 18<sup>th</sup> April, 2016. The Committee further opined that the said project/activity is covered under category B of item 6(b) 'Isolated Storage & handling of hazardous chemicals' of the Schedule to the EIA Notification, 2006, and requires appraisal at the State level by the concerned SEIAA/SEAC. The project proponent was asked for the needful.*

#### **31.5 Any other item with permission of the chair**

#### **Standardization of EC conditions for Distillery and Pharmaceutical/Chemical Industry Sector**

The EAC deliberated on the conditions presently being stipulated in the environmental clearances for the projects relating to Synthetic Organic Chemicals, Pharmaceuticals and Distilleries, and decided to take it up further on the next day for finalization.

**31.6 Environmental Clearance**

**Agenda No.31.6.1**

**Expansion of Phosphoric Acid Plant (125000 MTPA to 216000 MTPA) by M/s Greenstar Fertilizers Ltd at Plot no.239/2-242, 243, 244/3 SPIC Nagar, Village Mullakadu, Taluka Thoothukudi, District Tuticorin (Tamil Nadu) - For Environment Clearance**

**[IA/TN/IND2/67947/2014, J-11011/123/2014-IA II (I)]**

**31.6.1.1** The project proponent and their consultant M/s EQMS India limited has made a detailed presentation on the salient features of the project and informed that:

(i) The proposal is for environmental clearance to the project 'Expansion of Phosphoric Acid Plant from 125000 MTPA to 216000 MTPA by M/s Greenstar Fertilizers Ltd at Plot no. 239/2-242, 243, 244/3 SPIC Nagar, Village Mullakadu, Taluka Thoothukudi, District Tuticorin (Tamil Nadu).

(ii) The project proposal was considered by the Expert Appraisal Committee (Industry-2) in its 36<sup>th</sup> Reconstituted EAC meeting held during 16-17 March 2015 and recommended Terms of Reference (ToR) for the Project. The ToR has been granted by Ministry vide letter dated 26<sup>th</sup> May, 2015.

(iii) All Chemical fertilizers are listed at S.N. 5 (a) of Schedule to the Environment Impact Assessment (EIA) Notification under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).

(iv) Ministry had earlier issued EC vide letter No. J-11011/171/2007 IA II (I) dated 5<sup>th</sup> March, 2008 for Urea & DAP unit by M/s Southern Petrochemical Industries Corporation Limited.

(v) Southern Petrochemical Industries Corporation Ltd, Tuticorin transferred entire Phosphatic business Di Ammonium Phosphate, complex, AIF<sub>3</sub> and SSP Units and intermediate products of Sulphuric acid and Phosphoric acid to M/s Greenstar Fertilizers Limited, Tuticorin on 24<sup>th</sup> October, 2011 through Business Transfer Agreement copy of the same has been submitted to MOEF on 11<sup>th</sup> March, 2013.

(vi) Now Greenstar Fertilizers Limited, Tuticorin has ownership of Di Ammonium Phosphate, complex, AIF<sub>3</sub> and SSP Unit.

(vii) M/s Greenstar Fertilizers Limited proposes to enhance the capacity of their existing manufacturing unit of phosphoric acid intermediate product from 1, 25,000 MTPA to 2, 16,000 MTPA at Tuticorin to fulfill the demand of raw materials for DAP Plant without enhancing the capacity of DAP and without acquiring any additional land for the project.

(viii) Existing land area is 556116 sqm and no additional land will be used for proposed expansion. Industry is having already developed greenbelt in an area of 51 % i.e. 283780 sqm out of 556116 m<sup>2</sup> of area of the project and at present, proposed to enhance the greenbelt density.

(ix) The estimated project cost is Rs.129 crores. Total capital cost earmarked for pollution control measures is Rs.604 Lakhs and the recurring cost (operation and maintenance) will be

about Rs.240 lakhs per annum. Total Employment will be 100 persons as direct and indirect after expansion. Industry proposes to allocate Rs.7.66 Cr @ 6 % towards Corporate Social Responsibility in a 5-year plan.

(x) There are no National parks, Wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km from the project site. Tamiraparamirani river is flowing at about 8 km away from the site and Sea (Gulf of Mannar) at a distance of about 2.7 km in the East direction.

(xi) Ambient air quality monitoring was carried out at 8 locations during March 2015 to May 2015 and the baseline data indicates the ranges of concentrations as: PM<sub>10</sub> (45 to 87.1 µg/m<sup>3</sup>), PM<sub>2.5</sub> (21 to 43 µg/m<sup>3</sup>), SO<sub>2</sub> (5 to 19.5 µg/m<sup>3</sup>) and NO<sub>2</sub> (7.5 to 30 µg/m<sup>3</sup>) respectively. AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be same with respect to PM10, SOx and NOx. But in proposed project, there are two stacks, which can be emitting the pollutants out of two; one existing TCA – III stack and one proposed stack Off gas stack and both the stack emit only F. The maximum emission load of Fluorine by the proposed and modified stack is 4.88 µg/m<sup>3</sup>. The maximum GLC with base line for proposed project has been calculated F (0.6 µg/m<sup>3</sup>) at Muttayapurra. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

(xii) Additional water demand for the proposed expansion project is about 8.6 m<sup>3</sup>/h, mainly industrial water requirements. Existing water requirement is 160 m<sup>3</sup>/h. After the proposed expansion the water requirement will increase to 168.6 m<sup>3</sup>/hr. The freshwater requirement will be met from SPIC. SPIC will supply ~2591 KLD fresh water and ~1455 KLD treated effluents for industrial use in Greenstar.

(xiii) Process effluents and washing will be routed to a sump for reuse in the process. If required, it will be treated in 2 stage lime treatment to neutralize the acidity of spillages/drains for reuse in process. Hence it is Zero Liquid Discharge (ZLD).

(xiv) Existing Site has 110 kVA Electrical Sub Station connected with 230 kVA Auto Substation of Tamil Nadu Electric Board. This Power supply is managed with the existing facility itself. The source of power supply is Tamil Nadu Electricity Board (TNEB) and partly from 6 mw captive Turbo generator unit utilizing the waste heat boiler of sulphuric acid plant One number of 750 kVA DG set is available in existing plant and one more 1500 kVA DG will be added for emergency power management.

Detail of power consumption is as follows:

S.No	Description	KW
1	Existing	3000
2	Proposed	5000

Due to this energy efficient process the steam required for the concentrators will get reduced substantially from 2.3 MT of steam to 0.7 MT of steam for every MT of Phosphoric acid. Hence, the captive power generation is getting enhanced by 1.5 MW and balance power requirement will be met through TNEB Grid. The specific consumption of power is getting reduced by ~100 units/ MT of PA.

(xv) There are two stacks, which can be emitting the pollutants out of two, one existing TCA – III stack and one proposed stack Off gas stack and both the stack emit only F. Since grinding will not be required for the proposed PA Process, emission through Rock grinding mill will be almost negligible.

### **Air pollution control in Phosphoric Acid Plant**

The control measures employed for controlling air pollution are

- Venturi gas scrubbers, bag filters to control the emissions to atmosphere. The emissions from stack will conform to the regulatory requirement.
- Stack of adequate height for Phosphoric acid plant and D.G. Sets.
- Elevated stack for venting of gases from the scrubbers to atmosphere.
- Reuse of dust separated from cyclone from cyclone separator and from duct collector in process.
- Fluorine gas generated from the Phosphoric Acid process will be conveyed in rubber lined ducts to the multistage scrubbers and HF from scrubber liquor will be recovered.

### **Fluorine recovery**

Greenstar plant is one of plants available in India, where the fluorine in the process is recovered and utilized effectively for the manufacture of an industrial product – Aluminium fluoride. In the revamped process, the fluorine recovery is possible from reaction stage also as against the conventional process and hence the fluorine recovery will get improved substantially.

(xvi) Around 1080000 MT Gypsum will generate after the enhancement the production capacity. It will be sold to Cement and Cement Sheet Manufacturing Industries. To comply with Phospho Gypsum Guidelines of CPCB it is proposed to switch over from wet stacking method to dry gypsum mode in the proposed project. There will not be any hazardous waste generated from this process.

(xvii) Public Hearing for the proposed project has been conducted by the State Pollution Control Board on 20<sup>th</sup> July 2017 at Maria Mahal, Tiruchendur Road, Muthiahpuram (Opp. State Bank of India) Tuticorin, Tuticorin District.

(xviii) Certified compliance report forwarded by RO, MoEF&CC has been submitted

(xix) Following are the list of existing and proposed products:

<b>S. No</b>	<b>Existing Infrastructure</b>	<b>Capacity</b>	<b>Proposed</b>
1	Sulphuric Plant	270000 MTPA	
2	Phosphoric Plant	125000 MTPA	216000MTPA
3	DAP	606100 MTPA	
4	Cogen – using WHB of SA	6 MW	
5	DG Set	750 KVA	1500 KVA
6	AIF3	10000 MTPA	
7	SSP	115000 MTPA	
8	Phosphoric Acid Storage Facility	4 x 618 m <sup>3</sup> + 2 x 5000 m <sup>3</sup>	
9	Sulphuric Acid Storage Facility	3 X 1800 MT	
10	Bagging Plant facilities	Storage + Railway siding + Road despatch	
11	DAP Silo	10000 MT	
12	Complex silo	10000 MT	
13	SSP Silo	3500 MT	
14	Ammonia Importation Terminal	10,000 MT	
15	Import Phosphoric Acid Terminal	1 X 5000 m <sup>3</sup>	
16	Import sulphuric acid Terminal	2 x 5000 M <sup>3</sup>	
18	Biomass boiler	5 T/hr	

(xx) Salient Features of the proposed phosphoric acid plant are:

1. Reduction Grinding energy and dust emission – In the revamped plant, rock phosphate up to 5 mm size can be used for Phosphoric acid production. Only over size rock from the screen is fed to the old hopper for grinding and hence there will be a substantial reduction in over all energy requirement for rock grinding operation in comparison with existing Phosphoric acid plant which requires 100% grinding. As the grinding requirement has reduced, the dust emission level also getting reduced significantly.
2. Reduction in specific consumption of water – Byproduct obtained from DH filtration is dry gypsum instead of wet gypsum slurry in the conventional process. The filtrate is used in HH filtration section and hence significant reduction in specific water consumption.
3. Reduction in specific steam consumption – there will be reduction in specific steam consumption from 2.3 MT to 0.7 MT
4. Flexibility in Rock quality: Worldwide rock phosphate sources are getting shrunk and considering this, the plant is designed suitably to operate even with low grade phosphate rock for manufacturing of phosphoric acid.
5. Reduction in emission level – after the addition of off gas stack, the fluorine in the gas is recovered as Hydro Fluoro silicic acid and hence there will be substantial reduction of gas emission quantity form the process.
6. Fluorine recovery: In the revamped process, the fluorine recovery is possible from reaction stage also as against the conventional process and hence the fluorine recovery will get improved.

