Additional Information Sought

By

8th Expert Appraisal Committee held on 26-27th May 2016

For

Proposed Integrated Fertilizer Plant [Ammonia Plant (2x2200MTPD),Urea Plant (2x3850MTPD), Nitric Acid Plant (2x400MTPD), Ammonia Nitrate Plant (2x500 MTPD), Power Plant (2x67.5MW)]

VBC Fertilizers & Chemicals Ltd

Jayanthipuram Village , Jaggayyapet Mandal,
Krishna District, Andhra Pradesh

Environmental Consultant:

Bhagavathi Ana Labs Pvt. Limited

(A Bureau Veritas Group Company)

7-2-C 14, Industrial Estate, Sanathnagar, Hyderabad-500 18

EXTRACT OF MOM – 8TH EXPERT APPRAISAL COMMITTEE MEETING HELD ON 26-27TH MAY, 2016

Additional information sought by the committee is furnished herewith :

i) Granular urea plants will be installed. Details of the granulation plant along with environment management system are provided in Annexure- 1.

ii) Usage of natural gas in place of coal will be provided as suggested by the committee – Annexure 2

iii) Details of unit wise air pollution control devices are submitted in Annexure – 3.

iv) Revised water balance chart indicating water intake, loss and effluent generation is attached as Annexure -4

v) Details of effluent generation from various units, details of calculations for treated effluents to be utilized for green belt development are given in Annexure 5.

vi) Enterprise Social Commitment (ESC) (2.5% of project cost) based on local needs to be drawn along with action plan with financial and physical breakup / details are provided as Annexure 6.

vii) Issues raised during public hearing and commitments made by the project proponent in the form of tabular chart with financial budget for complying with the commitments made. Provided as Annexure 7

viii) To draw onsite – offsite emergency plan. Provided as Annexure 8

Annexure -1: Granular Urea Plant Details

Manufacture of Granular Urea

1. The main sections in the urea plant are

   (i) Urea synthesis
   (ii) Decomposition of unconverted ammonium carbamate and recycle of carbon dioxide and ammonia
   (iii) Concentration of urea solution
   (iv) Urea granulation; and
   (v) Scrubbing of exhaust air from various locations in the plant with process water and chemical solution to have clean air leaving into the atmosphere.

   The first three sections are common in the granular and prilled urea plants and the other two are entirely different brief details of the granulation plant, including the first three sections, are explained below.

2. (i) Urea synthesis

   Urea is produced by synthesis from liquid ammonia and gaseous carbon dioxide at a pressure of about 150 ata and temperature of 180^0 to 190^0c. in a vertical reactor. Liquid ammonia is pumped by high pressure centrifugal pumps and carbon dioxide is compressed in a steam turbine driven centrifugal compressor and admitted into the reactor.

   Ammonia and carbon dioxide react to form ammonium carbamate and a part of the carbamate dehydrates to form urea. The reactions are

   $2NH_3 + CO_2 \rightleftharpoons NH_2.CO\text{-}O\text{-}NH_4$

   $NH_2.CO\text{-}O\text{-}NH_4 \rightleftharpoons NH_2.CO.NH_2+H_2O$ (Urea)

   Products from the reactor, comprising of urea solution, unconverted ammonium carbamate, carbon dioxide, ammonia and water flow out by gravity into a stripper, in which the ammonium carbamate partly decomposes into carbon dioxide and ammonia. The stripper has a vertical tube bundle which is heated by medium pressure steam on the shell side and liquid from the reactor flows through the tubes in the form of a film. A large part of either carbon dioxide or ammonia vapour is passed through the tubes of the stripper in counter current to the descending liquid and this resulting in stripping or decomposition of ammonium carbate.
   Ammonia and carbon dioxide from the stripper are condensed in a high pressure condenser and the solution is recycled into the reactor.

(ii) Decomposition of ammonium carbamate :

The undecomposed ammonium carbamate is fully decomposed into ammonia and carbon dioxide in two stages at reduced pressures with steam heating and the solutions obtained from these stages are recycled into the synthesis system.

The urea reactor and stripper are specially designed items. Ammonium carbamate is highly corrosive and the stripper tubes are made from Titanium, Safurex, which is a special alloy steel developed for this purpose.

(iii) Concentration of urea solution

The urea solution from the decomposition section has a concentration of 70% and the solution is concentrated to 97% or 98% in steam heated, vacuum evaporators.

A formaldehyde based anti-caking chemical is added into the urea solution prior to pumping the concentrated urea solution to the granulation section. Addition of formaldehyde increases crushing strength of urea granules and also reduces formation of dust during product handling.

(iv) Urea granulation

Fluid bed granulation technology is adopted in large capacity plants for urea granulation, for high efficiency and excellent product quality. The solids recycle rate is very low.

The urea solution is atomized by heated compressed air and the solution drops so formed are sprayed onto urea seed particles in a fluidised bed suspension. Fluidisation air is passed up into the granulator from its bottom. The granules grow by accretion of urea droplets on the surface of the seed particles and the granule is built layer by layer. The particle gets completely solidified before a new layer of liquid melt is applied. Heat transfer and mass transfer rates are very high in fluidised bed, which facilitate rapid solidification of granules, resulting in very good crushing strength of the granules and minimum dust generation.

