ASHA CELLULOSE

ASHA CELLULOSE (I) PVT. LTD.

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To,

Date: 16/06/2020

The Member Secretary - IA Division (Industry: II)
Government of India
Ministry of Environment, Forests and Climate Change
Indira Paryavaran Bhavan, Aliganj
Jor Bag Road, New Delhi – 110003.

Subject: Reply to Additional detail sought by the committee during 16th meeting of the EAC (Industry-2 Sector) held during January 21-23, 2020.

Project: Proposed Expansion Project for Manufacturing of Ethyl Chloride (From Ethyl Alcohol), Ethyl Chloride (From Mixed Solvent Of Existing Process), Methyl Chloride (From Methyl Alcohol) & Hydroxy Propyl Methyl Cellulose (HPMC) from 96.54 TPM to 1028.54 TPM at S. No. 303/2, 303/P, 273/2, 275/1 Village: Abrama, Ta: Valsad, District: Valsad, 396001 Gujarat by Asha Cellulose (I) Pvt. Ltd.

Ref.: 1. Minutes of 16th meeting of the EAC (Industry-2 Sector) held during January 21-23, 2020
2. Proposal No. IA/GJ/IND2/118582/2019
3. ToR Letter No. J-11011/316/2011-IA II (I) dated 18.03.2019

Respected Sir,

We, Asha Cellulose (I) Pvt. Ltd. are proposing Expansion Project for Manufacturing of Ethyl Chloride (From Ethyl Alcohol), Ethyl Chloride (From Mixed Solvent of Existing Process), Methyl Chloride (From Methyl Alcohol) & Hydroxy Propyl Methyl Cellulose (HPMC) from 96.54 TPM to 1028.54 TPM at S. No. 303/2, 303/P, 273/2, 275/1 Village: Abrama, Ta: Valsad, District: Valsad, 396001 Gujarat, Our project falls in Schedule 5 (f) Category–"A" as per EIA Notification 2006 and its amendment thereof.

Presentation for the appraisal of EC held on January 21-23, 2020 in 16th meeting of the EAC (Industry-2 Sector) and the committee asked the additional detail. Please find enclosed herewith our point wise reply with respect to Additional detail sought by the committee, as follow.

(i) CRZ map to be submitted to establish the fact whether CRZ is involved in the project. The comments from CRZ division of this Ministry may be obtained.

Reply: Asha cellulose owns land vide survey No. 303/2, 302/P, 273/2, 275/1. Some part of survey no. 303/2 and 302/P is falls under NDZ (No Development Zone) as per Coastal regulation zone. In existing unit NDZ area is developed as greenbelt and same will be maintained after expansion. The proposed expansion project will be constructed outside of NDZ (100 Meters from HTL). We herewith confirm again that no construction will be carried out in NDZ.

For prove the fact, fresh GPS survey of our site was carried out on 14th March 2020 by the representatives of Institute of Remote Sensing (IRS) – Anna University, Chennai and site plan is superimposed on CRZ map prepared by IRS attached as **Annexure – I.**

Asha Cellulose (I) Pvt. Ltd. * Valsad * Auth Sign.

(ii) Onsite emergency plan as per MSIHC Rules and occupational health plan.

Reply: On-Site Emergency Plan has been prepared as per guidelines of MSIHC Rules and Gujarat Factory Rules. It deals with measures to prevent and control emergencies within the factory Premise and during transportation.

On - Site Emergency Response Plan (OSERP) is primarily prepared to take stock of the situation and take suitable action to cope up with the emergency, which may arise during any time of the day or night. This on-site emergency plan has been prepared taking into consideration;

- the plant size
- hazardous operations & processes
- hazardous chemicals storage / inventory
- inventory of flammable liquid/gas/ toxic gas
- man power resources
- facility like fire suppression arrangement in-house and nearby

Effective implementation of the plan largely lies in every individual doing his specific job and coordination with others as per the plan.

The provision of the proposed draft rules (Factory Rules) & the following guidelines given by the Deputy Director of Safety and Industrial Health Office are kept in mind while preparing this on site & off - site emergency plan.

(1) Status related to risk assessment & environment impact in case release of flammable Liquid/Toxic Gas & measures taken for prevention of such accidents.
(2) Probabilities of possible hazards due to failure of provided control measures & equipment such as safety valves, rupture discs, pressure gauges, temperature gauges etc.
(3) Provisions for all the facilities & procedure for immediate control to minimized the effects of such probabilities.
(4) Arrangements with mutual aid agencies.
(5) Arrangements for information to workers thoughts emergency alarms & the public vicinity & surrounding factories through telephone in case of emergency at the plant.
(6) Arrangements for transporting affected people to the hospitals & medical centers through cars/ ambulance.
(7) Arrangements for necessary treatment & availability antidotes at hospitals & nearby medicals centers.
(8) Organization chart for fixation of responsibilities of managers, officers, workers at different stages for handling emergency due to gas lick, liquid spillage, fire explosion etc.
(9) Details regarding alert system like emergency alarm.
(10) Provision for training, rehearsals, mock drills etc. At regular intervals to the personnel handling emergency.
(11) Submission of the map of the area showing approach to the factory, location of the emergency facilities such as hostilities, police, and fire services.
(12) Notification of place gathering of workers & the staff at the time of emergency.
(13) Information in details regarding & disaster, which might have occurred in factory.
(14) Notification of main control center for 24 hours to use at time of emergency.

(15) Submission of material safety data sheet hazardous substances.
(16) Arrangements regarding maintenance of different equipment control measures & safety procedures of work so that they shall work efficiently.
(17) A statement of all possible sources of accidents involving fire, explosion. Release of leaking of toxic substance & plan showing the place of above accidents with the facilities to the control the emergency near the place & the control place.
(18) A statement of all health & safety policy of factory.

While preparing this plan the following documents have been referred:

(A) On site emergency plan prepaid as per the guidelines given
Gujarat Factory Rules (GFR) &Director Industrial Safety & Health, Gujarat state.
(B) The guidelines given by the Office of Deputy Director Industrial Safety & Health.
(C) Safe handling of hazardous chemicals.
(D) MSIHC Rules

Separate chapters are given for offsite emergency plan to explain a link between On-site and Off-site plan is also explained suitably.

This plan covers hazards like Natural calamities i.e. Flood and Earth Quake and Other Emergencies like fire; explosion and toxic release, Spillage, Major Injury etc. The plan describes steps to prevent, mitigate and minimize it. This plan is very much useful during emergency for employees working in factory, surrounding public staying in vicinity of this site.

Detailed Onsite emergency plan as per MSIHC Rules Schedule 11 (rule 13(l)) is attached as **Annexure II**.

(iii) Alternate source of fresh water other than ground water to be submitted.

Reply:

Presently, we are using 37 KLD of fresh water from our own bore well. After proposed expansion, we will use only 37 KLD fresh water from our bore well. There will be no additional fresh water required for proposed expansion. Additional water will be obtained from Raw material (30% HCl) and entire waste water will be treated in ETP followed by RO and MEE. Thus, there will be no requirement of additional fresh water. Detailed water balance before and after expansion attached as **Annexure III.**

Surface water from river Auranga is available at a distance of 300 meters. But the concerned authority is not ready to give fresh water from the River for industrial purpose, because they are unable to supply drinking water regularly to nearest town i.e. Valsad and main issues raised during public hearing are also about drinking water supply in Valsad town only.