**31.6.1.2** During deliberations, the EAC noted the following: -

The proposal is for environmental clearance to the expansion of one of the intermediate product namely, Phosphoric Acid from 125000 MTPA to 216000 MTPA for manufacturing DAP 606100 MTPA by M/s Greenstar Fertilizers Ltd in a total area of 556116 sqm in the premises located at Plot no. 239/2-242, 243, 244/3 SPIC Nagar, Village Mullakadu, Taluka Thoothukudi, District Tuticorin (Tamil Nadu).

The ToR for the project was granted on 26<sup>th</sup> May 2015 under category A of item 5(a) 'Chemical fertilizers' of the Schedule to the EIA Notification, 2006. As per the conditions stipulated therein, public hearing was conducted by the SPCB on 20<sup>th</sup> July 2017.

Consent to Operate for the presently manufactured Urea & DAP of capacity 10950 TPM has been obtained from the Tamil Nadu PCB, which is presently valid up to 31<sup>st</sup> March, 2017. The unit has applied for the renewal of the same.

Earlier, the Ministry had issued environmental clearance on dated 5<sup>th</sup> March, 2008 and 18<sup>th</sup> March, 2010 in favour M/s Southern Petrochemical Industries Corporation (SPIC) Limited for 'Expansion of Urea and Di-ammonium Phosphate' and 'Installation of Single Super Phosphate unit' respectively. The monitoring report on compliance status of existing EC conditions, has been forwarded by the Ministry's Regional Office at Chennai vide letter dated 7<sup>th</sup> January, 2015. It was informed that the phosphatic business (DAP, Sulphuric Acid, Phosphoric Acid,  $\text{AlF}_3$ , SSP and the allied facilities) was transferred on 24<sup>th</sup> October, 2011 from M/s SPIC Ltd to M/s Greenstar Fertilizers Ltd. The transfer of environmental clearance is, however, yet not done in the name of M/s Greenstar Fertilizers Ltd.

The project envisages no increase in the capacity of the final product i.e. DAP, but involves plant revamping and increase in production of one of the raw material/intermediate product namely Phosphoric acid, which is not covered under the ambit of the EIA Notification, 2006 and thus not requiring prior EC. The proposed revamping would finally result in no increase in pollution load, reported to be as under:-



- Fluorine shall be recovered and utilized effectively for manufacturing  $\text{AlF}_3$ , and thus lowering the Fluorine emissions load from 1.338 gm/sec to 0.9 gm/sec.
- No requirement of rock grinding as the plant would be able to process the rock size up to 5 mm, and thus minimizing the particulate matter emissions in terms of  $\text{PM}_{10}/\text{PM}_{2.5}$ .
- Process effluents shall be routed to a sump for reuse, and thereby adhering to the Zero Liquid Discharge.
- Dry gypsum shall be generated as by product in place of wet gypsum slurry, which is better to manage eco-friendly and also revenue generating.

**31.6.1.3** *The EAC, after deliberations, opined that the project does involve change in scope of work due to increase in production of one of the raw material/intermediate product (Phosphoric Acid), which standalone, is not covered under the ambit of the EIA Notification, 2006. Further, there would be no change in capacity of the final product and no increase in pollution load, especially in terms of particulate emissions, waste water and solid/hazardous waste generation. In such a scenario and the provisions of the Notification dated 23<sup>rd</sup> November, 2016, the EAC desired that the Ministry may take a view on applicability of the EIA Notification, 2006 to arrive at admissibility of the proposal for its consideration on merits.*

*The EAC further desired that there being no environmental clearance in the name of M/s Greenstar Fertilizers Ltd (engaged in manufacturing DAP, Sulphuric Acid, Phosphoric Acid,  $\text{AlF}_3$ , SSP and the allied facilities), the Ministry may take action, as appropriate, under the extant norms/regulations.*

#### **Agenda No.31.6.2**

**Expansion of Grain based Distillery from 100 KLPD to 600 KLPD (by adding 2 units of 250 KLPD each in two phases as Unit-II) & Co-Generation Power Plant of 40 MW (2x20 MW) by M/s Malbros International Pvt Ltd at Village Mansoorwal, Tehsil Zira, District Ferozepur (Punjab) - For reconsideration of Environmental Clearance**

**[IA/PB/IND2/30448/2006, F.No. J-11011/187/2006-IA II (I)]**

**31.6.2.1** The project proponent and their consultant M/s J M EnviroNet Pvt Ltd gave a detailed presentation on the salient features of the project and informed that:

(i) The project is for installation of Unit-II Grain Based Ethanol/ENA/RS/ Industrial Alcohol Plant [500 KLPD (2x250 KLPD)] & Co-Generation Power Plant [(40 MW (2x20 MW))] by M/s Malbros International Pvt Ltd in existing Distillery Plant at Village Mansoorwal, Tehsil Zira, Faridkot Road, District Ferozepur (Punjab).

(ii) All grain based distilleries  $\geq 30$  KLPD are listed at S.No. 5(g) (ii) of the Schedule to the EIA Notification, 2006 under Category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).

(iii) ToR was granted by the Ministry vide letter No. J-11011/228/2015-IA II (I) dated 28<sup>th</sup> December, 2015. Public Hearing was conducted by the State Pradesh Pollution Control Board on 4<sup>th</sup> May, 2016.

(iv) Earlier, the Ministry has issued EC vide letter No. J-11011/187/2006-IA II (I) dated 25<sup>th</sup> September, 2006 for 100 KLPD grain based distillery in favour of M/s Malbros International Pvt Ltd.

- (v) The proposed project will be installed in two phases:
- Phase 1:- 250 KLPD Ethanol/ ENA/ RS/ Industrial alcohol Plant and 20 MW Co-generation Power Plant
  - Phase 2:- 250 KLPD Ethanol/ ENA/ RS/ Industrial alcohol Plant and 20 MW Co-generation Power Plant
- (vi) Total plant area is 14.8 ha (36.5 Acre), proposed expansion will be done in the existing plant premises. Almost 33% i.e. 4.9 ha (12.10 acre) of the total plant area has already been developed as greenbelt/plantation. No additional land will be required for the proposed installation of Unit II.
- (vii) Total cost of the project for the expansion is Rs.583 crores. Capital cost for pollution control measures will be Rs.58 crores and recurring Cost will be Rs.10 crores/annum.
- (viii) The raw materials for the production will be Grains (damaged grain feed stock, nakku, Kinki, sorghum, maize, bajra, barley) (1200-1300 TPD) which will be obtained from nearby areas by road, chemicals and enzymes will be obtained from nearby market. Proposed project will provide employment to 800 persons. The number of working days will be 350 days/annum.
- (ix) There are no National Parks, Wildlife Sanctuaries, Reserve Forest/ Protected Forests, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance of the project.
- (x) Ambient air quality monitoring was carried out at 8 locations during October to December, 2015 and the baseline data indicates the ranges of concentrations as: PM<sub>10</sub> (65.0 µg/m<sup>3</sup> to 88.5 µg/m<sup>3</sup>), PM<sub>2.5</sub> (26.5 µg/m<sup>3</sup> to 42.3 µg/m<sup>3</sup>), SO<sub>2</sub> (5.8 µg/m<sup>3</sup> to 10.8 µg/m<sup>3</sup>) and NO<sub>2</sub> (14.7 µg/m<sup>3</sup> to 23.8 µg/m<sup>3</sup>). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.43 µg/m<sup>3</sup>, 2.57 µg/m<sup>3</sup> and 2.43 µg/m<sup>3</sup> with respect to PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub>. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).
- (xi) The fresh water requirement for the proposed expansion of Grain based distillery will be 4110 m<sup>3</sup>/day, which will be met from canal water.
- (xii) Spent Wash will be taken through centrifuge decanters and thin slops from the decanter centrifuge will be partly recycled back to process (30-35 %) and partly taken to the Thin Slops Evaporation plant for concentration of remaining solids to form a syrup. This syrup will also be mixed into the wet cake coming out of centrifuge and forms part of cattle feed. Wet Cake/DWGS from decanter will be passed through steam tube bundle drier for drying into cake with 10-12% moisture (max.) to give higher shelf life. DDGS will be ideally used as cattle feed/ poultry feed/ etc. No effluent will be generated from the plant as the distillery is based on "Zero Effluent Discharge".
- (xiii) The total power requirement for proposed project will be 9.0 MW which will be sourced from proposed 40 MW (2 x 20 MW) Co-Generation Power Plant & 3 x 1000 kVA of DG set (for back up). The remaining power will be exported to the state power grid.
- (xiv) Two Biomass/ Rice Husk/ Bagasse/ Paddy & Wheat straw fired boiler of 100 TPH capacities will be installed. A stack of 63 m height will be equipped with Electrostatic Precipitator (ESP) will be installed to encounter the emission from boiler stack. CO<sub>2</sub> generated during the fermentation process will be scrubbed, purified & collected for sale as by-product. DG Sets will have adequate height of stack as per CPCB Guidelines. Adequate measures for control of Fugitive Dust Emissions will be taken.