The granulator consists of the following (A sketch of granulator is enclosed) :

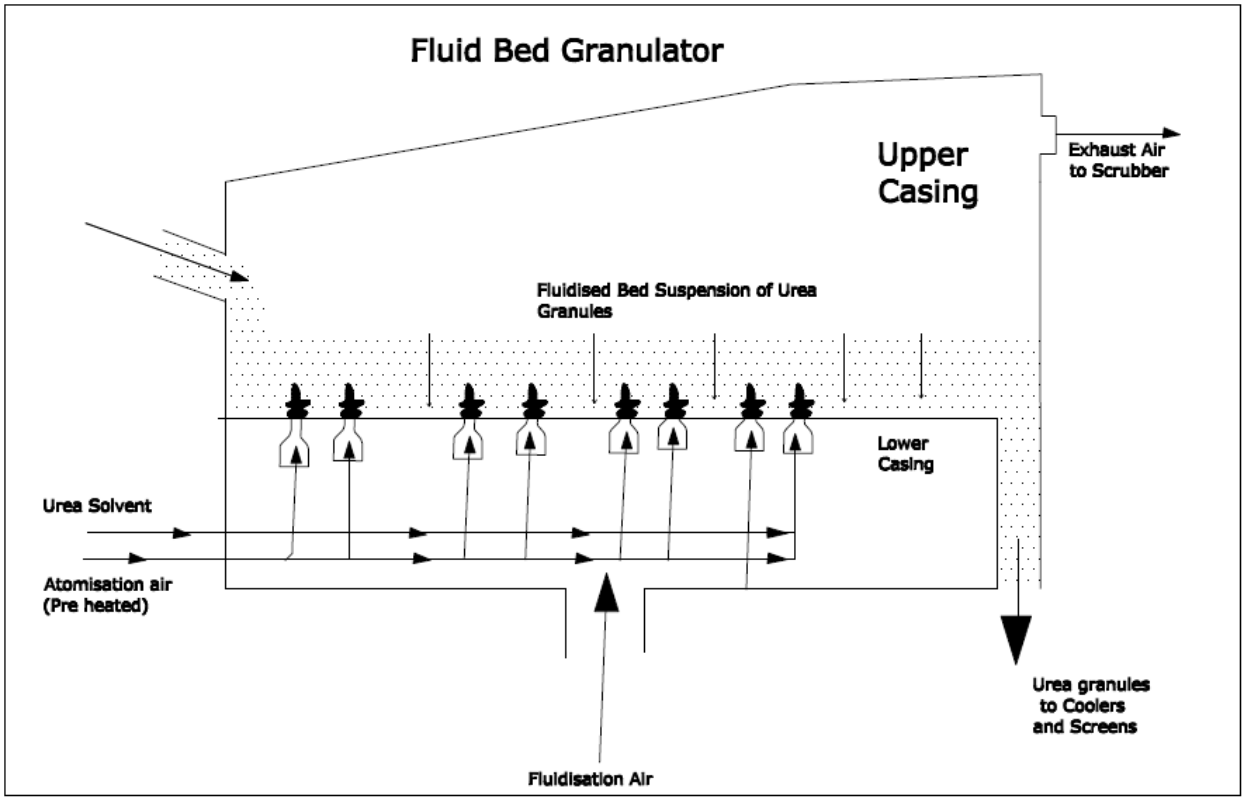
- An upper casing
- A lower casing
- Injection headers for atomization air, fluidisation air and urea solution
- A perforated grid plate in between the upper and lower easing

The lower casing supports the perforated grid, the injection headers and the upper casing.

The perforated grid evenly distributes the air needed to keep the solids in fluidised suspension and also bears the weight of the fluidised layer of granules while they are not fluidised. Both the casings are divided into chambers. These chambers play important roles for distribution of fluidisation air, for receiving the solids

recycle material as seed particles, to achieve continuous growth of granule size, for re-dusting and cooling and finally leading the material into the discharge port. Level control of the fluidised bed controls the product discharge rate.

- Two fluidised bed coolers provide the necessary cooling of the total product from the granulator and the on-size final product.
- Screening of the material : The material is passed through vibrating screens, which separate the product from fines and oversize. The oversize material is crushed in roll-rushers and transported into the granulator along with fines as seed particles.



(v) Scrubbing systems for control of emissions

(i) Granulator dust scrubbers :
Exhaust air from the granulator contains urea dust and also ammonia which is present in the urea solution and this air is passed through a scrubber in which a circulating dilute urea solution removes the urea dust. Demister pads are fixed on top of the scrubber and these are washed by process water to avoid plugging of the pads.

(ii) Ammonia in the air from the scrubber is removed in another scrubber in which dilute ammonium sulphate solution is circulated. Sulphuric acid is also injected

into the ammonium sulphate solution. The final air exhausted into the atmosphere is free from both dust and ammonia.

(iii) Dust scrubber for other equipment :

Dust collected in air from coolers, roll crushers, vibrating screens, bucket elevators, belt conveyors, etc. is removed in another scrubber in which dilute urea solution is circulated. The scrubber has demister pads which are flushed by process water to avoid plugging.

Typical quality of product granules

Item	Value	Comparison with prills
Nitrogen (% wt)	46.2	46.2
Biuret (% wt)	0.7 to 0.8	0.9 to 1.0
Moisture (% wt)	0.2 to 0.3	0.2 to 0.3
Crushing strength (KG)	4	About 1.0
Average diameter (mm)	2.8 to 3.2	1.7

Annexure – 2 : Usage of Natural Gas

Natural gas in place of coal will be provided as suggested by the committee

Annexure – 3 : Air Pollution Control Devices

Unit-Wise Air Pollution Controls

1. Ammonia Plant

- Catalytic steam –methane reformation :

Natural gas is fired in the primary reformer furnace. The blue gases leaving the furnace at about 1100^0c is cooled in various heat exchangers and finally let out into the reformer furnace stack at 120^0c. Height of the stack is 60 M.

Low NOx burners are used to minimize NOx. Natural gas contains very low sulphur compounds and the stack emission gasses do not contain any objectionable constituents.