To minimize the ground water consumption, we are planning to collect rain water during monsoon season and will be utilized for process operations. Thus, we will use fresh water from bore well in other seasons except monsoon season. We have allocated Seven lakhs of rupees for this purpose.

(iv) Action Taken Report on non-compliance points in the existing EC conditions to be forwarded by the Regional Office of the Ministry.

Reply:
Action Taken Report on non-compliance points in the existing EC conditions is submitted to the Regional Office of the Ministry. The compliance report is received from MOEF CC and enclosed as **Annexure – IV.**

(v) Issues raised during public hearing, response by the project proponent, action plan with budgetary allocation and its time lines needs to be submitted.

Reply:

Issues raised during public hearing, response by the project proponent, action plan with budgetary allocation is given below:

Sr. No.	Name and Address	Points represented and / or written submission	Replies from Company's technical representative	Action Plan / Justification	Fund Allocation
1.	Mr. Shailesh Joshi (BJP, District Ex. Maha Mantri) Vill : Ta & Dist : Valsad	He represented that the project is ideal on paper but ideal away from reality. Presentation is very good, everything seems Ok. There are two major issues in people's mind: one is water pollution and the other is water scarcity. On paper everything is ideally Ok. Reality is different. It is feared that water of Auranga River and Dam will get contaminated. So we request to consider public interest while actual project construction, otherwise protest may further go ahead. We request H'ble Collector to note the same. • The chairman inquired that you will reuse the water treated in RO. But what about the treated water of RO? • Water will reused in process, then after what? • Why have you planned ETP?	• Company's technical representative replied that this is in operation for the last 20 years in this area. The company has not used even a drop of water from Aurganga River or Water Works. Water is being obtained from company's own bore well. Total 244 KLD water will be required for the proposed project which will be met through recycled water and requirement of daily 37 KLD fresh water will be met through company's own bore well. Adequate treatment plant has been established to treat the wastewater generated from utilities and process and waste generated from the treatment plant will be treated in RO plant and RO permeate will be reused in process. RO rejection will be treated in Multi Effect Evaporation System and will be reused. So no wastewater will discharged on land or in the river. • Company's technical representative replied that treated water of RO will re-used in process. • Treated RO water will be reused in process and multi effect evaporation system has been installed for rejection water. Solid and liquid waste will be segregated. No waste water will be discharged on land or in the river. • Primary, secondary and tertiary treatment will be carried out in RO plant and ETP waste will be converted in solid waste. • The Regional Officer replied that wastewater generated from the industry is treated in ETP and further treated in RO plant which yields two type of water. One is RO permeate which is used in process and the other is RO reject which will be evaporated in Multi Effect Evaporation system. So as they say that no water will be discharged.	• The company is not using surface water from river Auranga since beginning and will not use even after proposed expansion as we do not require additional fresh water for proposed expansion. Presently fresh water is sourced from our own bore well and after expansion also same amount of fresh water will be sourced from company's own borewell. We are also planning to collect rain water during monsoon season and utilize the same in process operations and thus the consumption of fresh water from bore well will be minimized as part of alternate source of water. • We are a ZLD unit and entire waste water is treated in our ETP. The treated water is passed through RO and RO reject stream is fed to MEE and MEE condensate will be used in cooling tower. RO permeate will be re-used in the process. Thus, there will be no discharge of water on land or in river. • The solid waste from MEE will be dried and disposed of in GPCB approved TSDF site. • ETP sludge collected from sand bed is dried disposed of in approved TSDF.	Rs. 35 Lakhs is allotted to ETP for Proposed Expansion as EMS Cost. Rs. 7.0 lakhs allocated for construction of Rain water collection tank.

Sr. No.	Name and Address	Points represented and / or written submission	Replies from Company's technical representative	Action Plan / Justification	Fund Allocation
2.	Shri Yashesh Mali Nagar Palika Apaksh Member, Valsad	• He represented that I would like to draw your attention to some of the technical matters. I am observing Abrama and Mograwadi zone for the last 10 years. We are talking about the development of upcoming 30 years. The company stated that they are using water from their own bore well. We observed that level of water bore has been reduced. We have observed entirely different situation while roaming. Moreover "water cannot be created, it can only be saved". So from wherever the bore water will be extracted, loss will have to be bear to Valsad Nagar Palika. Thus we are leading Valsad City to the risk. In this era of ever growing population, we are planning to provide more basic facilities to the people of Valsad. We believe that we are facing problems in achieving the same. • Nowadays, problem of water is such severe that upon digging bore just 10 meters away from the bore, no water appears. So this is all matter of probabilities. So this company is going to be a burden for Valsad Nagar Palika. • We are suffering from problems of the city and we are planning for the next 30 years.	• Company's technical representative replied that the company will recharge the bore well by rainwater harvesting system and by rainwater harvesting, ever reducing level groundwater will be compensated. • The company has arranged RO and MEE for increasing water consumption. So fresh water consumption will be less.	• For the last 20 years we are drawing 37 KL/day fresh water from our own bore well and never experienced the reduction or starvation of ground water. Our project site 7 kilometers away from Valsad city. • We are practicing rain water harvesting principle religiously. • Now we planning to collect rain water in a storage tank and consume rain water during monsoon season. Thus, we can reduce fresh water from bore well during monsoon.	Rs.7.0 lakh is allocated for the construction of rain water storage tank.

Sr. No.	Name and Address	Points represented and / or written submission	Replies from Company's technical representative	Action Plan / Justification	Fund Allocation
	The chairman stated that whether you are going to use additional water or not for the proposed project. If yes, from where will you obtain the water?		• Company's technical representative replied that we will use daily 37 KL water which will be obtained from the bore well and we will recharge the bore well beyond its capacity, which will be used up to 37 KL per day after expansion as well.	• Presently we are drawing 37 KL/day fresh water from bore well. After expansion also we will draw 37 Kl/day fresh water only as we receive additional water from 30% Hydrochloric acid. Detailed Water balance before and after proposed expansion is attached as **Annexure - III** • Secondly, we are treating entire waste water in our ETP and treated water is passed through RO and MEE units. The permeate water from RO is re-used and rejection from RO is fed to MEE. The condensate from MEE is also re-used. Flow diagram of ETP with RO & MEE is enclosed as **Annexure - V**	
	The chairman stated that please explain that you are not going to use any additional water and there will be no water requirement in the proposed project.		• Company's technical representative replied that only 37 KL water will be used. There will not be any additional water consumption in the proposed project.	Detailed water balance before and after proposed expansion is attached **Annexure – III** which is self- explanatory.	
3	Shri Kailashnath Pande, Valsad	• He represented that as per company's representation, water consumption is very large. So there is a fear of reducing groundwater level like Saurashtra and North Gujarat. But the company is twisting the matter which is not fair.	-----	• For the last 20 years we are drawing 37 KL/day fresh water from our own bore well and never experienced the reduction or starvation of ground water. Our project site 7 kilometers away from Valsad city. • We are practicing rain water harvesting principle religiously. We are also planning to collect rain water during monsoon season and utilize the same in process operations and thus the consumption of fresh water from	Rs.7.0 lakhs allocated for the construction of rain water collection tank.