(xv) Ash from the boiler will be given to the brick manufacturers.

**31.6.2.2** The proposal was last considered by the EAC in its meeting held on 12-13 October, 2017. During the meeting, the Committee noted that the proposal involves expansion of grain based distillery of present capacity 100 KLPD (reported to be Unit-I) to 600 KLPD in two phases of 250 KLPD each, which was not reflected in the proposal. The Committee further observed that the impact of the proposed expansion (for both the phases) has to be assessed for different components of the environment and reported in the EIA/EMP reports. The Committee also noted that the proposal is neither consistent nor compliant with the Terms of Reference issued for the project.

**31.6.2.3** In response to the above observations, parawise clarification/information provided are as below: -

(a) The company is having an Existing Grain Based Distillery Plant (Unit -1) of 100 KLPD capacity at Village Mansoorwal, District Ferozepur (Punjab), established in an area of 14.8 ha (36.5 acre). EC for the same was issued by MoEFCC letter dated 25<sup>th</sup> September, 2006.

(b) Thereafter, the company proposed 'Installation of Unit - II Grain Based Ethanol/ENA/RS/Industrial Alcohol Plant {500 KLPD (2 x 250 KLPD)} & Co-generation Power Plant {40MW (2x20 MW)} in Existing Distillery Plant; for which, application has been uploaded on MoEFCC web portal under "Expansion" category along with uploading of existing EC letter of 100 KLPD capacity.

(c) Since, the proposed Unit - II will be totally a separate plant from the Unit – I but the same will be installed within the existing complex; therefore, the subject matter of the proposal would be decided as "Proposed Installation of Unit –II Grain Based Ethanol / ENA / RS / Industrial Alcohol Plant {500 KLPD (2 x 250 KLPD)} & Co-generation Power Plant {40MW (2x20 MW)} in Existing Distillery Plant.

(d) Our proposal was considered by EAC (Industry-2) in its meeting held on 30<sup>th</sup> November, 2015 for ToR and same was granted on 28<sup>th</sup> December, 2015.

(e) In compliance of the ToR points and our clear intentions of not hiding anything from MoEF&CC, we have mentioned about our existing 100 KLPD grain based distillery plant (Unit -I) in EIA/EMP Report along with submission of EC Compliance Report of Unit -I, duly certified by RO, MoEF&CC, Chandigarh.

**31.6.2.4** During deliberations, the EAC noted the following:-

The proposal is for environmental clearance to the project for expansion of Grain based Distillery from 100 KLPD to 600 KLPD (by adding 2 units of 250 KLPD each in two phases as Unit-II) and the expansion of Co-Generation Power Plant by adding 40 MW (2x20 MW) by M/s Malbros International Pvt Ltd in a total area of 14.8 ha at Village Mansoorwal, Tehsil Zira, Faridkot Road, District Ferozepur (Punjab).

The project/activity is covered under category A of item 5(g) 'Distillery' of the Schedule to Environmental Impact Assessment Notification, 2006, and requires appraisal at central level by the sectoral EAC in the Ministry.

The ToR for the project was granted on 28<sup>th</sup> December, 2015, and the Public hearing was conducted by the SPCB on 4<sup>th</sup> May, 2016.

The present fresh water requirement of 900 KLPD is being met through ground water. The required clearance in this regard has been obtained from CGWA vide their letter dated 14<sup>th</sup> March, 2016 (for 2013 KLPD). Total water requirement due to the proposed expansion (additional capacity of 500 KLPD) is estimated to be 10958 cum/day. The treated effluent of 6848 cum/day is proposed to be recycled/reused for different industrial operations, leaving the water requirement limited to 4110 cum/day. The same is proposed to be met through Canal water under Sirhind Canal Circle.

Consent to Operate for the existing Grain based Distillery of 100 KLPD has been obtained from the State Pollution Control Board vide letter dated 1<sup>st</sup> May, 2015, which is presently valid up to 31<sup>st</sup> March, 2019.

Earlier, the Ministry had issued environmental clearance for Grain based distillery of 100 KLPD (Unit-I) on 25<sup>th</sup> September, 2006. The monitoring report on compliance status of EC conditions (site visit carried on 6<sup>th</sup> February, 2016) has been forwarded by the Ministry's Regional Office at Chandigarh, vide letter dated 15<sup>th</sup> February, 2016. Since many of these conditions were observed to be '*Being complied*', the EAC insisted for another site visit to be carried out for the present compliance status. At the same time and especially in view of the concluding remarks in the monitoring report, '*the project proponent has been trying its best to comply most of the environmental safeguards in the existing project*', the Committee desired to take the proposal forward for the present, and to review the compliance status of EC conditions after six months.

**31.6.2.5** *The EAC, after deliberations, recommended the project for grant of environmental clearance, subject to compliance of terms and conditions as under: -*

- *The project proponent shall take corrective measures vis-a-vis the observations of the Regional Office in their monitoring report forwarded to the Ministry vide letter dated 15<sup>th</sup> February, 2016. The action taken report shall be submitted to the Regional Office within six months for evaluation of the efficacy/adequacy of the measures undertaken by the project proponent, for onward submission of the same to the Ministry.*
- *Grain unfit for human consumption (also not attacked by pests and/or pesticides), shall only be used as raw material for the distillery.*
- *Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.*
- *As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.*
- *Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.*
- *To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.*
- *Total fresh water requirement shall not exceed 4800 KL/day (8 KL/KL of Alcohol) for the distillery, to be met from Canal and the ground water. Prior permission in this regard shall be obtained from the concerned regulatory authority.*
- *Industrial/trade effluent shall be segregated into High COD/TDS and Low COD/TDS effluent streams, as applicable. High TDS/COD shall be passed through stripper followed by MEE and ATFD (agitated thin film drier). Low TDS effluent stream shall be treated in ETP and then passed through RO system.*
- *Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.*

- Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm and the solvent transfer through pumps.
- Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.
- The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.
- The company shall undertake waste minimization measures as below:-
  - (a) Metering and control of quantities of active ingredients to minimize waste.
  - (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
  - (c) Use of automated filling to minimize spillage.
  - (d) Use of Close Feed system into batch reactors.
  - (e) Venting equipment through vapour recovery system.
  - (f) Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- All the commitments made regarding issues raised during the public hearing/consultation meeting held 4<sup>th</sup> May, 2016 shall be satisfactorily implemented.
- At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment based on public hearing issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.
- The company shall make all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.
- The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- Continuous online (24X7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.
- There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places.
- Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.
- The energy sources for lighting purposes shall preferably be LED based. A minimum of 10-20% of the total power requirement for the industrial operations shall be met from non-conventional energy resources/solar supply.
- The project proponent shall use either agricultural waste or bio fuel as energy source for boilers.

### **Agenda No.31.6.3**

**Setting up API Unit with R&D facility at Sy. No. 54/1 Plant at Village Saggonda, Mandal Gopalapuram, District West Godavari (Andhra Pradesh) by M/s Bhagyanagar Chlorides Pvt Ltd - For reconsideration of EC**

**[IA/AP/IND2/49857/2016, J-11011/70/2016- IA II(I)]**

**31.6.3.1** The project proponent and their consultant M/s KKB Envirocare Consultants Pvt Ltd, Hyderabad, made a detailed presentation on the salient features of the project and informed that:

(i) The proposal is for environmental clearance to the project 'Setting up API Unit with R&D facility' at Sy. No. 54/1 Plant at Village Saggonda, Mandal Gopalapuram, District West Godavari (Andhra Pradesh) by M/s Bhagyanagar Chlorides Pvt. Ltd.

(ii) The project proposal was considered by the Expert Appraisal Committee (Industry-2) in its 7<sup>th</sup> EAC meeting held during 29<sup>th</sup> April, 2016 and recommended Terms of Reference (ToR) for the Project. The ToR has been issued by Ministry vide letter dated 21<sup>st</sup> June, 2016.

(iii) All Synthetic Organic Chemical *projects* are listed at S.N. 5 (f) of Schedule of Environmental Impact Assessment (EIA) Notification under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).

(iv) Existing land area is 1.85 ha, additionally 2.4517 ha land will be added for proposed expansion. Total area would be 4.3017 ha. Industry will develop Greenbelt in an area of 2.29 Ha (53%) out of 4.3017 ha of area of the project.

(v) The estimated project cost is Rs.54 Crores including existing investment of Rs.14 Crores. Total capital cost earmarked for pollution control measures is Rs.6.92 crores and the recurring cost (operation and maintenance) will be about Rs.6 crores per annum. Total Employment will be 110 persons as direct & 20 persons indirect after expansion. Industry proposes to allocate Rs.100 lakhs @ of 2.5 % towards Corporate Social Responsibility.

(vi) There are no National parks, Wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the site. Godavari river is flowing at a distance of 5 km in E direction and water bodies viz., Canal near Rampalem – 4.2 km (W); Pond near Kommy gudem – 6.3 km (N); Pond near Bhimolu– 4.8 km (SW); Canal near Bhimolu – 3.4 km (S); Kovvada Kalva (Canal) - 4.3 km (N) are located within 10 km distance from the project site.