Concentration of hydrocarbons remains owned 15 ppm and SOx less than 40 ppm.

- Ammonia synthesis :

To maintain level of inverts in the ammonia synthesis loop, a small purge is maintained. Ammonia in the purge gas is recovered by cooling and condensation and also by absorption in process water and is recycled. Hydrogen containing gas after ammonia recovery is burnt in the reformer furnace.

- Ammonia storage :

The liquid ammonia product storage tanks are provided with dedicated refrigeration compressors system to maintain pressure in the tanks. Emergency power is also connected to the refrigeration compressor.

Elaborate safety protection instrumentation is also provided to avoid not only higher pressure, but also vacuum, high ammonia level, etc.

Remote operated valves are provided in the ammonia inlet and outlet pipe lines.

A vent line is also connected to a blare stack installed at a distance from the storage.

- Process condensate stripper

Excess steam, used in the primary reformer and in the catalytic co-conversion reactors, condenses out forming process condensate. The condensate is stripped by heating with direct steam in a stripping tower. The dissolved gases

from the stripper top are put back into the process and the condensate is recycled as boiler feed water.

- Flare stack :

During starting and shut down operations, the operating conditions are unsteady for short durations and gases are vented out from the systems. The vent gases, any gases released from safety valves, etc. are all connected through headers to a flare stack of 60M in height and the gases are burnt out, using pilot burners.

2. Urea plant

- Urea synthesis, carbamate decomposition and urea solution concentration sections :

In these sections, no gaseous emissions into the atmosphere are involved.

- Urea granulation

In the granulation section, there are certain locations from where dust evolutions take place in these locations, handling of solids is involved. These are

1. Granulator,
2. Fluid bed coolers,
3. Crushers
4. Bucket elevators
5. Belt conveyors, etc.

Granulator:

The granulator is a fluidized bed system in which fluidization air admitted from the bottom keeps the urea granules in suspension. Atomisation air admitted for atomisation of urea solution. These air streams carry some urea dust while leaving the granulator.

Emission control is done by scrubbing the exhaust air in a wet scrubber, in which dilute urea solution is kept in circulation. The scrubber has demisting pads at the top which are continuously washed with process water.

The air leaving the scrubber remains free of urea dust. The recovered urea is put back into the processing system.

The dust free air contains small concentrations of ammonia. The ammonia is removed by scrubbing, in another scrubber, with dilute ammonium sulphate solution into which sulphuric acid is injected. The scrubber has demisting pads which are washed with process water.

As fluidized bed granulation process produces urea granules of high crushing strength, dust formation is far lower than in the conventional prilling system.

Removal of dust from air from all other sources:

Exhaust air streams from product coolers, roll crushers, bucket elevators, etc. are all directed into another dust scrubber in which dilute urea solution circulates, as in the case of the granulator dust scrubber. The scrubber has demisting pads which are washed by process water.

3. Nitric Acid plant :

- In the nitric acid plant, ammonia and air mixture passes through a reactor which contains Platinum Rhodium gauzes and ammonia reacts with oxygen at a temperature of about 850^0c forming Nitric Oxide. The hot gases pass through a waste heat boiler, a series heat exchangers and cooler condenser and finally into the Absorption tower. Nitric Oxide (NO) which is oxidized to NO_2 is absorbed in process water producing Nitric acid. The tower contains 65 to 70 sieve trays fitted with cooling coils. The process water flows down from tray to tray while the gases pass upward and concentration of the acid at the bottom tray builds upto 60%. The gases which leave the tower from the top are called tail gases. The tower operates at 4 to 5 ata and the tail gases still contain about 3000 ppm of nitric oxides.
- The gases pass through a demister to arrest any droplets of acid carried over and are heated up in the heat exchangers to about 250^0c. NOx from the gases is converted to Nitrogen and water in a catalytic reactor which contains vanadium pentoxide catalyst. The processed is called Selective Catalytic Reduction (SRC). Small amounts of ammonia vapour are injected into the gas stream before the reactor in which ammonia reduces the nitric oxides to N_2 and water.
- The catalytic reduction method is adopted worldwide as the most convenient and efficient system for removal of NOx from nitric acid plant tail gases. NOx content is reduced to low level of 200 – 300 ppm.
- The gases from the reactor pass through a tail gas turbine which is directly coupled to the process air centrifugal compressor and an energy reduction of about 30% is achieved from the expansion of tail gases in the turbine.

4. Ammonium Nitrate Plant

Exhaust air streams from Ammonium nitrate coolers, drier, vibration screens for separating the on-size product form fines and oversize carry particulate matter and dust. The air is cleaned from the ammonium nitrate dust by through scrubbing with process water in scrubbers. The scrubber exit air is free from dust and the solution is taken into the system as recycle.

Emissions from stacks:

Emissions from all stacks in the plants are continuously analysed and monitored by instrumentation.

Oxygen, hydrocarbons, NOx, Sox and CO is analysed.

Silencers are provided at all the vents.