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				bore well will be minimized.	
4	Shri Nareshbhai Dang, Ex. President, BJP, Valsad	• He represented by addressing H'ble Prime Minister that we should work in such a way that our next generation would not suffer. Whether the company have adequately publicized the public hearing or not? If the company have publicized adequately, the number of people present here would not be so less and among the people present here, most of them are employees of the company. Instead of giving advertisement of this public hearing in only two newspapers, If there had been more publicity, more people would have been present.	• The Regional Officer, GPCB replied that Executive summary in Gujarati and English of the proposed project has been distributed in 48 nearby villages to their concerned sarpanch/Talatishri. Advertisement has been given in 2 newspapers July 2019, English and gujarati as per EIA Notification.	The advertisement is given local newspapers by GPCB – Regional Office, Vapi as per their norms. Executive summary of the proposed project in Gujarati & English has been submitted at sarpanch / Talatishri offices in 48 nearby villages. Statement showing participants present during the Public Hearing attached as **Annexure 'A'.**	--
5	Shri Sarpanch Vill. : Atak Pardi Dist. : Valsad	• He presented that my village is situated at half kilometer from the company. We have not received any advertisement or notice in Atak Pardi.	• The Regional Officer, GPCB replied that advertisement was published in "Gujarat Samachar" and "Western Times" for public awareness and public notice was also submitted to all the sarpanch or talati of all the surrounding villages.	The advertisement is given local newspapers by GPCB – Regional Office, Vapi as per their norms. Executive summary of the proposed project in Gujarati & English has been submitted at sarpanch / Talatishri offices in 48 nearby villages.	--
6	Shri Nareshbhai Dang, Ex. President, BJP, Valsad	• He presented that granting permission for expansion to the company is breach of water policy of the Government. Rivers and water are under water resources department of Gujarat government which is under	• Company's technical representative replied that the company has a 2 inch borewell, for which permission has already been obtained. As per CRZ rules this borewell is more than 100 m distance from Auranga river. We have obtained permission from Central Ground	Our bore well pump discharge line size is 2". The location of bore well is more than 200 meters distance from river Auranga. We have permission from Central	--

Sr. No.	Name and Address	Points represented and / or written submission	Replies from Company's technical representative	Action Plan / Justification	Fund Allocation
		daman ganga department. Arial distance between Auranga river and company is within 100 m. Thus it is prohibited to drain ground water within 100 m. Thus as per my perception company should not be granted expansion. Furnish the detail of size of diameter of bore and nos. of bore permitted by daman ganga department. • Arial distance between Arabian sea and company is approx. 4 kms. As sea is coming forward every year in this situation draining ground water by Asha Cellulose (I) P. L. may mix up saline water of sea with sweet water of Valsad City and it's nearby villages. Thus expansion should not be granted. • The sea is at the distance of 4.5 kms. from the DSP office, then how come the distance of sea is 9.18 kms. from the company? You are misleading the people. • It is not notified area; it is social forestation and green belt area. Population of Valsad City including surrounding villages is approx. 3 Lakhs. • Arial distance between Asha cellulose company and Valsad Nagar Palika Dam is 100 m. Thus there is absolute possibility of draining dam water while extracting ground water. It may be resulted into scarcity of water in Valsad City.	Water Authority for the same • The Arial distance of the sea from the proposed project is 9.18 Kms. • The Regional Officer, GPCB insisted to verify and correct the distance from google map and give it in writing. He directed the company to reply for the same. ------ -------	Ground Water Authority (CGWA). We have verified the aerial distance between Arabian see and project site is 9.12 KM. Copy of google image is attached as **Annexure - B**	

Sr. No.	Name and Address	Points represented and / or written submission	Replies from Company's technical representative	Action Plan / Justification	Fund Allocation
7	Shri Mehboob urfe Zakir Gulshekh N. Pathan, Member, Nagar Palika, Valsad	• He represented that inward number of letter issued by GPCB to the Chief Officer, Nagar Palika, Valsad is "2312". But when we called Chief Officer on reading "Dakshin Gujarat Vartman" weekly, he was in Delhi and when we informed the President, he was inadvertent of the matter. This is sheer criminal negligence. • Distance of sea from the company is shown 9.15 kms in the report where as in the R&B board distance of sea sea is shown 4.5 kms. Distance of the company from here is 1 km only. The company is misleading the people by showing the distance of sea 9.15 kms. You have advertised the public hearing in "Western Times" and "Gujarat Samachar". Nobody reads "Western Times" here. So comments/suggestions/objections of people should be sought only after publicity of hearing through rickshaw. So this public hearing should be conducted only after proper publicity so that people can speak.	---- ----	We have verified the aerial distance between Arabian see and project site is 9.12 KM. Copy of google image is attached as **Annexure - B** The advertisement is given local newspapers by GPCB – Regional Office, Vapi as per their norms. Executive summary of the proposed project in Gujarati & English has been submitted at sarpanch / Talatishri offices in 48 nearby villages.	
8.	Shri Rajeshbhai Patel, Ex. President, Nagar Palika,	• He represented that the main issue is of water. I agreed that red colored groundwater is found from the tribal area which is at the distance of 9.5 kms. from the company. As there is a risk of reducing	• Company's technical representative replied that we undertake in written that we will not use dam water or water of water works if we don't get water from the bore well in the future. We will find some other solution.	We are running the company for the last 20 years at same location. The fact is that all our raw materials and our products are white or colorless. So problem of red colored water is not from our company. It is misunderstanding of the member.	

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	Valsad	groundwater level and other urban problems, this company should not be allowed to use groundwater and water from the dam. • I request that the company should not be given permission for expansion and even permission of bore well should not be given.	• We are running the company for the last 20 years. We do not acquire water from outside and we don't discharge water. So red coloured water fact is not the truth. We are ready to go there and check it right now. We don't discharge water on the land or in the river.	We are a ZLD unit and entire waste water is treated in our ETP. The treated water is passed through RO and RO reject stream is fed to MEE and MEE condensate will be used in cooling tower. RO permeate will be re-used in the process. Thus, there will be no discharge of water on land or in river.	
9.	Shri Ravi Mahakal Counselor, Ward No.11, Nagar Palika, Valsad	• He represented that he is the resident of the company area. The company has been running for the last many years. We have not faced any problem till date. No issues has been raised regarding pollution or employment. As our village is within the radius of 100 to 500 meter to this company, there are utmost possibilities of affecting our village. So our village will be affected due to expansion of this company.	• Company's technical representative replied that yours is a really genuine issue. Our company will continue the work as was working in the past. There will be no issue of reducing groundwater level. Because there will be no additional water consumption in the proposed project.	Our company is existing at the same location for the last 20 years and since then there is no issue or problem to the surrounding villages in any manner. We are following all norms laid down by the State Pollution Control Board (GPCB). We have assured the concerned counselor that will take all required precautions even after proposed expansion.	The company has allotted 168 lakhs especially for environmental management system for proposed expansion and Rs. 214 lakhs/annum is annual recurring cost for proposed expansion project.
10.	Shri Ketan Patel Vill. : Abrama Ta. & Dist. : Valsad	• He represented that water of his village was drinkable in the past. At present it is saline and not drinkable. We could take bath in Auranga River in the past. At present, we cannot take bath in Auranga River due to polluted water. Stone of Auranga River were black in colour. At present they turned yellow. This should	• Company's technical representative replied that pollution take place only when the industry discharges wastewater on land or in the river. But our company do not discharge any wastewater either on land or in the river. So the issue of either stones being turned yellow or water becomes saline is not due to our company.	There is dam on river Auranga and our company about 300 meters away on the downstream of dam. There is no possibility of water going up against gravity. Secondly, we are a ZLD unit and we are not discharging any water on land or into river. Auranga river is connected to Arabian sea and high tide sea water back flow up to dam. So salinity in water is because of back water of Arabian	