(vii) Ambient air quality monitoring was carried out at 9 locations during March to May 2016 and the baseline data indicates the ranges of concentrations as: PM<sub>10</sub> (22–53 µg/m<sup>3</sup>), PM<sub>2.5</sub> (9-29 µg/m<sup>3</sup>), SO<sub>2</sub> (BDL – 9.1 µg/m<sup>3</sup>) and NO<sub>2</sub> (BDL- 10.4 µg/m<sup>3</sup>). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 1.15 µg/m<sup>3</sup>, 11.63 µg/m<sup>3</sup> and 8.15 µg/m<sup>3</sup> with respect to PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub>. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

(viii) Total water requirement is 250 cum/day of which fresh water requirement of 163 cum/day will be met from ground water through bore wells.

(ix) Effluent of 99 cum/day will be treated through Effluent Treatment plant and the unit will be based on Zero Liquid discharge system.

(x) Power requirement after expansion will be 1120 kVA including existing 120 kVA and will be met from Andhra Pradesh State Power Distribution Corporation limited (APSPDCL). Existing unit has 2 DG sets of 62.5 kVA & 20 kVA capacities, additionally 3 DG sets of 500 kVA and 2 nos. of 250 kVA are used as standby during power failure. Stack height 8 m to 9 m will be provided as per CPCB norms to the proposed DG sets of 2x250 kVA and 500 kVA in addition to the existing DG sets of 62.5 kVA & 20 kVA which will be used as standby during power failure.

(xi) Existing unit has no boiler. Multi cyclone separator & bag filter with a stack of height of 30 m will be installed for controlling the Particulate emissions (within statutory limit of 115 mg/Nm<sup>3</sup>) for Proposed 2 x 5 TPH coal fired boilers respectively. A stack height of 30 m will be provided to the proposed 2 lakh Kcal/hr Diesel fired Thermic Fluid Heater.

(xii) Details of Process emissions generation and its management.

S. No.	Process Emission	Maximum Quantity on various combinations (kg/day)	Treatment Method
1.	HCl	2686.5	Two Stage Scrubber with water & caustic solution
2.	H <sub>2</sub>	7.17	Diffused with flame arrestor
3.	CO <sub>2</sub>	252.73	Dispersed into atmosphere
4.	SO <sub>2</sub>	49	Scrubber using caustic solution
5.	N <sub>2</sub>	6.67	Dispersed into atmosphere
6.	Cl <sub>2</sub>	312	3 stage scrubber with water / caustic sol.

(xiv) Details of solid waste/hazardous waste generation and its management.

S. No.	Source	*Proposed Quantity (TPD)	Handling Method	Disposal
1.	Organic residue	1.89	HDPE Drums	Sent to SPCB Authorized Cement industries / CWMP-TSDF
2.	Spent Carbon	0.12		
3.	Distillation Bottom Residue (1% of spent solvents)	0.4		
4.	Inorganic & Evaporation salt (Process)	3.09	HDPE Bags	
5.	Evaporation salt (Non-Process)	0.5		
6.	ETP Sludge with 50% moisture	0.6		
7.	Boiler Ash	16	Stored in covered area	Sold to Cement Brick Manufacturers
<b>Other Hazardous Waste generation from the Plant</b>				
8.	a) Detoxified Container / Liners drums b) HDPE Carboys c) Fiber Drums d) PP Bags	300 Nos./ month  100 Kg/month	Designated covered area	Disposed to SPCB Authorized agencies after complete detoxification

9.	Spent solvents (with moisture) (solvents 36.6+water 1.5)	38 KLD	Stored in Drums / Tanks	Recovery within the premises duly sending the residue to Authorized agencies
10.	Recovered Solvents from spent solvents	32 KLD	Stored in Drums / Tanks	Reuse in process / Send to authorized recyclers
11.	Spent Mixed solvents (3.5 from SRS + 1 from ETP)	4.5 KLD	Stored in Drums / Tanks	Sent to SPCB Authorized agencies
12.	Waste oils & Grease	1.5 KL/A	Stored in Drums	Sent to SPCB Authorized agencies for reprocessing / recycling.
13.	Used Lead acid Batteries	50 Nos. / annum	Designated covered area	Sent to suppliers on buy-back basis.
14.	Spent Catalyst (Raney Nickel)	24 TPA	Stored in Drums	Sold to suppliers on buy-back basis / authorized re-processors
15.	Spent Piperazine HCl	1405 TPA		
16.	Misc. Waste (spill control waste)	12 TPA	Stored in Drums	CWMP-TSDF
17.	Rejects	L.S.		
18.	E-waste	L.S.	Designated covered area	CWMP-TSDF / Authorized recycler
19.	Bio-medical waste from OHS / QC Lab	L.S.		APPCB Authorized agency
20.	Waste papers & other types of packing scrap	L.S.		Sold to scrap venders
21.	Canteen waste	L.S.		Composted on site and reused for green belt

\*Solid waste quantities maximum on various combinations i.e., Total 5 products (2 regular and 3 campaign products) out of 10 products at a point of time with R&D activity.

(xv) Public Hearing for the proposed project has been conducted by the State Pollution Control Board on 19<sup>th</sup> January, 2017.

(xvi) Following are the list of existing and proposed products:

#### Existing Product list

S. No.	Product	Quantity (TPA)
1.	Aluminium Chloride anhydrous	10,800
<b>By-products</b>		<b>(KLPA)</b>
1.	Hydro Chloric Acid	360
2.	Sodium Hypo Solution	360

#### Proposed Products and their Capacities

S.No.	Product	Quantity (TPA)	Therapeutic Category / Intermediate / Chemical
<b>Regular 2 Products</b>			
1.	Aluminium Chloride anhydrous	<b>21600</b>	Inorganic raw material
2.	Benzo Trichloride	<b>2400</b>	Raw Material for Acetyl Chloride & Chloro acetyl chloride
<b>Campaign Products (any 3 products)</b>			
3.	Fluconazole	120	Antifungal



S.No.	Product	Quantity (TPA)	Therapeutic Category / Intermediate / Chemical
4.	Pantoprazole Sodium	84	Anti-ulcerative
5.	Ciprofloxacin Hydrochloride	240	Antibacterial
6.	Salbutamol Sulfate	120	Bronchodilator
7.	Ramipril	108	Antihypertensive
8.	N,N-Diethyl cyano acetamide	72	Entacapone intermediate
9.	Acetyl chloride	1200	Raw material for APIs
10.	Chloro acetyl chloride	1200	Raw material for APIs
<b>Production (Max 5 Products at a time)</b>		<b>26640</b>	
<b>R&amp;D</b>		<b>5</b>	
<b>Total Production with R&amp;D (Maximum 5 Products at a time)</b>		<b>26645</b>	

#### List of By-products

S. No.	By-Product	Quantity (KL/A)	Product
1.	Hydro Chloric Acid (25%)	3240	Benzo trichloride, Fluconazole, Salbutamol Sulfate, Chloro acetyl chloride, Aluminum Chloride anhydrous
2	Sodium Hypo Solution	720	Aluminum Chloride anhydrous
3	Benzyl Chloride	2660	Acetyl Chloride, Chloro acetyl chloride & Benzo trichloride
4	Selenium	102	Salbutamol Sulphate

**31.6.3.2** The proposal was last considered by the EAC in its meeting held on 5-7 July, 2017. During the meeting, the EAC noted that there are several public hearing issues and further desired for the following: -

- (i) Recommendation letter from concerned local Panchayat.
- (ii) The PP shall install chlorine sensor in the factory and in the village.
- (iii) Undertake Aluminum monitoring in the soil.
- (iv) Groundwater extraction only after getting approval from the concerned authority.
- (v) Existing green belt shall be maintained and atleast 10 m wide green belt with three layer of trees around the factory periphery shall be developed. 33% of the total area shall also be developed as green area with trees.
- (vi) Organic waste/spent carbon shall not be sent to TSDF. It may be incinerated or send to cement/bricks factory.
- (vii) COD in the effluent shall be reduced and arrested at the source.

The proposal was deferred for want of the information/documents on the above lines.

**31.6.3.3** In response to the above observations, parawise clarification/information provided are as below:-

(a) Public Hearing issues, industry's response and proposed action plan to the Public Hearing issues are submitted.

(b) Recommendation letter from concerned local Panchayat regarding permission for operation of proposed unit - Local Panchayat Sarpanch and members recommendation letter permitting for the expansion of the unit is submitted. This is in addition to the No objection certificate from Gram Panchayat of Saggonda village, Gopalapuram Mandal dated 22.8.2016.

(c) Details of recovery of spent solvent - It is proposed to implement the following methods to recover the solvents from Spent solvents.

(d) Proposed to provide the suitable double condenser systems using chilled water in first condenser and brine circulation in second condenser to recovery of solvents to extent possible i.e., > 95%.

- Leak detection system will be provided at storage/day tank and loading/unloading operations.
- Recovery of solvents from spent solvents will be recovered by distillation unit for purity and can be reused.
- Proposed to install 3 single solvent distillation columns of 8 KL capacity for solvent recovery.
- Vent condensers will be provided to all storage tanks

From the above the overall solvent recovery from the Solvent used will increase from 94% to >95%.

(e) Worst case scenario of products - Considering the revised solvent recovery, Worst case scenario of products have been worked out on various combinations for each parameter are submitted.

(f) Plan for arresting/reducing COD in the effluent - It is proposed to recover the solvents from the ML's to the extent possible in the reactors using distillation system under vaccum to reduce the solvent in the effluent thereby reducing the COD in the effluent. Total COD from the process will reduce from 1919.16 Kg/day to 1492.49 Kg/day.