Monitoring of ambient air in the premises

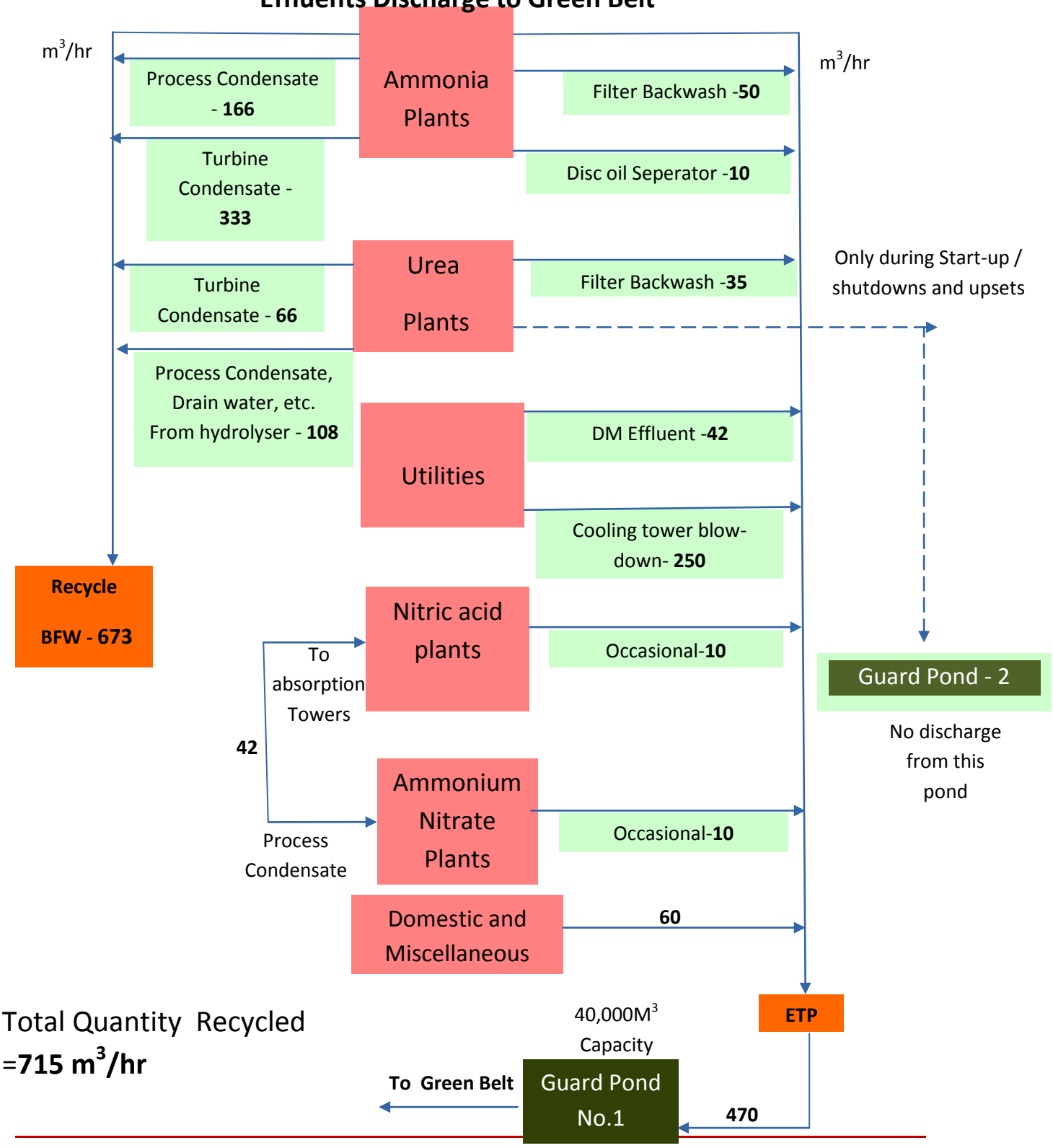
- Anemoprint continuously prints out wind velocity, direction date and time.
- Fugitive emissions are controlled at the sources by good maintenance practices.
- High volume air sampling unit will be used for carrying out the following :
  (a) Suspended particulate matter with continuous duty motors
  (b) For simultaneous collection of gaseous pollutants with accessories like timer, time totaliser, time reset and rotameter.
  (c) Use of gas/liquid chromotograph with detector for analysis of hydro carbons, CO & CO_2 in ppm range.