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		be investigated.		sea.	
11	Shri Dharmesh Patel, Sarpanch, Vill.: Jujwa, Dist. : Valsad	• He presented that my village is My village is located a short distance from the company, where I have farming and we are not tech savvy. We are farmers. You are requested not to damage our farm with incoming project chimneys and treated water and we hope that locals will get employment in 15% new employs that you are going to recruit.	• Company's technical representative replied that there is no toxic gas emitted by the company at present and we use natural gas in boiler. No toxic gas will be emitted from proposed project as well. So there will be no damage to surroundings. Imported coal will be used in new boiler. Electro Static Precipitator will be installed to control the particulate matter. So it will be controlled under 50 mg i.e. below permissible limit stipulated by GPCB. ETP has been inspected regularly and people can also inspect the same.	• Additional 50 nos. of people will be employed from the nearby villages as per their skills and qualifications. • There are no fugitive emissions from our company. In the proposed coal fired boiler we are going to install ESP besides scrubber to control particulate matter below prescribed limit of 50 ppm.	Rs. 8 lakhs has been allotted for Air pollution control measures, and Rs. 35 lakhs have been allotted for effluent treatment Plant.
	• The chairman inquired about the provisions of local employment.				
			• Company's technical representative replied hat 110 personeel are working at present and additional 50 personnel will be employed.	• Additional 50 peoples will be employed as per their skills and qualification.	
12	Shri Kailashnath Pande Valsad	• He represented that CRZ (amendments) is a law. It should be implemented and distance of the company from the river bank is mentioned in the law. The existing factory is in the jurisdiction of Nagar Palika and only light industries are mentioned. It does not include Asha Cellulose. So this company should be relocated as per the industrial policy and it is the responsibility of GPCB to implement water policy of the year 2015 of the government and it is your responsibility to eliminate water and air pollution. I believe that you are	• The Regional Officer, GPCB replied that it is the responsibility of Valsad Nagar Palika according to the Town Planning Act. They will verify this matter. Gandhinagar Committee is working on the possibility of reuse of treated sewage.		

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		negligence about the same. • You are requested to throw the light regarding objection of President, Nagar Palika, Valsad and Chief Officer, Nagar Palika, Valsad for this company.	• This question will included in the proceedings of this public hearing.		
13	Shri Hemantbhai Tandel Vill: Kosamba Ta, Dist: Valsad	• He represented that discussion should be only about Asha Cellulose. Sir, People who came here, do not know anything about Asha cellulose, thus this public hearing is meaningless. • How much water you are using at present? And how much quantity will be increased? • Then what will be used instead of water in new products? • What is Flash point of Solvent? • Give flash points of your five products? • If the products spills, will it catch fire? • What is the Auto Ignition Point? • At existing plant, How much production is there of solvent? And how much you are going to increase? • As per my knowledge, 4 persons were died in a blast in this plant, it is fact. • Which products will you produce now? • This is proposed products. I am not satisfied with your answers. If you cannot answer properly, then please appoint a qualified person.	• The Regional Officer, GPCB stated that I have said that discussion should be as per provisions of EIA notification and I have said accordingly. • We are using 37 KL waste and after expansion the quantity will be remained same. • Mix solvents will be used for new products, which we were selling outside till now. • -38 ˚ C • Flash point, Melting Point and Boiling Point of every solvent are given in EIA report. • It will get evaporated, and no chance of catching fire. • More than 300˚ C. • Now, production is 96 TPM, after expansion it will be 1028 TPM. • The blast was happened in 2002, after that no accident has happened in last 15 years. We have installed fire hydrant system in our factory. Water storage tank of 2 Lakh lit has been provided. Training is given and fire extinguishers are provided as per requirement. • Ethyl chloride from Ethyl Alcohol, Methyl chloride from Methyl Alcohol will be manufactured. • No. At present, we are producing raw material of our proposed products which at present is being purchased from outside, now it will be produced in our company. ----	GPCB has given advertisement in local newspapers and executive summary of the proposed expansion is distributed at the offices of village sarpanch / talatishri in nearby 48 villages. • The management shall ensure that all workers/employees are provided with basic Personal Protective Equipment (PPEs) like ear plug/muff, safety helmet, face mask, safety gloves, safety goggles, safety shoes etc. • Management will also ensure to have safety and first aid facility for the workers/ employees engaged in the working of the plant in order to provide them with necessary treatments in case of accidental mishaps or their health breakdown.	Budget of **Rs. 5 Lakhs** is allocated for occupational health and safety.
	The Chairman stated that you give your questions to GPCB and Company in writing, your answers		• The Regional Officer, GPCB said that answers given by company were not satisfactory. So	Detailed clarifications in writing were posted to Shri Hemantbhai Tandel.	

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	will be given in writing.		the company should appoint a person who can give the appropriate answers.	No query was received from Shri Hemantbhai Tandel after detailed reply in writing.	
		• In case of power failure, It is said that generator will be used, its fuel is gas. What is the type of this generator?	• Company's technical representative replied that we have all the figures and we can present it but we want some time so that we can search it through the EIA report. • DG set will be used with acoustic enclosure as per CPCB guideline.	Back up power from D.G.Sets is available to run critical equipment and utility services. The fuel for D.G.Sets is high speed diesel.	
			• The Regional Officer, GPCB replied that, approval for this project and scrutiny will be done by CPCB and MoEF department where permission will be granted only after proper scrutiny.		
14	Pravinbhai Kachchi Member, Vasad Nagarpalika	• Here presented that he wants to ask a question that the words "Tika-Tippani" used in the newspaper advertisement is not proper. Instead "Objections" and "discussion" words should be used. Moreover, Chief Officer and main members of Nagarpalika are absent. Wastewater from drainage will come out side? Please explain.	----	GPCB Regional Officer answered that the word is not un-parliamentary and he would definitely consider his suggestion in future. We are ZLD unit and we are not discharging any water outside of company premise. Also, we are not discharging any water on land or into river.	
15	Mr. Ujesh Kumar Patel; PWD Chairman, Municipality, Valsad	• He represented that is this company one firm? • You can set up three types of companies - Engineering, Textile and Light Industry in the area from Navsari to Pardi. Asha cellulose do not belong to in this category. What are your current products? What are the raw materials? • Do you want to produce hydroxy propyl ethyl cellulose? It is not justifying	• Company's technical representative replied that both companies are different. • We make ethyl cellulose, its raw material is ethyl chloride, wood pulp and caustic. • Yes, we are going to make hydroxy propylene ethyl cellulose, but no additional water will be used in this process. Ethyl Chloride and Methyl Chloride will be produced as a final product from this process. The rest of the residues will be treated and will be sent for the incineration process and there will be no gaseous emissions. • Wastage will first come out as liquid which will be treated and converted into solid		

Sr. No.	Name and Address	Points represented and / or written submission	Replies from Company's technical representative	Action Plan / Justification	Fund Allocation
		that 37 KL water is being used before and after expansion also. I have the whole process of what a product is going to be and what will be the outcome. You will use ethyl alcohol and methyl alcohol, will to use HCl to produce chloride? What will be the final product? • Will the waste be generated from the process? If yes, what kind of waste will be generated, solid or liquid?	waste and it will be sent to BEIL at Ankleshwar. We are member of Vapi TSDF for the last 20 Years. so we have mentioned Vapi. • The Regional Officer, GPCB replied that open slide number 25, it has answers of all your questions. If there is a question other than this, it may be given in writing today.		