**31.6.3.4** During deliberations, the EAC noted the following:-

The proposal is for environmental clearance to the project 'Setting up API Unit with R&D Facility' of total capacity of 5045 TPA (products requiring EC) in a total land area of 4.3017 ha M/s Bhagyanagar Chlorides Pvt Ltd at Sy. No.54/1 Plant at Village Saggonda, Mandal Gopalapuram, District West Godavari (Andhra Pradesh). The project also envisages expansion of Aluminium Chloride anhydrous from the present capacity of 10800 TPA to 21600 TPA, which is essentially an inorganic chemical and not covered under the ambit of the EIA Notification, 2006.

The project/activity is covered under category A of item 5(f) 'Synthetic Organic Chemicals' of the Schedule to the Environmental Impact Assessment Notification, 2006, and requires appraisal at central level by the sectoral EAC in the Ministry.

The ToR for the project was granted on 21<sup>st</sup> June, 2016. Public hearing was conducted by the SPCB on 19<sup>th</sup> January, 2017.

Total estimated water requirement is 250 cum/day, which includes fresh water demand of 163 cum/day proposed to be met from ground water through bore wells. The State Ground Water Department vide letter dated 30<sup>th</sup> July, 2016, has permitted drawl of 160 cum/day of water from one existing and one newly recommended bore well.

The EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The additional details submitted by the project proponent are found to be in order. Issues raised during the public hearing included construction of toilet blocks, arrangement for drinking water

supply, maintenance of green belt along the village roads, providing solar LED lights to nearby villages, ambulance facility and other necessary facilities as per the village requirements. The project proponent has made an allocation of Rs.115 lakhs (more than 2.5% of the project cost) to address the public concerns.

The unit is reported to be presently manufacturing inorganic products only (Aluminium Chloride Anhydrous - 10800 TPA), and thus not requiring prior EC under the EIA Notification, 2006. Consent to Operate for the same has been obtained from the Andhra Pradesh PCB, which is presently valid up to 31<sup>st</sup> May, 2021.

**31.6.3.5** *The EAC, after deliberations, recommended the project for grant of environmental clearance, subject to compliance of terms and conditions as under:-*

- *Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.*
- *As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.*
- *Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.*
- *National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21<sup>st</sup> July, 2010 and amended from time to time shall be followed.*
- *To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. Sulphur content should not exceed 0.5% in the coal for use in coal fired boilers (2 X 5 TPH) to control particulate emissions within permissible limits The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.*
- *Total fresh water requirement shall not exceed 163 m<sup>3</sup>/day proposed to be met from ground water through bore wells. Prior permission in this regard shall be obtained from the concerned regulatory authority/CGWA.*
- *Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.*
- *Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer through pumps.*
- *Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.*
- *The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.*
- *The company shall undertake waste minimization measures as below:-*
  - (a) Metering and control of quantities of active ingredients to minimize waste.*
  - (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.*
  - (c) Use of automated filling to minimize spillage.*
  - (d) Use of Close Feed system into batch reactors.*
  - (e) Venting equipment through vapour recovery system.*
  - (f) Use of high pressure hoses for equipment clearing to reduce wastewater generation.*
- *The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.*

- *All the commitments made regarding issues raised during the public hearing/consultation meeting held on 19<sup>th</sup> January, 2017 shall be satisfactorily implemented.*
- *At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment based on item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.*
- *The company shall make all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.*
- *The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.*
- *Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.*
- *Continuous online (24X7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.*
- *Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions. Raw material storage should not exceed 3 days at any point of time.*
- *The energy sources for lighting purposes shall preferably be LED based. A minimum of 10-20% of the total power requirement for the industrial operations shall be met from non-conventional energy resources/solar supply.*

#### **Agenda No.31.6.4**

**Expansion of Viscose Staple Fibre (1,27,750 to 2,33,600 TPA), Sulphuric Acid (1,46,000 to 2,19,000 TPA), Carbon-Disulphide (21,600 to 37,295 TPA) and Captive Power Plant (25 to 45 MW) at Birladham, Village Kharach, Tehsil: Hansot, District: Bharuch (Gujarat) by M/s Birla Cellulosic (A Unit of Grasim Industries Ltd) - For reconsideration of Environmental Clearance**

**[IA/GJ/IND2/59092/2016; J-11011/320/2016-IA II(I)]**

**31.6.4.1** The project proponent and their consultant M/s J.M. EnviroNet Pvt Ltd made a detailed presentation on the salient features of the project and informed that:

(i) The proposal is for expansion of Viscose Staple Fibre capacity from 1,27,750 to 2,33,600 TPA, Sulphuric Acid capacity from 1,46,000 to 2,19,000 TPA, Carbon-Disulphide capacity from 21,600 to 37,295 TPA and Captive Power Plant capacity from 25 to 45 MW by M/s Birla Cellulosic (A Unit of Grasim Industries Ltd) at Birladham, Village Kharach, Tehsil Hansot, District Bharuch (Gujarat).

(ii) Earlier, the Ministry had issued EC vide letter No. J-11011/130/2006-IA II (I) dated 15<sup>th</sup> January, 2007 for Viscose Staple Fibre, Sodium Sulphate & CPP. NoC has been issued by GPCB vide letter No. GPCB/BRCH/NOC-3243 [CCA-295(4)]/16204 dated 25<sup>th</sup> May, 2006 for Sulphuric Acid & Carbon-Disulphide to M/s Birla Cellulosic (A Unit of Grasim Industries Ltd.)

(iii) All products are listed at S.N. 5(d) & 1(d) of the Schedule to the Environmental Impact Assessment (EIA) Notification, 2006 under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).

(iv) ToR was issued by the Ministry vide letter No.J-11011/320/2016-IA-II (I) dated 13<sup>th</sup> February, 2017. Public hearing was conducted by the Gujarat Pollution Control Board on 30<sup>th</sup> August, 2017 at School Ground of Birla Cellulosic, Village Kharach, Taluka Hansot, District Bharuch (Gujarat).

(v) Existing land area is 242.81 ha (230 ha plant + colony & 12.81 ha open area), proposed expansion will be done within the existing plant premises.

(vi) Details of existing and proposed products are as under:

S.N.	Name of Products (Units)	Existing Capacity	Additional (Proposed) Capacity			Total capacity after expansion
			Debottlenecking	New Machines	Total	
1.	Viscose Staple Fibre (TPA)	1, 27,750	14,600	91,250	1, 05,850	2,33,600
2.	Sulphuric Acid* (TPA)	1,46,000	-	73,000	73,000	2,19,000
3.	Carbon-Disulphide** (TPA)	21,600	Nil			21,600
4.	Sodium Sulphate (By Product) (TPA)	96,000	11,000	68,751	79,751	1,75,751
5.	Captive Power Plant (MW)	25	-	20	20	45
6.	Solvent Spun Cellulosic Fibre (Excel Fibre)	1,09,500	Nil			1,09,500
7.	Captive Power Plant (MW) (For Excel Fibre)	71	Nil			71
<p>*Surplus quantity of H<sub>2</sub>SO<sub>4</sub> will be sold to open market for economic viability.  **Birla Cellulosic has proposed to withdraw its expansion in Carbon-Disulphide Plant (<b>additional capacity</b>) in reference to the <b>Additional ToR point no. vii stating - A study to be conducted on possibility for use of non-charcoal based CS<sub>2</sub></b>.  The additional requirement of CS<sub>2</sub> will be now purchased form open market and sister concern using Natural Gas based process (non-charcoal based) to avoid the use of charcoal and comply to the ToR condition.</p>						

(vii) Industry will develop greenbelt in an area of 33% i.e., 80 ha out of 242.81 ha of area of the project. Presently, 70 ha area has been developed under greenbelt. Greenbelt planned for 10 ha in next three years.

(viii) The estimated project cost is Rs.1800 crores (debottlenecking: Rs. 12 crores & new machines: Rs.1788 crores). Total capital cost earmarked for pollution control measures is Rs.90 crores and the recurring cost (operation and maintenance) will be about Rs.11 crores per annum. Total employment will be 1267 persons as direct & 1039 persons as indirect after expansion. Industry proposes to allocate Rs. 45 crores (debottlenecking: Rs.0.3 Crores, new machines: Rs.44.7 crores) @ of 2.5% towards Enterprise Social Commitment.

(ix) There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc within 10 km distance from the project site. Kim River is flowing at a distance of 0.5 km in the South.

(x) Ambient air quality monitoring was carried out at 8 locations during December, 2016 to February, 2017 and the baseline data indicates the ranges of concentrations as: PM<sub>10</sub> (52.9 to

82.8  $\mu\text{g}/\text{m}^3$ ),  $\text{PM}_{2.5}$  (24.6 to 47.6  $\mu\text{g}/\text{m}^3$ ),  $\text{SO}_2$  (7.6 to 16.3  $\mu\text{g}/\text{m}^3$ ),  $\text{NO}_2$  (13.2 to 28.4  $\mu\text{g}/\text{m}^3$ ),  $\text{CS}_2$  (21.7 to 37.4  $\mu\text{g}/\text{m}^3$ ) &  $\text{H}_2\text{S}$  (7.5 to 12.8  $\mu\text{g}/\text{m}^3$ ). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.13  $\mu\text{g}/\text{m}^3$ , 4.07  $\mu\text{g}/\text{m}^3$ , 0.22  $\mu\text{g}/\text{m}^3$ , 6.35  $\mu\text{g}/\text{m}^3$  & 4.33  $\mu\text{g}/\text{m}^3$  with respect to  $\text{PM}_{10}$ ,  $\text{SO}_2$ ,  $\text{NO}_2$ ,  $\text{CS}_2$  &  $\text{H}_2\text{S}$ . The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS) & GPCB standards.