Annexure – 4: Water Balance

Water Balance Table

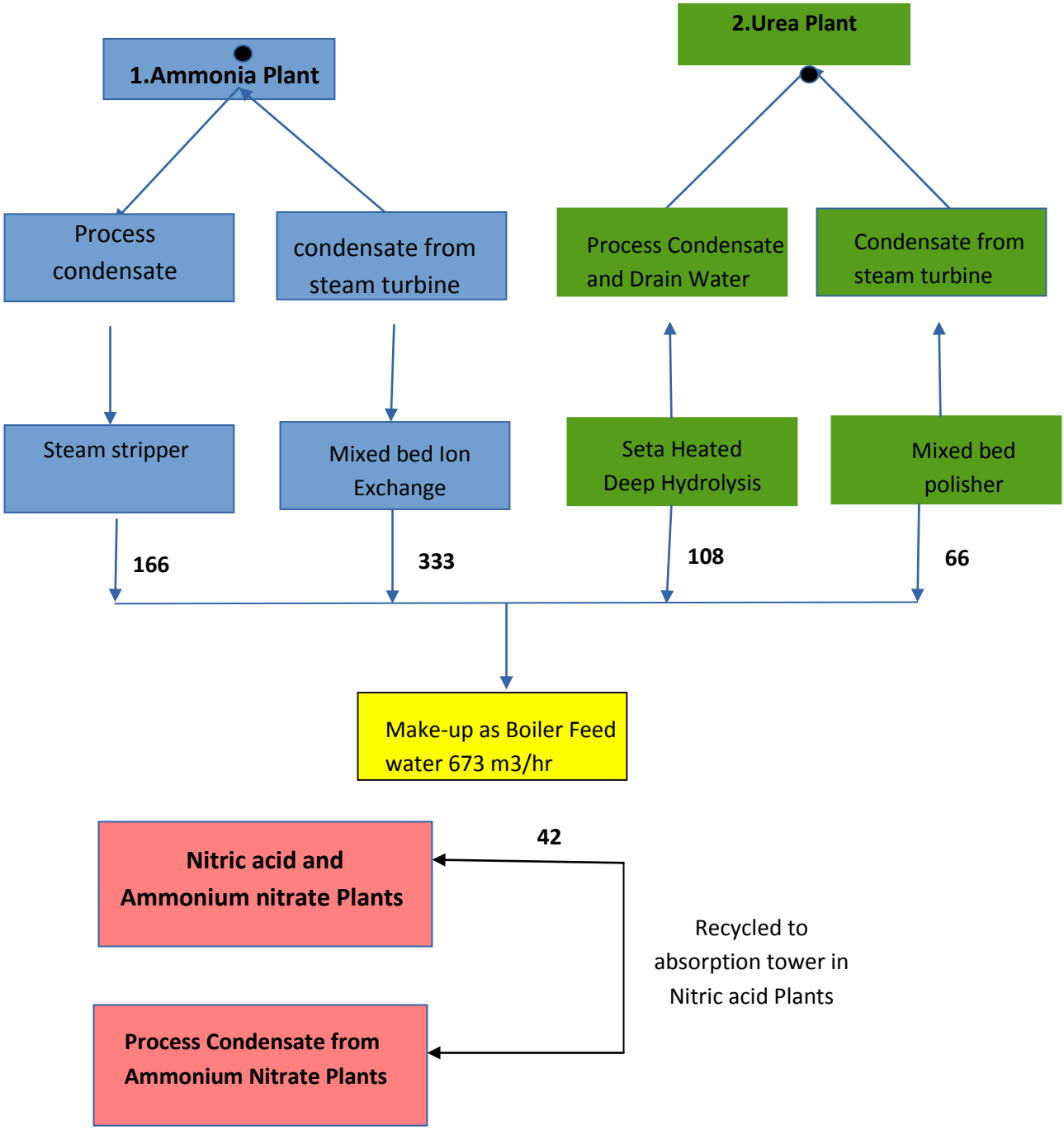
S.NO.	Purpose	Input (m^3/hr)	Output (m^3/hr)		
			Consumption	Evaporation	Effluent
1.	Process	900	740	-	160
2.	Cooling	1250	-	1000	250
3.	Domestic and Miscellaneous	65	5	-	60
Total		2215	745	1000	470

Condensates Recycle as Boiler Feed Water and Effluents Discharge to Green Belt



Total Quantity Recycled =**715 m^3/hr**

Recycle of process condensates and steam condensates (m3/hr)



Annexure – 5 : Details of Effluent Generation & Recycling

DETAILS OF CALCULATIONS OF EFFLUENTS FROM VARIOUS SECTIONS

Quantity of cooling water make-up
Cooling towers

(i) Total water circulating across all the cooling towers 85,000 M3/hr
(ii) Cycles of concentration 5
(iii) △ T between hot and cold water temperatures 8^0c

- Percent evaporation loss of circulating water = 8 X 0.182 x 0.8 = 1.16
- Evaporation loss = $\frac{85000 \times 1.16}{100}$ = 986 M^3/hr
- Drift Loss = $\frac{85000 \times 0.02}{100}$ = $\frac{16\ M^3/hr}{1002\ M^3/hr}$
- Blow-down water = 1000 M^3/hr
  = 1000/(5-1) = 250 M^3/hr

Make – up water = 1250 M^3/hr

Effluents directed to guard pond for usage as irrigation water for green belt

S.No.	Description	M^3/hr
1.	Ammonia Plant • From disc oil separator • Filter back wash (Intermittent)	 10 50
2.	Urea Plant • Fitter backwash (Intermittent)	 35
3.	Nitric acid and Ammonium Nitrate • Occasional drain water	 20
4.	Off-sites • DM Plant effluent • Cooling towers blowdown	 42 250 ------ 407
5.	Domestic and Miscellaneous	60 ------- **467 (or)** **470** **====**

Guard ponds (2 Nos. each of 40,000 M^3 capacities)

Two guard ponds will be provided for receiving the liquid effluents, one exclusively for the urea plants and the other for all other effluents.

- **Guard Pond – 1**

  Effluent waters from cooling towers (blow-downs), water treatment plant (intermittent), DM plant effluent, domestic and service water, etc., are admitted into this guard pond after treatment.

  Large volume of guard pond reduces adverse impact of minor fluctuations in effluent quality due to plant upsets and ensures uniform quality of effluent at the guard pond outlet.

  Water from this unit is pumped out for irrigation of the green belt.
  Quantity of this water would be 470 M^3/hr.

- **Guard Pond – 2**

  This pond is exclusively reserved for the urea plants. There will be no discharge out from this pond. During plant start-up, shut-down or upsets, effluent containing ammonia and urea goes into this pond, in which natural evaporation and natural hydrolysis takes place, releasing ammonia and carbon-dioxide at a slow rate.

  During regular operations of the urea plants, process condensates, drain water, etc., are treated in a deep hydrolyser, from which gaseous effluents are sent back to the process and the liquid effluent is recycled back into the urea plants.

- Quantity of process condensates and steam turbine
  Condensates recycled = 715 M^3/hr

  Quantity of effluents discharged to green belt = 470 M^3/hr
  715 + 470 = 1185 M^3/hr
  Recycle 715/1185 = **60.3 %**

Annexure -6: Enterprise Social Commitment (ESC)

Enterprise Social Commitment (ESC)

Total cost of the project is 10,000 Crores and the amount to be allotted for ESC is 2.5 % of the project cost which comes around 250 Crores.