(vi) Committee noted that there is no qualified person in the EMC. PP needs to submit the clarification and appoint the adequate person in the EMC.

Reply:
We have recruited an Environmental Engineer (M.Tech) in January 2020. Photo copy of certificates and appointment letter are enclosed herewith. The revised Environment Management Cell is also attached herewith as **Annexure – VI.**

(vii) PP needs to identify the alternate source of water.

Reply:
Presently, we are using 37 KLD of fresh water from our own bore well. After proposed expansion, we will use only 37 KLD fresh water from our bore well. There will be no additional fresh water required for proposed expansion. Additional water will be obtained from Raw material (30% HCl) and entire waste water will be treated in ETP followed by RO and MEE. Thus, there will be no requirement of additional fresh water. Detailed water balance before and after expansion attached as **Annexure III.**
Surface water from river Auranga is available at a distance of 300 meters. But the concerned authority is not ready to give fresh water from the River for industrial purpose, because they are unable to supply drinking water regularly to nearest town i.e. Valsad and main issues raised during public hearing are also about drinking water supply in Valsad town only.

To minimize the ground water consumption, we are planning to collect rain water during monsoon season and will be utilized for process operations. Thus, we will use fresh water from bore well in other seasons except monsoon season. We have allocated Seven lakhs of rupees for this purpose.

(viii) Details of activities related to CER, as committed @ 5%, needs to be submitted.

Reply:

A budget of Rs. 76.9 Lakhs i.e. 5% of the Rs. 1538 Lakhs (Expansion cost) is allocated for Corporate Environment Responsibility (CER) under proposed expansion project and will be implemented in next 5 years after implementation of project at nearby villages i.e. Abrama, Gundlav, Chanvai, Vashiyar, Magod, Muli, Kajan Ranchhod.

CER Activities with year wise budget (Rs. in Lakhs)

S. No.	Description	Year					Total
		1	2	3	4	5	
1.	Donation for Women Empowerment program and distribution of dustbins in nearby villages as per requirement i.e. Abrama,	**360000**	**350000**	**350000**	**250000**	**200000**	**1510000**

ASHA CELLULOSE

ASHA CELLULOSE (I) PVT. LTD.

Works : Near Water Works, Abrama, Valsad-396 001, Gujarat, India
Phones : +91 2632 254299 • 253665, 650382 Mobile : 9687617011, 9687610411 Fax : +91 2632 227019
Email : valsad@ashacel.com Website : www.ashacel.com CIN No. : U27200MH1988PTC046727

1.	Donation for Women Empowerment program and distribution of dustbins in nearby villages as per requirement i.e. Abrama, Gundlav, Chanvai, Vashiyar, Magod, Muli, Kajan Ranchhod,	**360000**	**350000**	**350000**	**250000**	**200000**	**1510000**
2.	Education kit distribution & Scholarship in schools of nearby villages as per requirement i.e. Abrama, Gundlav, Chanvai, Vashiyar, Magod, Muli, Kajan Ranchhod,	**360000**	**350000**	**300000**	**250000**	**250000**	**1510000**
3.	Free medical Health Check-up Camp in nearby villages in nearby villages as per requirement i.e.Abrama, Gundlav, Chanvai, Vashiyar, Magod, Muli, Kajan Ranchhod	**560000**	**500000**	**350000**	**300000**	**300000**	**2010000**
4.	Renowation of School/roads in nearby villages as per requirement i.e. Abrama, Gundlav, Chanvai, Vashiyar, Magod, Muli, Kajan Ranchhod	**660000**	**650000**	**650000**	**350000**	**350000**	**2660000**
	Total (Rs. in Lakhs)	**1940000**	**1850000**	**1650000**	**1150000**	**1100000**	**7690000**

We request you to kindly consider our submission and issue Environmental Clearance.

Secondly, we humbly request you to consider our case as we could not supply defence requirement due to non-availability of raw material (Ethyl Chloride) and other export orders.

Please do the needful and oblige.

Thanking you Sir,
For Asha Cellulose (I) Pvt. Ltd.

Asha Cellulose (I) Pvt. Ltd. Auth. Sign. * Valsad *

K.Srinivas
Director

ANNEXURE I

Superimposing the project site of M/s. Asha Cellulose (I) Pvt Ltd., Near water works, Abrama CT, Valsad Taluk, Gujarat on approved CZMP as per CRZ 2011 Notification of MoEF & CC, GoI

The DGPS survey was carried out specific to the referred project site boundary only hence, validation of HTL and CRZ boundary is limited to the clearance of the same. Institute of Remote Sensing do not carry responsibility for CRZ status of other plots or neighbourhood

Prof. S.S. Ramakrishnan, M.Sc., M.Tech., Ph.D.
Director
Institute of Remote Sensing,
Anna University, Chennai-600 025

ANNEXURE I

REF.No. AU/IRS/SSR/77-2020 dated 18.03.2020

Superimposing the project site of M/s. Asha Cellulose (I) Pvt Ltd., Near water works, Abrama CT, Valsad Taluk, Gujarat on approved CZMP as per CRZ 2011 Notification of MoEF & CC, GoI

Report Prepared for

M/s. Asha Cellulose (I) Pvt Ltd.
Near water works, Abrama CT,
Valsad - 396 001
Gujarat

Prepared By

Institute of Remote Sensing
Anna University, Chennai - 25

March, 2020

ANNEXURE I

Superimposing the project site of M/s. Asha Cellulose (I) Pvt Ltd., Near water works, Abrama CT, Valsad Taluk, Gujarat on approved CZMP as per CRZ 2011 Notification of MoEF & CC, GoI

ABSTRACT

The client, **M/s. Asha Cellulose (I) Pvt Ltd., Near water works, Abrama CT, Valsad - 396 001, Gujarat** has approached the Institute of Remote Sensing (IRS), Anna University, Chennai to carry out the GPS survey for the project site in Abrama CT, Valsad Taluk with reference to approved Coastal Zone Management Plan (CZMP) of Gujarat as per CRZ 2011 notification of MoEF & CC.

The corner co-ordinates of the project boundary shown by the client on the field was measured using GPS survey and superimposed on approved CZMP of Gujarat. The spherical co-ordinates of the High Tide Line in WGS84 system are listed out in the ***Annexure - I***. The photographs taken during the field survey are provided in ***Annexure - II.*** A map showing the plot superimposed on approved CZMP as per CRZ 2011 notification of Gujarat is furnished at 1:4000 scale along with this report.

ANNEXURE I

Superimposing the project site of M/s. Asha Cellulose (I) Pvt Ltd., Near water works, Abrama CT, Valsad Taluk, Gujarat on approved CZMP as per CRZ 2011 Notification of MoEF & CC, GoI

1. INTRODUCTION

The coastal zone is the area of interaction between land and sea. The Coastal Zone of Gujarat has a high concentration of population along with ecologically sensitive areas like mangroves and fish culture zones. There is a spurt of developmental activities arising from new industries and tourism centre along the coast and in coastal zone. There is a need to protect the coastal environment while ensuring continuing production and development. This zone is extremely vulnerable and has to be managed judiciously striking a balance between ecological and developmental needs.