(xi) Total fresh water requirement (existing and proposed) after proposed expansion project will be 22,286 cum/day which will be met from Kim River.

(xii) Effluent generated from the project activity will be treated through existing Effluent Treatment Plant and treated effluent will be discharged into Kim Estuary through 24 km long pipeline.

(xiii) Total Power requirement after expansion will be 45 MW. Existing requirement of 25 MW is being met through Captive Thermal Power Plant. After expansion total requirement will be met from Captive Thermal Power Plant.

(xiv) Existing unit has 2x100 & 1x120 TPH coal fired boiler. Electrostatics Precipitators with a stack of height of 100 m will be installed for controlling the Particulate emissions (within prescribed norms) for proposed 3x100 TPH coal/petcoke fired boilers respectively.

(xv) Details of process emissions generation and its management are as under:

<b>Emissions</b>	<b>Source</b>	<b>Management Measures</b>
CS <sub>2</sub>	VSF Plant-spinning	<ul style="list-style-type: none"> <li>• CS<sub>2</sub> Recovery System (46.55% recovery).</li> <li>• Powerful Exhaust System for spinning off gases (CS<sub>2</sub> and H<sub>2</sub>S)</li> <li>• Air dilution with adequate stack height.</li> <li>• Shutters for spinning machine.</li> </ul>
	CS <sub>2</sub> Plant	<ul style="list-style-type: none"> <li>• Oil Scrubbing system for recovery of CS<sub>2</sub></li> <li>• Alkali Scrubber</li> <li>• Klaus kiln for recovery of sulphur</li> <li>• Dust extraction cum Ventury Scrubbing system for Furnaces.</li> </ul>
SO <sub>2</sub>	H <sub>2</sub> SO <sub>4</sub> Plant	<ul style="list-style-type: none"> <li>• Alkali scrubber</li> </ul>
	CPP boiler	<ul style="list-style-type: none"> <li>• Lime dozing in boiler</li> <li>• Adequate stack height (as per CPCB guidelines).</li> </ul>
Acid Mist	H <sub>2</sub> SO <sub>4</sub> Plant	<ul style="list-style-type: none"> <li>• Mist eliminator</li> </ul>
PM	CPP boiler	<ul style="list-style-type: none"> <li>• ESPs</li> </ul>
Fugitive Emission	CPP-handling & Storage	<ul style="list-style-type: none"> <li>• Covered storage yard to store coal at the plant site.</li> <li>• Silos to store fly ash at the plant site.</li> <li>• Transportation of Fly ash through closed tankers / bulkers.</li> <li>• Dust collection system to control dust emission.</li> <li>• Water sprinkling to reduce dust generation.</li> <li>• Greenbelt / plantation done along the plant boundary to attenuate air pollution.</li> </ul>
	CS <sub>2</sub> Plant-	<ul style="list-style-type: none"> <li>• Covered storage yard for storage of</li> </ul>

Emissions	Source	Management Measures
	Sulphur handling	sulphur. • Sulphur melting in closed system

(xvi) Details of solid waste/ hazardous waste generation and its management are as under:

Plant Unit	Waste	Treatment / Disposal
Acid Plant	Sulphur Filter Residue	TSDF
	Spent Catalyst (V <sub>2</sub> O <sub>5</sub> )	
ETP	ETP Inorganic Sludge (Gypsum)	Sold to cement industries
Plant Maintenance-Different sections	Oil soaked Cotton Waste & cotton waste	TSDF
	Used Oil	Sent to Authorized Recycler
	Used Resin	Sent to TSDF for disposal
STP	STP Sludge	Used as manure in greenbelt development/ plantation
Proposed CPP	Fly Ash	Will be supplied to Brick manufacturers, Cement industries

(xvii) Certified compliance report of the conditions stipulated in the EC is obtained from Regional Office of MoEFCC vide letter No. 5-1/2007(ENV)/291 dated 15<sup>th</sup> May, 2017.

**31.6.4.2** The proposal was last considered by the EAC in its meeting held on 12-13 October, 2017. The EAC had deferred the project for want of endorsement of the Action Plan submitted by the project proponent to the Regional Office, Bhopal to firm up compliance of the conditions stipulated in the EC dated 15<sup>th</sup> January, 2007 for expansion of Viscose Staple Fibre from 60000 TPA to 127750 TPA and CPP from 15 MW to 25 MW vis-à-vis their earlier observations. In response to the above observations, the project proponent has provided the action plan endorsed by the Regional Office, Bhopal vide their letter dated 7.11.2017.

**31.6.4.3** During deliberations, the EAC noted the following: -

The proposal is for environmental clearance to the project 'Expansion of Viscose Staple Fibre capacity from 1,27,750 to 2,33,600 TPA and coal based CPP from 25 MW to 45 MW' by M/s Birla Cellulosic (A Unit of M/s Grasim Industries Ltd) in a total area of 242.81 ha, at Birladham, Village Kharach, Tehsil Hansot, District Bharuch (Gujarat). The other products (intermediates/raw materials) presently manufactured include Sulphuric Acid (146000 TPA), Carbon Disulphide (21600 TPA) and Sodium Sulphate (96000 TPA). The Solvent spun cellulosic fibre unit of capacity 109500 TPA and coal based CPP of 71 MW are yet to be commissioned.

The project/activity is covered under category A of item 5(d) 'Manmade fibres manufacturing Rayon' of the Schedule to the Environmental Impact Assessment Notification, 2006, and requires appraisal at central level by the sectoral EAC in the Ministry.

The ToR for the project was granted on 13<sup>th</sup> February, 2017. Public hearing was conducted by the SPCB on 30<sup>th</sup> August, 2017.

Total fresh water requirement after the proposed expansion will be 22,286 cum/day (existing - 18600 cum/day, additional - 3686 cum/day) to be sourced through from Kim River. Narmada Water Resources Water Supply and Kalpsar Department of the State Government of Gujarat,

has already made an allocation for 7 MGD of water from Kim river to meet the total water requirement. Total effluent generation would be reduced from the present of 11580 cum/day to 11535 cum/day, which is proposed to be treated in the ETP of capacity 24000 cum/day. Treated effluent is to be discharged into Kim Estuary through 23 km long pipeline falling in CRZ area. The unit has already obtained the CRZ clearance from the Ministry vide letter dated 17<sup>th</sup> January, 2007 for the said pipeline. The domestic effluent of 1500 KLD shall be treated in the STP and then recycled for greenbelt development.

As per one of the conditions stipulated in ToR dated 13<sup>th</sup> February, 2017, study was to be conducted for possibility for use of non-charcoal based CS<sub>2</sub>. The same may not be relevant since the project proponent is no more willing to expand the capacity of CS<sub>2</sub>.

Consent to Operate for the present industrial operations (Viscose Staple Fibre - 127750 TPA, Carbon Disulphide - 21600 TPA, Sulphuric Acid - 146000 TPA, CPP-25 MW and Sodium Sulphate of 96000 TPA as Bye-product) has been obtained from the State Pollution Control Board, which is presently valid up to 11<sup>th</sup> April, 2019.

Earlier, the Ministry had issued environmental clearance on 15<sup>th</sup> January, 2007 for the project 'Expansion of Viscose Staple Fibre from 60000 TPA to 127750 TPA and CPP from 15 MW to 25 MW). The monitoring report on compliance status of EC conditions forwarded by the Regional Office at Bhopal vide their letter dated 15<sup>th</sup> May, 2017 (site inspection carried out on 7<sup>th</sup> April, 2017) was earlier not found to be satisfactory. For the conditions partially complied or not-complied, the project proponent has submitted the action plan to the Regional Office. The same has since been duly endorsed and forwarded by the Regional Office vide their letter dated 7<sup>th</sup> November, 2017. Another environmental clearance for manufacturing 'Solvent spun cellulosic fibre' of capacity 109500 TPA (covered under category B of item 5(d)) and coal based CPP of 71 MW (covered under category B of item 1(d)) was granted by SEIAA Gujarat vide letter dated 20<sup>th</sup> May, 2016. The project proponent has informed that the proposed industrial operations are yet to commence. Presently, only civil works are under progress. The Committee asked the project proponent to submit an undertaking in this regard.

**31.6.4.4** *The EAC, after deliberations, recommended the project for grant of environmental clearance, subject to compliance of terms and conditions as under: -*

- *Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.*
- *Total fresh water requirement shall not exceed 22,286 KLD proposed to be met from Kim River water supply. Prior permission in this regard shall be obtained from the concerned regulatory authority.*
- *Total effluent discharge after treatment shall not exceed 11535 cum/day to be discharged to the Kim Estuary through 23 km long pipeline. The effluent discharge shall conform to the standards prescribed under the Environment (Protection) Rules, 1986, or as specified by the State Pollution Control Board while granting Consent under the Air/Water Act, whichever is more stringent.*
- *Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.*
- *National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21<sup>st</sup> July, 2010 and amended from time to time shall be followed.*
- *To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. Sulphur content should not*



exceed 0.5% in the coal for use in coal fired boilers (2x100 & 1x120 TPH) to control particulate emissions within permissible limits. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.

- Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer through pumps.
- Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.
- The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.
- The company shall undertake waste minimization measures as below:-
  - (a) Metering and control of quantities of active ingredients to minimize waste.
  - (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
  - (c) Use of automated filling to minimize spillage.
  - (d) Use of Close Feed system into batch reactors.
  - (e) Venting equipment through vapour recovery system.
  - (f) Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- All the commitments made regarding issues raised during the public hearing/consultation meeting held on 30<sup>th</sup> August, 2017 shall be satisfactorily implemented.
- At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment based on item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.
- The company shall make all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.
- The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- Continuous online (24X7) monitoring system for stack emissions and the effluent, shall be installed for measurement of flow/discharge and the pollutants concentration, and the emission and effluent monitoring data to be transmitted to the CPCB and SPCB server as per the directions of CPCB in this regard.
- Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions. Raw material storage should not exceed 3 days at any point of time.
- The energy sources for lighting purposes shall preferably be LED based. A minimum of 10-20% of the total power requirement for the industrial operations shall be met from non-conventional energy resources/solar supply

## **Agenda No.31.6.5**

**Manufacturing of Chlorinated and hydrogenated Derivatives for agro intermediates Plant at Plot No. D-2/CH/6, Survey No. 843/P, 844/, 845/P, 850/P, 851/P, 852/P, GIDC Industrial Estate, Town Dahej-II, Tehsil Vagra, District Bharuch, Gujrat by M/s Radha Madhav Processors Pvt Ltd - For reconsideration of Environmental Clearance**

**[IA/GJ/IND2/59261/2015, J-11011/274/2014 IA II (I)]**

**31.6.5.1** The project proponent and their consultant M/s Kadam Environmental Consultants made a detailed presentation on the salient features of the project and informed that:

(i) The proposal is for Environment Clearance for M/s. Radha Madhav Processors Pvt. Ltd located at Plot No. D-2/CH/5&6, GIDC Industrial Estate, Dahej II, Taluka Vagra, District Bharuch (Gujarat).

(ii) The project proposal was considered by the Expert Appraisal Committee (Industry-2) in its 30<sup>th</sup> EAC meeting held during 2-3 November 2017 and recommended Terms of Reference (ToR) for the Project. The ToR has been issued by Ministry vide letter dated 6<sup>th</sup> January, 2015 and amended on 18<sup>th</sup> April, 2017.

(iii) All Pesticides industry and pesticide specific intermediates (excluding formulation) and, Synthetic Organic Chemical Industries are listed at S.N. 5(b), 5(f) of Schedule of environmental Impact Assessment (EIA) Notification under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).

(iv) Total land area is 60,000 m<sup>2</sup>. It is proposed to develop greenbelt in an area of 33.2 % i.e. 19,900 m<sup>2</sup> out of 60,000 m<sup>2</sup> of area of the project.

(v) The estimated project cost of is Rs.97.4 crores. Total capital cost earmarked for pollution control measures is Rs.503.19 lakhs and the recurring cost (operation and maintenance) will be about Rs.2383.52 lakhs per annum. Total Employment will be 200 persons as direct & 100 persons during construction phase. Industry proposed to allocate Rs.2.44 crores @ of 2.5% towards Corporate Social Responsibility.

(vi) Reserve forest lies within 10 km distance. Narmada Estuary is at a distance of 6.7 km in the North and Gulf of khambhat is at a distance of 11.8 km in the West.

(vii) Ambient air quality monitoring was carried out at 6 locations during December 2014 to February 2015 and the baseline data indicates the ranges of concentrations as: PM<sub>10</sub> (77 µg/m<sup>3</sup>), PM<sub>2.5</sub> (27 µg/m<sup>3</sup>), SO<sub>2</sub> (9.2 µg/m<sup>3</sup>), and NO<sub>2</sub> (19.9 µg/m<sup>3</sup>) respectively. AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 9.3 µg/m<sup>3</sup>, 18.9 µg/m<sup>3</sup> and 0.19 µg/m<sup>3</sup> with respect to PM<sub>10</sub>, SO<sub>x</sub> and NO<sub>x</sub>. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

(viii) Total water requirement is 2156 cum/day of which fresh water requirement of 1956 cum/day will be met from GIDC reservoir with prior permission from GIDC.

(ix) Total industrial effluent generation is 1885 cum/day and domestic effluent generation is 8 cum/day. High COD, high TDS stream of i.e 1237 cum/day will be treated in ETP -2 (capacity 1250 cum/day). Low COD and low TDS stream i.e 656 cum/day will be treated in ETP-1 (capacity 700 cum/day). 200 cum/day will be recycled. So ultimate disposal of wastewater is 1693 cum/day in GIDC drain.

(x) The power requirement for the proposed plant is 1 MW and will be met from Dakshin Gujarat Vij Company Ltd. (DGVCL). Unit has DG sets of 250 kVA capacity. Stack (height 11 meter) will be provided as per CPCB norms to the proposed DG sets of 250 kVA which will be used as standby during power failure.

(xi) Unit has 1 TPH and 2 boilers will be installed. Multi cyclone separator/ bag filter with a stack of 40 m will be installed. Multi cyclone separator/ bag filter with a stack height of 40 m will be installed for controlling the Particulate emissions (within statutory limit of 115 mg/Nm<sup>3</sup>) for Proposed TPH and boiler respectively.

S. No.	Stack Attached to	Capacity	Stack Height (m)	Fuel	Fuel Consumption	Air Pollution Control Measures
1	Boiler	2 Nos, 5 TPH Capacity each	40	Coal	30 TPD	Multi Cyclone Separator and Bag filter
2	Thermic Fluid Heater	20 Lac KCal capacity Thermic Fluid Heater	40	Coal	30 TPD	Multi Cyclone Separator and Bag filter
3	D.G Set	250 kVA	11	HSD	50 Ltr/Hr.	Adequate Stack Height

(xix) Details of Process emissions generation and its management.

S. No.	Stack Attached to	Stack Height (m)	Stack Diameter (m)	Pollutants	Air Pollution Control Measures
1	Reactor in MCA plant	15	0.2	Chlorine HCl	Caustic and water scrubber
2	CPVC plant reactor	15	0.2		Alkali scrubber
3	CPVC dryer	15	0.2		Water scrubber
4	Chlorination Reactor in TCAC plant	15	0.2		Caustic and water scrubber
5	CAC reactor in TCAC plant	15	0.2		Caustic and water scrubber
6	Benzene Chlorination Reactor	15	0.2		Caustic and water scrubber
7	Toluene Chlorination Reactor	15	0.2		Caustic and water scrubber

(xx) Details of Solid waste/ Hazardous waste generation and its management.

S. No	Waste Name	Category	MT/Year	Source	Disposal Method
1	Process residue	26.1	600	Process	Collection, Storage, transportation and send to CHWIF for incineration.
2	Carbon waste	35.3	4452	Process	Collection, Storage, transportation and send to TSDF
3	Hypo chlorite	D2	24162.00	Process	Sale to authorized vendors

4	HCl	D2	98874	Process	Sale to authorized vendors
5	Acetic Acid	D2	44040.00	Process	Sale to authorized vendors
6	Spent Acid	D2	68232.00	Process	Sale to authorized vendors
7	Spent catalyst	35.2	44.4	Process	Collection, Storage, transportation and send for regeneration/reactivation to supplier
8	Used Oil	5.1	200 Ltr	Process	Collection, storage, reuse/sell to authorized recycler
9	Discarded drums and containers	33.3	12000 Nos	Process	Collection, decontaminations, storage, reuse/sell to authorized recycler
10	ETP waste	34.3	960	ETP	Collection, Storage, transportation and send to TSDF

(xxi) The project site is located in at Plot No. D-2/CH/5&6, GIDC, Dahej II, Taluka- Vagra, District- Bharuch because Petroleum, Chemical and Petro-chemical Investment Region (PCPIR) at Dahej, Vagra, District- Bharuch, by M/s. Gujarat Industrial Development Corporation. (F. No. 21-49/2010-IA-III) received Environmental/CRZ clearance dated 14<sup>th</sup> September, 2017. In view of the same public hearing may not be applicable. Proposal for ToR amendment requesting exemption from public hearing/consultation has been submitted vide proposal no dated 3<sup>rd</sup> November, 2017.

(xxii) Following are the list of proposed products:

Plant Code	Common Name	Products	Capacity (MTPM)
Plant A	CPVC	Chlorinated Poly Vinyl Chloride	1,500
Plant B	Chlorination of Benzene and Toluene	Benzyl chloride, 2,6 Dichloro Phenol, 2,4 Dichloro Phenol, 2,4 Chloro Phenol, Benzyl chloride/Benzo Trichloride/Benzal chloride, P-Chlorobenzyl chloride/P-Chlorobenzal Chloride/P-Chloro Benzotrachloride, o-Chlorobenzyl Chloride/o-Chlorobenzal Chloride/o-Chloro Benzotrachloride, Chloro Benzene/Di Chloro Benzene, Mono Chloro Benzene (MCB), Dichloro Benzene (DCB) (Ortho/Meta/Para), Para Chloro Toluene/ Ortho Chloro Toluene,	2,000
Plant C	Chlorination of Acetic Acid	Mono Chloro Acetic Acid, Tri Chloro Acetyl Chloride,	1,500
Plant D	Hydrolysis of Chlorinated Compound	Iso Phthaloyl chloride, Phthaloyl chloride, o-Chlorobenzaldehyde, p-Chlorobenzaldehyde, Benzyl Alcohol, o-Chloro Benzyl Alcohol, p-Chloro Benzyl Alcohol, Benzoyl Chloride, Benzaldehyde, 2-Methoxy 5-Bromo 6-Methyl Benzoyl Chloride, 2,4 Dichloro Benzoyl Chloride, 4 Methyl Benzoyl Chloride, Propargyl Chloride, Pivaloyl Chloride, 4-Chloro Butyryl Chloride, Terephthaloyl Chloride, N-Valeroyl Chloride, 4-Chloro Benzoyl Chloride, 3-Nitro Benzoyl Chloride, 4-Nitro Benzoyl Chloride,	1,500

Plant E	Amines	Primary Amines, Ethoxylation of Primary Amines	1,000
Plant F		Paracetamol	1,000
Plant G	Nitro Compounds	4-Chloro 3,5 Dinitro Benzoic Acid, 6, Nitro 3,4 Dichloro Aniline, 4-Nitro ,5-Chloro, 2-methyl Aniline, 2-Nitro 4-Methyl Aniline, 3, Nitro 4-Chloro Benzoic Acid, 3-Nitro-para Toluic acid, 2,4 Dichloro 6 Nitro Phenol, 2,3 Dichloro 4 Nitro Phenol, 2,5 Dichloro 4 Nitro Phenol, 1,3 Di Nitro Benzene, Nitro Benzene, 2/3/4 Nitro Toluene, 3,5 Di Nitro Benzoic Acid, p-Nitro Salicylic Acid, 2,5 Dichloro Nitro Benzene, 3,4/2,3 Dichloro Nitro Benzene,	1,000
Plant H	Hydrogenation compounds	p-Hydroxy Aniline/o-Hydroxy Aniline	1,000
<b>Total</b>			<b>11,000</b>

**31.6.5.2** The proposal was last considered by the EAC in its meeting held on 2-3 November, 2017. The EAC, suggested for amending the ToR in respect of the condition stipulated therein for public hearing so that the proposal for EC is compliant with the ToR so revised. The Committee also desired for reconsideration of the proposal for EC after a formal request from the project proponent for exemption from public hearing. The EAC further desired that the Ministry may also take a policy decision in this regard so that the same can be replicated in similar other cases also.