S. No	Description	Capital Expenses (CAPEX)	Recurring Expenses (OPEX)
1	Strengthening of existing medical facilities, conducting regular medical camps and Blood bank, provision of free medicines in the medical camps	5 Crores	1 Crore per annum for 25 years 25 Crores
2	Construction of schools, strengthening of existing education infrastructure, scholarships to meritorious children, distribution of books, stationary, uniform to needful children and Polytechnic Colleges	10 Crores	2 Crore per annum for 25 years 50 Crores
3	Skill Development Centers & Eventually absorption of the same into the company	10 Crores	1 Crore per annum for 25 years 25 Crores
4	Provision of drinking water facilities, improvement of health and sanitation facilities in nearby villages	2 Crores	0.5 Crore per annum for 25 years 12.5 Crores
5	Cement roads, public amenities like rest sheds, bus stop, community halls, etc.	20 Crores	1 Crore per annum for 25 years 25 Crores
6	Development of Parks and Plantation of saplings	3.15 Crores	0.5 Crore per annum for 25 years 12.5 Crores
7	Veterinary Hospital Construction	2 Crores	0.5 Crore per annum for 25 years 12.5 Crores
8	Solar Lights along the roads and distribution of solar pumps to the farmers	5 Crores	1 Crore per annum for 20 years 20 Crores

Annexure -7: Public Hearing Issues and Commitment by VBC

Sr. No	Name of the person and Village	Public Concerns	Reply and Action Plan from Proponents	Budget Allocation
1	Shri Sriram Rajagopal, MLA	He welcomed the project to be coming up at Jayanthipuram with an investment of Rs.10,000 Cr. He stated that there are so many educated youth in the surrounding villages , who have completed B.Tech / MBA courses and yet there is no employment for them. He is hopeful that the proposed project will provide employment opportunities to them. He also stated that the CSR budget should be spent judiciously in the same constituency, so that the local people can get the benefits of the same.	CSR budget will be spent to provide employment to the candidates of the local area. It is suggested that a committee will be formed constituting one nominee each from MLA, the Joint Collector and VFCL. This Committee will be empowered to decide on the concerns mentioned above. This committee will be in place immediately after EIA approval and financial closure.	CSR Budget allocated is 250 crores and the will be utilized for the villagers
2	Shri Talluri .Venkateshwara Rao MPP, Jaggaihpeta	He welcomed the project and requested the employment opportunities should be provided to SC/ST candidates of this area. He added that the CSR budget should be spent for the housing and conducting medical camps in the area.		Capex of 5 crores and Opex of one crore per annum for 25 years is kept for medical facilities
3	Shri Vadakoppula .Mallikarjuna Rao , Sarpanch Jayanthipuram	He welcomed the project and asked about the employment opportunities to the local youth.		
4	Shri P Babu Rao, Sarpanch Budawada	He Welcomed the project . He also mentioned about the employment opportunities. He		Capex of 2 crores and Opex of

Sr. No	Name of the person and Village	Public Concerns	Reply and Action Plan from Proponents	Budget Allocation
		suggested that the company. shall adopt the village for all round development. He hoped that the company would solve the water problem in this area.		0.5crore per annum for 25 years is kept for drinking water facility
5	Shri Gova Ramakrishna, Sarpanch Gowravaram	He welcomed the establishment of the project. He suggested that the employment opportunities should be provided not only to SC/ST candidates but also to the educated ladies of his village. He suggested that the CSR budget should be spent for plantation of trees, establishment of schools and colleges and blood bank.		Capex of 15 crores and Opex of 3 crores per annum for 25 years is kept for education & Blood bank
6	Shri P. Jagjivan Rao, Sarpanch, Vedadari	He welcomed the project and suggested to give priority to merit candidates of their village while recruitment. He stated that Pollution Control Board should monitor the pollution levels continuously and conduct periodical checkups. He suggested that special protective measures should be taken with regards to nitric acid handling which is hazardous in 'nature.	CSR budget will be spent to provide employment to the candidates of the local area. It is suggested that a committee will be formed constituting one nominee each from MLA, the Joint Collector and VFCL. This	
7	Shri Munnagi .Ramakrishna Reddy, Sarpanch Pochampally	He is appreciating that a fertilizer unit is coming up in their area for the first time while majority of the industries		

Sr. No	Name of the person and Village	Public Concerns	Reply and Action Plan from Proponents	Budget Allocation
		located in this area are cement plants. He demanded that his village should be included for CSR benefits as his village was neglected in the earlier occasions. He also stated that many companies in the area are apprehensive in recruiting locals fearing that they may resort to agitations. He also mentioned about the employment to be given to his village youth.	Committee will be empowered to decide on the concerns mentioned above. This committee will be in place immediately after EIA approval and financial closure.	
8	Smt Vijetha , Sarpanch Chillakallu :	While welcoming the project, she suggested that not only her village but also the adjoining villages should be adopted for development and for employment opportunities. She has also asked to develop the road connectivity in the area.		Capex of 20 crores and Opex of 1 crore per annum for 25 years is kept for cement roads
9	Shri I.Nageshwar Rao, Sarpanch , I Agraharam	He welcomed the proposed project. He stated that due to the cluster of cement plants located in this area there is dust pollution problems. He requested to lay cement roads in the area and also suggested to provide employment opportunities to the eligible candidates in this area.		
1	Shri Dharavathu	He welcomed the project and	Csr budget	