Government of India has issued a notification during February 1991 for regulating the developments along the coastal stretches of seas, bays, estuaries, creeks, rivers and backwaters which are influenced by tidal action. The land between 500 meters from the High Tide Line (HTL) and the Low Tide Line (LTL) is identified as Coastal Regulation Zone (CRZ). The coastal stretches within CRZ are classified into four categories, namely, Category I (CRZ-I), Category II (CRZ-II), Category III (CRZ-III) and Category IV (CRZ-IV). The notification has also laid down regulations to regulate the various activities in the coastal zone.

ANNEXURE I

The Ministry of Environment and Forest in the CRZ Notification, 2011 declared the following areas as CRZ and imposed with effect from the date of the notification the restrictions on the setting up and expansion of industries, operations or processes and the like in the CRZ. The areas that are defined as CRZ as per CRZ Notification, 2011 are

(i) The land area from High Tide Line (HTL) to 500mts on the landward side along the sea front.

(ii) CRZ shall apply to the land area between HTL to 100 meters or width of the creek whichever is less on the landward side along the tidal influenced water bodies that are connected to the sea and the distance up to which development along such tidal influenced water bodies is to be regulated shall be governed by the distance up to which the tidal effects are experienced which shall be determined based on salinity concentration of 5 parts per thousand (ppt) measured during the driest period of the year and distance up to which tidal effects are experienced shall be clearly identified and demarcated accordingly in the Coastal Zone Management Plans.

(iii) The land area falling between the hazard line and 500mts from HTL on the landward side, in case of seafront and between the hazard line and 100mts line in case of tidal influenced water body the word 'hazard line' denotes the line demarcated by Ministry of Environment and through the Survey of India taking into account tides, waves, sea level rise and shoreline changes.

(iv) Land area between HTL and Low Tide Line (LTL) which will be termed as the intertidal zone.

(v) The water and the bed area between the LTL to the territorial water limit (12 Nm) in case of sea and the water and the bed area between LTL at the bank to the LTL on the opposite side of the bank, of tidal influenced water bodies. The Classification of the CRZ is also modified for the purpose of conserving and protecting the coastal areas and marine waters as CRZ – I, CRZ – II, CRZ – III and CRZ – IV. The CRZ – I include the areas that are ecologically sensitive and the geomorphological features which play a role in the maintaining the integrity of the coast like (a) Mangroves(b) Corals and coral reefs and associated biodiversity (c) Sand Dunes (d) Mudflats which are biologically active (e) National parks, marine parks, sanctuaries, reserve forests, wildlife habitats and other protected areas (f) Salt Marshes (g) Turtle nesting grounds (h) Horse shoe crabs habitats (i) Sea grass beds (j) Nesting grounds of birds (k) Areas or structures of archaeological importance and heritage sites and the area between Low Tide Line and High Tide Line. The CRZ-II includes areas that have been developed up to or close to the shoreline. The CRZ-III includes areas that are relatively undisturbed and those do not belong to either CRZ-I or II, which include coastal zone in the rural areas (developed and undeveloped) and also areas within municipal limits or in other legally designated urban areas, which are not substantially built up. The CRZ-IV includes the water area from the Low Tide Line to twelve nautical miles on

the seaward side and the water area of the tidal influenced water body from the mouth of the water body at the sea upto the influence of tide which is measured as five parts per thousand during the driest season of the year.

The Ministry of Environment and Forest has also provided guidelines for demarcation of High Tide Line in the CRZ Notification, 2011. As per the guidelines, Cadastral (village) maps in 1:3960 or the nearest scale shall be used as the base maps. HTL and LTL will be demarcated in the cadastral map based on detailed physical verification using coastal geomorphological signatures or features in accordance with the CZM Maps approved by the Central Government. 500metre and 200metre lines shall be demarcated with respect to the HTL.

In order to facilitate the classification of Coastal Regulation Zones, Government of India has approved few agencies/institutions across the country that *holds Lr. No. J17011/8/92-1A III, dated 08.08.2019* of Ministry of Environment and Forests. Institute of Remote Sensing, Anna University being one of them, has been carrying out HTL and LTL mapping following the guidelines issued by Ministry of Environment and Forests, Government of India.

2. BACKGROUND OF THE STUDY

The client, M/s. Asha Cellulose (I) Pvt Ltd., Near water works, Abrama CT, Valsad Taluk, Gujarat has requested Institute of Remote Sensing, Anna University, to demarcate High Tide Line on 1:4,000 scale for Coastal

Regulation Zone mapping for the project site in Abrama CT, Valsad Taluk, Gujarat. The project site is along the Auranga river zone which is influenced by creek water during high tide. Hence this study was carried out to demarcate the HTL and setback lines for the project site.

3. STUDY AREA AND EXTENT

The aforesaid project site is located in Abrama CT, Valsad Taluk, Gujarat. The study area has flat topography.

4. NEED FOR THE STUDY

The client is in need to evaluate whether the project site is falling under regulations of CRZ Notification, 2011. Keeping in view of the requirements of notification, Institute of Remote Sensing, Anna University undertook the project with following agreed scope of work:

- Demarcation and verification of HTL near project site by conducting field survey using DGPS survey
- Demarcation and verification of ecologically sensitive entities such as Mangroves, Sand dunes, Turtle breeding grounds in the vicinity of project site
- Superimposing the plot on the approved CZMP 2011 of Gujarat

5. GPS SURVEYING

The Trimble 5700 and 4000 SSE (Geodetic Surveyor Series) GPS receivers were used to conduct the surveying at the project site. The survey involves three components namely,

1. Establishing Base Station,
2. Control Survey for Village Maps and
3. Real Time Kinematic Survey for HTL Demarcation.

5.1 Establishing Base Station

The survey involves establishing one base station for Static Survey. The base stations were identified on stable locations with clear view of sky for uninterrupted access to GPS satellite signals. The control point with known elevation was used as initial reference station. The base station for the project site was established on firm ground and observed with static GPS survey from the known coordinates of the control point. The observations times were fixed based on the length of base lines to obtain highest possible accuracies.

5.2 Static Survey

The conduct of Static Survey using GPS requires two GPS receivers, one to be setup over the control point (with known co-ordinate) and another one over a reference station whose coordinates and distance from the control point are to be determined. Both these receivers must record data simultaneously. These known co-ordinates of the control point were fed and

fixed for processing of the logged data to accurately determine the co-ordinates of the base stations.

5.3 Control Survey for Georeferencing Village Maps

The cadastral map pertaining to the project site was provided by the client. The hard copy cadastral map was scanned and georeferenced with the help of GPS coordinates of boundary points provided by the client and used for the preparation of local level HTL Maps.

5.4 Real Kinematic Survey for HTL Demarcation

Kinematic Surveying enables a very rapid survey of a number of base lines in areas where there is good satellite visibility. At least, two GPS receivers are required to perform a kinematic survey. One receiver is designated as the reference receiver and is set up over the Base Station. All baselines are measured relative to this station. The other receivers, called rovers, are moved in succession to trace and record the HTL on ground through ground profiling.

6. OUTPUT

The observed baselines were processed using TGO software. The same were plotted at large scale using the ArcGIS 9.3 software and the same was superimposed on the approved CZMP 2011 of Gujarat.