In response to the above observations, the project proponent has submitted application for ToR amendment seeking exemption from public hearing.

**31.6.5.3** During deliberations, the EAC noted the following:-

The proposal is for environmental clearance to the project for manufacturing chlorinated and hydrogenated derivatives of total capacity of 11000 TPM for Agro Intermediates Plant by M/s Radha Madhav Processors Pvt Ltd in a total area of 60,000 sqm located at Plot No. D-2/CH/6, Survey No. 843/P, 844/P, 845/P, 850/P, 851/P, 852/P, GIDC Industrial Estate, Town Dahej-II, Tehsil Vagra, District Bharuch (Gujarat).

The project/activities are covered under category A of item 5(b) 'Pesticides industry and pesticide specific intermediates (excluding formulation)' and 5(f) 'Synthetic Organic Chemical Industries' of the Schedule to the Environment Impact Assessment Notification, 2006, and requires appraisal at central level by the sectoral EAC in the Ministry.

The ToR for the project was granted on 6<sup>th</sup> January, 2015 followed by amended therein on 18<sup>th</sup> April, 2017 with public hearing. The project proponent has now requested for amendment in ToR vide application dated 3<sup>rd</sup> November, 2017 seeking exemption from public hearing, as the project site is located in Petroleum, Chemical and Petro-chemical Investment Region (PCPIR) at Dahej (Gujarat) for which EC/CRZ clearance was granted on 14<sup>th</sup> September, 2017.

Out of the total water requirement of 2156 cum/day, fresh water requirement of 1956 cum/day shall be met from GIDC Water Supply. Remaining 200 cum/day shall be through recycled water.

The EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components.

**31.6.5.4** The EAC, after deliberations, recommended the project for grant of environmental clearance, subject to compliance of terms and conditions as under: -

- Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- The effluent discharge shall conform to the standards prescribed under the Environment (Protection) Rules, 1986.
- Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.
- National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21<sup>st</sup> July, 2010 and amended from time to time shall be followed.
- To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. Sulphur content should not exceed 0.5% in the coal for use in coal fired boilers (1 TPH) to control particulate emissions within permissible limits. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.
- Total fresh water requirement shall not exceed 1956 cum/day to be met from GIDC Water Supply. Prior permission in this regard shall be obtained from the concerned regulatory authority.
- Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer through pumps.
- Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.
- The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.
- The company shall undertake waste minimization measures as below:-
  - (a) Metering and control of quantities of active ingredients to minimize waste.
  - (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
  - (c) Use of automated filling to minimize spillage.
  - (d) Use of Close Feed system into batch reactors.
  - (e) Venting equipment through vapour recovery system.
  - (f) Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment based on item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.
- The company shall make all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.
- The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

- Continuous online (24X7) monitoring system for stack emissions and the effluent, shall be installed for measurement of flow/discharge and the pollutants concentration, and the emission and effluent monitoring data to be transmitted to the CPCB and SPCB server as per the directions of CPCB in this regard.
- Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions. Raw material storage should not exceed 3 days at any point of time.
- The energy sources for lighting purposes shall preferably be LED based. A minimum of 10-20% of the total power requirement for the industrial operations shall be met from non-conventional energy resources/solar supply

### 31.7 Any other item with permission of the chair (contd.)

#### Standardization of EC conditions for Distillery and Pharmaceutical/Chemical Industry Sector

Regarding standardization of environmental clearance conditions as deliberated on the previous day, the Committee recommended that the general conditions, which are presently being stipulated in respect of Distillery and Pharmaceutical/Chemical industries sectors, shall be retained as such, unless and otherwise any project specific observations are made by the Committee. These standard conditions are reproduced as under:-

#### Distilleries

- Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises (**applicable in case of the projects achieving the ZLD**).
- The effluent discharge shall conform to the standards prescribed under the Environment (Protection) Rules, 1986, or as specified by the State Pollution Control Board while granting Consent under the Air/Water Act, whichever is more stringent.
- Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.
- To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. Sulphur content should not exceed 0.5% in the coal for use in coal fired boilers to control particulate emissions within permissible limits (**as applicable**). The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.
- Total fresh water requirement shall not exceed the proposed quantity or as specified by the Committee. Prior permission shall be obtained from the concerned regulatory authority/CGWA in this regard.
- Industrial/trade effluent shall be segregated into High COD/TDS and Low COD/TDS effluent streams. High TDS/COD shall be passed through stripper followed by MEE and ATFD (agitated thin film drier). Low TDS effluent stream shall be treated in ETP and then passed through RO system.
- Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm and the solvent transfer through pumps.

- Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.
- The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.
- The company shall undertake waste minimization measures as below:-
  - (i) Metering and control of quantities of active ingredients to minimize waste.
  - (ii) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
  - (iii) Use of automated filling to minimize spillage.
  - (iv) Use of Close Feed system into batch reactors.
  - (v) Venting equipment through vapour recovery system.
  - (vi) Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- All the commitments made regarding issues raised during the public hearing/consultation meeting shall be satisfactorily implemented in letter and spirit.
- An amount equivalent to 1/2.5/5% of the total project cost shall be allocated for Enterprise Social Commitment based on public hearing issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.
- The DG sets shall be equipped with suitable pollution control devices and the adequate stack height so that the emissions are in conformity with the extant regulations and the guidelines in this regard. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
- The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- Continuous online (24X7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server.
- For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises (*applicable in case of the projects achieving ZLD*).
- There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places.
- Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.
- The energy sources for lighting purposes shall preferably be LED based. A minimum of 10-20% of the total power requirement for the industrial operations shall be met from non-conventional energy resources/solar supply.

### **Pharmaceutical/Chemical Industries**

- Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises (*applicable in case of the projects achieving the ZLD*).



- The effluent discharge shall conform to the standards prescribed under the Environment (Protection) Rules, 1986, or as specified by the State Pollution Control Board while granting Consent under the Air/Water Act, whichever is more stringent.
- Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.
- National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21<sup>st</sup> July, 2010 and amended from time to time shall be followed.
- To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. Sulphur content should not exceed 0.5% in the coal for use in coal fired boilers to control particulate emissions within permissible limits (**as applicable**). The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.
- Solvent management shall be carried out as follows :
  - (i) Reactor shall be connected to chilled brine condenser system.
  - (ii) Reactor and solvent handling pump shall have mechanical seals to prevent leakages.
  - (iii) The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 98% recovery.
  - (iv) Solvents shall be stored in a separate space specified with all safety measures.
  - (v) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.
  - (vi) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.
  - (vii) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.
- Total fresh water requirement shall not exceed the proposed quantity or as specified by the Committee. Prior permission in this regard shall be obtained from the concerned regulatory authority/CGWA.
- Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer through pumps.
- Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.
- The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.
- The company shall undertake waste minimization measures as below:-
  - (i) Metering and control of quantities of active ingredients to minimize waste.
  - (ii) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
  - (iii) Use of automated filling to minimize spillage.
  - (iv) Use of Close Feed system into batch reactors.
  - (v) Venting equipment through vapour recovery system.
  - (vi) Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- The green belt of at least 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- All the commitments made regarding issues raised during the public hearing/ consultation meeting shall be satisfactorily implemented in letter and spirit.

- *At least 1/2.5/5% of the total project cost shall be allocated for Enterprise Social Commitment based on public hearing issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.*
- *The DG sets shall be equipped with suitable pollution control devices and the adequate stack height so that the emissions are in conformity with the extant regulations and the guidelines in this regard. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.*
- *The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.*
- *Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.*
- *Raw material storage should not exceed 3 days at any point of time.*
- *Continuous online (24X7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server.*
- *For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises (applicable in case of the projects achieving the ZLD).*
- *Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.*
- *The energy sources for lighting purposes shall preferably be LED based. A minimum of 10-20% of the total power requirement for the industrial operations shall be met from non-conventional energy resources/solar supply.*

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**Members of the EAC (Industry-2) present during 31<sup>st</sup> meeting held on 23-24 November, 2017 at MoEF&CC, New Delhi**

1	Dr. J. P. Gupta	Chairman
2	Prof. J.R. Mudakavi	Member
3	Dr. N. Nandini	Member
4	Prof. (Dr.) H.R.V. Reddy	Member
5	Shri Suhas Ramchandra Pharande	Member
6	Sh. Paritosh Kumar	Member
7	Prof. (Dr.) Y.V. Rami Reddy	Member
8	Shri S.K. Srivastava	Member Secretary

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