Sr. No	Name of the person and Village	Public Concerns	Reply and Action Plan from Proponents	Budget Allocation
	Ravindra Nayak Dharmavaraputhandi, MTC :	suggested that each village of the area should be allotted one crore from the CSR budget. He also suggested that fertilizers should be supplied at 50% subsidy to local farmers.	will be spent to provide employment to the candidates of the local area. It is suggested that a committee will be formed constituting one nominee each from MLA, the Joint Collector and VFCL. This Committee will be empowered to decide on the concerns mentioned above. This committee will be in place immediately after EIA approval and financial closure.	
1	.Shri Gaddam Hussauin , Budawada Vice Sarpach	While welcoming the establishment of the project and he suggested developing green belt to control pollution. He also suggested to establish health camps in the area and requested to solve the water shortage problem in the area.		Capex of 7 crores and Opex of 1.5crores per annum for 25 years is kept for drinking water & Health facility
1	Shri Bukya Ramdas Naik, Dy. Sarpanch	He welcomed the project and asked to provide the employment to the local youth. He specially mentioned to establish a veterinary hospital in the area. He requested the Pollution Control Board to monitor the pollution levels in the area. He also suggested 'developing a green belt.		Capex of 2 crores and Opex of 0.5crore per annum for 25 years is kept for Veterinary hospital
1	Shri Srinu Islavath, Jayanthipuram	He requested to make necessary arrangements for the supply of water to his village as being done by Ramco Cements.		Capex of 2 crores and Opex of 0.5crore per annum for 25 years is kept for drinking

Sr. No	Name of the person and Village	Public Concerns	Reply and Action Plan from Proponents	Budget Allocation
				water facility
1	Shri Chinnasaidulu (B.Com final year student) :	He welcomed the project and suggested that a written assurance should be obtained from the company in regard to employment opportunities to be given to local villagers .		
1	Smt. Kolli Jayamma, Jayanthipuram :	She suggested that the employment opportunities should be given to educate ladies and unskilled youth.		Skill Development Centers & Eventually absorption of the same into the company. Capex of 5 crores and Opex of one crore per annum for 25 years is kept for skill development
1	Shri Sriramulu Naik, Ex-ZPTC (Dharmavaraputhanda) :	He welcomed the establishment of the project and suggested that 40% of the jobs should be provided to the local and the balance 60% to other parts of the district and non-locals. He sought written commitment from the company in this regard.		
1	Shri Kanduktiri Kondalu , Jayanthipuram colony	While welcoming the project, he suggested providing jobs for gents and ladies equally. He also suggested that one job should be provided to each house and priority shall be given to local available drivers.	budget will be spent to provide employment to the candidates of the local area. It is suggested that a committee will be formed constituting one nominee	
1	Shri .N.Praveen Dharmavaraputhanda(v) :	While welcoming the project, he suggested that there should be compensation mechanism in the eventuality of any damages to the area.		

Sr. No	Name of the person and Village	Public Concerns	Reply and Action Plan from Proponents	Budget Allocation
		He suggested taking proper precautions in regard to nitric acid and ammonia. He stated that water supply should be made for agricultural purposes by the company from the water drawn from the river.	each from MLA, the Joint Collector and VFCL. This Committee will be empowered to decide on the concerns mentioned above. This committee will be in place immediately after EIA approval and financial closure.	
	Shri Challa Vaikunta Rao , Vedadri (V) :	He welcomed the project and suggested that reservation system for SC/ST candidates shall be followed. He also suggested to spend the CSR fund-in the surrounding villages		
	Shri Bhokya lavakusa Naik :	While welcoming the .project he suggested that the employment opportunities shall be given to local youth , particularly having B.Tech and B.Sc Degree candidates .		
	Shri Hanumantha Rao , Jaggaiapeta (V) :	While welcoming the proposed project, he stated that the company should undertake skill development activities on a priority basis. Proper care should be taken while storing hazardous chemicals. He informed that the surrounding 31 villages having and 1.5 lakh population of which 27% are SC/STs. They should be given employment on a priority. He also suggested that proper		

Sr. No	Name of the person and Village	Public Concerns	Reply and Action Plan from Proponents	Budget Allocation
		care should be taken to prevent ground water pollution due to storage tanks.		
1	Shri Mandava Srinivas Goud, Chillakallu (V)	While welcoming the project, he suggested priority shall be given for the works relating to the local carpenters, electricians and small time contractors during construction period. He suggested that proper care should be taken in laying pipelines and railway siding and the company should utilize only government lands for this purpose. He expressed his concern over the import of urea in a big way by Govt. of India. •	budget will be spent to provide employment to the candidates of the local area. It is suggested that a committee will be formed constituting one nominee each from MLA, the Joint Collector and VFCL. This Committee will be empowered to decide on the concerns mentioned above. This committee will be in place immediately after EIA approval and financial closure.	
1	Shri V.Vijaya Kumar, Chillakallu (v) :	While welcoming the project, he strongly demanded reservations for SC/ST candidates for employment . He also demanded proper implementation of Labour Laws by the' authorities concerned. He was highly appreciative of the manner the proceedings were conducted by the Joint Collector and stated that they had full confidence on his functioning. He also demanded that the company should implement all the promises that were made		

Sr. No	Name of the person and Village	Public Concerns	Reply and Action Plan from Proponents	Budget Allocation
		without fail.		
1	Shri N.Raghu , Jaggaihpeta (V)	While welcoming the project he demanded that demanded that the natural gas produced in our state should be utilized within the state instead of sending the same all the way to Gujarat. He demanded that safety measures and Disaster Management Programs should be implemented meticulously. He suggested organizing skill development program for the local youth during the gestation period and providing them employment.		
2	Shri Ginjupally Ramesh (Ex Market Yard President)	: He emphasized the importance of farmer and also to food security. He expressed his deep concern on the import of urea from foreign countries. He stated that he is supporting the establishment of the project. He has suggested to establish a veterinary hospital in the area and also to take up plantation. He also ·demanded to stipulate the timeframe for spending CSR fund.		Capex of 2 crores and Opex of 0.5crore per annum for 25 years is kept for Veterinary hospital