ANNEXURE I

7. CONCLUSION

The survey team of Institute of Remote Sensing, Anna University has visited site on 14.03.2020 and carried out field survey using DGPS survey. HTL, LTL and CRZ Mapping were done in 1:4000 scale based on approved CZMP as per CRZ 2011 notification of MoEF & CC, GoI.

The plot is in Abrama CT, Valsad Taluk, Gujarat. Based on the approved CZMP as per the CRZ Notification 2011, the proposed process plant falls outside CRZ. 50m buffer line from HTL is shown in the map as per the client requested.

The superimposition of the approved CZMP is subjected to scale and generalization error. The DGPS survey was carried out specific to the referred project site boundary only hence, validation of HTL and CRZ boundary is limited to the clearance of the same. Institute of Remote Sensing does not carry responsibility for CRZ status of other plots or neighbourhood.

20/3/2020

DIRECTOR-IRS

Director
Institute of Remote Sensing
Anna University,
Chennai - 600 025

ANNEXURE I

Annexure-I

Superimposing the project site of M/s. Asha Cellulose (I) Pvt Ltd., Near water works, Abrama CT, Valsad Taluk, Gujarat on approved CZMP as per CRZ 2011 Notification of MoEF & CC, GoI

Co-ordinates of HTL Reference Points

HTL REFERENCE POINT	LONGITUDE	LATITUDE
1	72° 57' 35.015" E	20° 35' 48.942" N
2	72° 57' 39.579" E	20° 35' 45.821" N
3	72° 57' 46.662" E	20° 35' 45.233" N
4	72° 57' 51.908" E	20° 35' 46.199" N

20/5/2020

DIRECTOR-IRS

Director
Institute of Remote Sensing
Anna University,
Chennai - 600 025

ANNEXURE I

Annexure – II

FIELD PHOTOGRAPHS

ANNEXURE II

ASHA CELLULOSE (I) PVT. LTD.

Emergency Preparedness and Response Plan

Factory: Near Water Works, Abrama, Valsad – 396 001
Dist: Valsad
Gujarat State

FEBRUARY 2020

Prepared based on
SCHEDULE- 8 A {See Sub Rule 68 – J - 12 (I)} of Gujarat Factory Rules
& [SCHEDULE –11] [See Rule 13(1)] MSIHC Rule

Revision: 07

Prepared by: **EHS Department (Asha Group)**

ANNEXURE II

-: FORWARD:-

Success of Asha Cellulose India PVT LTD lies in providing a safe working atmosphere to one and all at the work place. The management believes and strives to protect the Health of the employees and also protect the Environment and its surroundings.

In spite of the safe conditions and laid down standard operating procedures, various factors could lead to an unforeseen situation resulting in an emergency. Prompt and efficient action is required to control the situation and minimize the loss.

On - Site Emergency Response Plan (OSERP) is primarily prepared to take stock of the situation and take suitable action to cope up with the emergency, which may arise during any time of the day or night. This on-site emergency plan has been prepared taking into consideration;

- the plant size
- hazardous operations & processes
- hazardous chemicals storage / inventory
- inventory of flammable liquid/gas/ toxic gas
- man power resources
- facility like fire suppression arrangement in-house and nearby

Effective implementation of the plan largely lies in every individual doing his specific job and coordination with others as per the plan.

The provision of the proposed draft rules (Factory Rules) & the following guidelines given by the Deputy Director of Safety and Industrial Health Office is kept in mind while preparing this on site & off - site emergency plan.

(1) Status related to risk assessment & environment impact in case release of flammable Liquid/Toxic Gas & measures taken for prevention of such accidents.
(2) Probabilities of possible hazards due to failure of provided control measures & equipment such as safety valves, rupture discs, pressure gauges, temperature gauges etc.
(3) Provisions for all the facilities & procedure for immediate control to minimized the effects of such probabilities.
(4) Arrangements with mutual aid agencies.
(5) Arrangements for information to workers thoughts emergency alarms & the public vicinity & surrounding factories through telephone in case of emergency at the plant.

ANNEXURE II

(6) Arrangements for transporting affected people to the hospitals & medical centers through cars/ ambulance.
(7) Arrangements for necessary treatment & availability antidotes at hospitals & nearby medicals centers.
(8) Organization chart for fixation of responsibilities of managers, officers, workers at different stages for handling emergency due to gas lick, liquid spillage, fire explosion etc.
(9) Details regarding alert system like emergency alarm.
(10) Provision for training, rehearsals, mock drills etc. At regular intervals to the personnel handling emergency.
(11) Submission of the map of the area showing approach to the factory, location of the emergency facilities such as hostilities, police, and fire services.
(12) Notification of place gathering of workers & the staff at the time of emergency.
(13) Information in details regarding & disaster, which might have occurred in factory.
(14) Notification of main control center for 24 hours to use at time of emergency.
(15) Submission of material safety data sheet hazardous substances.
(16) Arrangements regarding maintenance of different equipment control measures & safety procedures of work so that they shall work efficiently.
(17) A statement of all possible sources of accidents involving fire, explosion. Release of leaking of toxic substance & plan showing the place of above accidents with the facilities to the control the emergency near the place & the control place.
(18) A statement of all health & safety policy of factory.

While preparing this plan the following documents have been referred:

(A) On site emergency plan prepaid as per the guidelines given Gujarat Factory Rules (GFR) &Director Industrial Safety & Health, Gujarat state.
(B) The guidelines given by the Office of Deputy Director Industrial Safety & Health.
(C) Safe handling of hazardous chemicals.
(D) MSIHC Rules

Separate chapters are given for offsite emergency plan to explain a link between On-site and Off-site plan is also explained suitably.

This plan covers hazards like Natural calamities i.e. Flood and Earth Quake and Other Emergencies like fire; explosion and toxic release, Spillage, Major Injury etc. The plan describes steps to prevent, mitigate and minimized it. This plan is very much useful during emergency for employees working in factory, surrounding public staying in vicinity of this site.

ANNEXURE II

INDEX

ANNEXURE II

ANNEXURE II

ANNEXURE II

SECTION -- 1

PRELIMINARY INTRODUCTION

The primary purpose of this plan is to prepare the factory for dealing with emergency situation arising out of human negligence, and natural calamities. It is also intended to suggest preventive measures so that such emergency situations do not arise as far as possible. This plan is also meant to fulfill the statutory responsibility of the factory Act, Section 41-B (4) of the factories Act, 1948 requires that every occupier of a hazardous factory shall draw up an on-site emergency plan and detailed disaster control measures for his factory and make it know to the workers and general public in the vicinity, the safety measures to be taken in event of an accident taking place.

'On - Site Emergency Plan' deals with measures to prevent and control emergencies affecting outside public and environment outside the premises.

This Plan also has the following outcomes:

1. Identifies hazardous substances.
2. Identifies possible hazards due to failure of control measures and equipment at different stages of all processes.
3. Identifies procedures and facilities to be used in case of an emergency to immediate control and minimize the effect of such situation.
4. Identifies details relating to alert system.
5. Provides an organization chart for fixation of responsibilities and contact during an emergency.
6. Make arrangement to create and maintain awareness and emergency preparedness in personnel handling emergency by making provision of training, rehearsals mock drill etc.
7. Safeguards employees and people in the vicinity.
8. Minimize damages to the environment and or property.
9. Identifies 'Mutual Aid' Centers.
10. Compilation of date for use in District Disaster/Emergency Plan Prepared by the District Collector.