Annexure 8 : Onsite & Offsite Emergency Management Plan

1. On-Site Emergency Plan

The Key Personnel are:

- Site Controller (SC)
- Incidental Controller (IC)
- Liaison and Communication Officer (LCO)
- Fire and Security Officer (FSO)
- Team Leaders (TL)

Responsibilities of Key Personnel

Site Controller (SC)

- On getting information about emergency, proceed to Main Control Centre
- Call in outside emergency services
- Take control of areas outside the plant, which are affected
- Maintain continuous communication, review situation and assess possible course of events
- Direct evacuation of nearby settlements, if necessary
- Ensure that casualties are getting enough help
- Arrange for additional medical help and inform relatives
- Liaison with Fire and Police Services and Provide advice on possible effects on outside areas
- Arrange for chronological recording of the emergency
- Where emergency is prolonged, arrange for relieving personnel, their catering needs etc.
- Inform higher officials in head office
- Ensure preservation of evidence
- Direct rehabilitation work on termination of emergency

Incident Controller (IC)

- On getting emergency information, proceed to Main Control Centre
- Activate emergency procedure such as calling in various teams
- Direct all operations within plant with following priorities:
    a) Control and contain emergency
    b) Secure safety of personnel
    c) Minimise damage to plant, property and the environment
    d) Minimise loss of material
- Direct rescue and repair activities
- Guide fire-fighting teams
- Arrange to search affected area and rescue trapped persons
- Arrange to evacuate non-essential personnel to safe area/assembly point
- Set up communications network and establish communication with SC
- Arrange for additional help/equipment to key personnel of various teams
- Consider need for preserving all records, information for subsequent enquiries

Liaison and Communications Officer ()

- To ensure that casualties receive adequate attention, arrange additional help if required and inform relatives
- To control traffic movements into the plant and ensure that alternative transport is available when need arises
- When emergency is prolonged, arrange for the relief of personnel and organize refreshments/catering facility
- Advise the Site Controller of the situation, recommending (if necessary) evacuation of staff from assembly points
- Recruit suitable staff to act as runners between the Incident Controller and himself if the telephone and other system of communication fail. -Maintain contact with congregation points
- Maintain prior agreed inventory in the Control Room
- Maintain a log of the incident on tape
- In case of a prolonged emergency involving risk to outside areas by windblown materials - contact local meteorological office to receive early notification of changes in weather conditions

Fire and Safety Officer ()

- Announce over the PAS in which zone the incident has occurred and on the advice of the Shift Officer informs the staff to evacuate the assembly
- Inform the Shift Officer In-charge, if there is any large escape of products
- Call out in the following order:
    a) Incident Controller or his nominated deputy
    b) Maintenance Officer
    c) Personnel and Administrative Officer
    d) Departmental Head in whose area the incident occurred
    e) Team Leaders (TL)

Assembly Point

In emergencies, it is necessary to evacuate personnel from the area of the dangerous zone to prevent casualties. The employees will be directed to assemble at a pre-determined and designated area, call as Assembly Point both indoor and outdoor.

Roll call of personnel assembly at these locations will be carried out by roll call members of safety team to account for any missing person (s) and to initiate search and rescue operations if necessary.

will certainly be necessary to evacuate personnel from affected areas and as precautionary measure, to further evacuate non-essential workers, in the first instance, from areas likely to be affected, should the emergency escalate. The evacuation will be effected on getting necessary message from i.e. on evacuation; employees would be directed to a predetermined safe place called Assembly Point.

Outdoor assembly points, predetermined and pre-marked, will also be provided to accommodate evacuees from affected plant area(s). Roll call of personnel collected at these assembly points, indoor and outdoor will be carried out by roll call crew of safety team to account for any missing person(s) and to initiate search and rescue operations if necessary.

Emergency Management Training

The Key Personnel would undergo special courses on disaster management. This may preferably be in-plant training. The Managers, Senior Officers and Staff would undergo a course on the use of personal protective equipment.

The Key Personnel belonging to various Teams would undergo special courses as per their expected nature of work at the time of emergency.

The plant management would also familiarize outside agencies like district fire services, with the plant layout and other aspects, which will be helpful to them during emergencies.

Mock Drills

Mock drill will be conducted at the plant site periodically to ensure prompt response from all the designated persons in carrying out the responsibilities entrusted to them. Time of quick response is very important for effective tackling emergencies. For this purpose, emergency response time would be clocked below two minutes during the mock drills.

The following reviews would be made :

- 1st Step: Test the effectiveness of communication system
- 2nd Step: Test the speed of mobilisation of the plant emergency teams
- 3rd Step: Test the effectiveness of search, rescue and treatment of casualties
- 4th Step: Test emergency isolation and shut down and remedial measures taken on the system
- 5th Step: Conduct a full rehearsal of all the actions to be taken during an emergency

The Disaster Management Plan would be periodically revised based on experiences gained from the mock drills.

2. Off-site Emergency Plan

2.1 The Site Controller (SC) and Incident Controller (IC) of the On-site Emergency Plant group will inform Commissioner of Police /Magistrate/Collector regarding the expected severity of the emergency and its nature and request the authorities for necessary deployment of the required services and help from them, based on the type of emergency, wind direction.

For meeting the offsite emergency situations, collector/Magistrate/Police head are considered the core group for exercising all the required activities like deploying firefighting services, ambulances and other means for evacuation of persons in the neighborhood to safer places.

2.2 The local population would be appraised from time to time and educated regarding the factory, the types of emergency situations, even though of remote likelihood to prepare them for any such emergencies.