ANNEXURE II

INTRODUCTION OF COMPANY

ASHA CELLULOSE (I) PVT LTD, Abrama - Valsad is Manufacturing Ethyl-cellulose, Aqueous Dispersion of Ethylcellulose and the factory is situated at Near Water Works, Abrama – Valsad.

We are handling hazardous chemicals and likely to create an emergency so as to cause injury to life and property during its storage, handling and processing.

Our aim is that we will take all precaution and steps to see that the workers in our factory participate in safety and lead safe and healthy working conditions. It is obvious that systematic and methodical action in any emergency would reduce and mitigate injury to life and property not of the factory but of the surrounding area and environment as well.

In view of this, to carry out a systematic and methodical action in case of any emergency, this 'ON SITE & OFF- SITE Emergency Plan' has been prepared.

It gives different pre-emergency, in-emergency and post emergency actions to be taken in a planned way for any emergency. Such actions would go a long way in preventing or mitigating the injury to life and property in any emergency.

In preparing this On Site and off-site project, guidelines for preparing ON / OFF Site Emergency plan issued by the Director of Industrial Safety & Health Gujarat State referred.

The Managing Director / Occupier are responsible to carry out the planning and do their best to comply with the requirements of the plan.

This plan shall also be circulated to all supervisors and senior personnel for their knowledge, information and action.

ANNEXURE II

SOME IMPORTANT DEFINITIONS

1. Accident is an unplanned event can cause personal injury or property damage or both.
2. A major accident is a sudden, unexpected, unplanned event, resulting from uncontrolled developments during an industrial activity, which causes, or has the potential to cause.
   a) Serious adverse effects immediate / delayed to a number of people inside/ outside the factory.
   b) Significant damage to crops / plants / animals or significant contamination of land / water/air.
   c) An emergency intervention outside the installation like evacuation of local population, etc.
   d) Significant changes in the process operating conditions, such as stoppage of work, etc.
3. An Emergency is any situation which presents a threat to the Safety of persons and / or property.
4. A Major Emergency is the one that may affect several departments within an area and may cause serious injuries, loss of life, and extensive damage to property or serious disruption outside the works. It requires use of outside resources to handle it effectively.
5. A Disaster is a catastrophic situation in which the day-to-day patterns of life are suddenly disrupted, plunging people into helplessness suffering and as a result need protection, clothing, shelter, medical and social care and other necessities of life.
6. Environment as defined in Section 2(a) of the Environment Protection Act includes water, air and land and the inter-relationship that exists among and between water, air, land and human beings, other living creatures, plants, microorganisms and property.
7. An Environment Pollutant is any solid, liquid or gaseous substance present in such concentration as may be or tend to be injurious to the Environment.
8. A Hazard is a physical situation that may cause human injury, damage to property or the environment

ANNEXURE II

9. A Chemical Hazard is due to chemicals (including its storage, process, handling, etc.) and it is realized by fire, explosion, toxicity, corrosiveness, radiation, etc.

10. A Risk is the likelihood of an undesired event (i.e. accident, injury or death) occurring within a specified period or under specified circumstances. It may either be a frequency or a probability depending on the circumstances.

11. Hazardous Process as defined in Section-2(cb) of the Factories Act means any process or activity in relation to an industry specified in the First Schedule of the Factories Act, 1948 where, unless special care is taken, raw materials used therein or the intermediate or finished products, bye products, wastes or effluents there off.

    a) Cause material impairment to the health of the persons engaged in or connected therewith- or

    b) Result in the pollution of the general Environment.

12. Hazardous Chemical as defined in Section 68 (J) (1) of the Factory Rules means.

    a) Any Chemical which is of the criteria specified in Part-1 of ScheduIe-1 of Gujarat Factory Rules, 1963 and is included in the list of column (2) of part (D) of that schedule or

    b) Any Chemical included in the list in column 2 of Schediile-2 of Gujarat Factory Rules, 1963 or

    c) Any Chemical included in the list in column 2 of Schedule 3 of Gujarat Factory Rules, 1963. '

13. Manufacturing Process as defined in Section-2 (k) of the Factories Act means any process for:

    a) Making, altering, repairing, ornamenting, finishing, packing, oiling, washing, cleaning, breaking up, demolishing, or otherwise treating or adapting any article or substance with a view to its use, sale, transport, delivery or disposal; or

    b) Pumping oil, water, sewage or any other substance; or

    c) Generating, transforming or transmitting power, or

    d) Composing types for printing, printing by letter press, lithography, photography or other similar process or book binding; or

    e) Constructing, reconstructing, repairing, refitting, finishing or breaking up ships or vessels; or

    f) Preserving or storing any storing any article in cold storage.

ANNEXURE II

SCHEDULE- 8 A

{See Sub Rule 68 – J - 12 (I)}

DETAILS TO BE FURNISHED IN THE 'ON SITE EMERGENCY PLAN'

1. Name of persons furnishing the information.

   Mr. K.Srinivas

2. Key personnel of the organization and responsibilities assigned to them in case of Emergency.

   Mr. Babubhai Mehta
   Mr. S.D.Shah
   Mr. Mr. S.B.Parmar
   Dr. A Rana
   Mr. S.C.Patel
   Mr. Kalpesh Desai
   Mr. R.R. Vashi
   Mr. Nantu Das

3. Outside organization is involved in assisting during on-site emergency.

   a) Type of Incident : Major Fire/Explosion, Major Spillage, Electrocution, Major injury

   b) Responsibility assigned: Mr. K. Srinivas, Mr. Babubhai Mehta, Mr. Samit Shah

4. Details of liaison arrangement between the organization:

   Mutual Aid in place

5. Information on the preliminary:

   a) Type of accidents : Fire Hazard, Explosion, and Major Spillage

   b) System elements or events that can lead to a major accident: Fire, Explosion

   c) Hazards: Health Hazard, Fire, Pollution

   d) Safety relevant components: Personal protective equipment, SCBA, Portable Fire Extinguishers, Hydrant System, Sand Buckets, Training, Display Boards, etc.

6. Details about the site.

   a) Location of dangerous substance : Tank farm and Reactors

   b) Seat of key personnel : Normally in respective Office & in Plant

   c) Emergency control room : Security Cabin at main gate

ANNEXURE II

7. Description of hazardous chemicals at plant site.

   Chemicals (Qualification and Toxicological data): Details given in Annexure - 4 & 6

   a) Chemicals (Qualification and Toxicological data): Details given in Annexure - 4

   b) Transformation if any which could occur: MSDS

   c) Purity of hazardous chemicals: MSDS in place

8. Likely dangers to the plant: **Solvent / Electrical Fire, Explosion Hazard, Major Spillage of hazardous chemical, Major illness/injury, Flood, Earth quake**

9. Enumerate effect:

   a) **Stress and strain caused during normal operation:** Since people are working 8 hours shift operation so such effect may not be there. However people take breaks in between for tea and lunch which reduce stress and strain

   b) **Fire and explosion inside the plant and effect if any, or fire and explosion outside**:

   Explosion may occur in reactors, boilers. Fire may occur due to handling of Solvent and ethyl chloride cylinders. This may create On Site Emergency

10. Details regarding.

   a) **Warning alarm and safety security systems**:

   Warning is given by shouting, intercom phone, Mobile phones and Siren. One Electrically operated Siren is installed (Refer Annexure 26) near DM Water Plant.

   One intercom phone in receiving mode installed at security gate with buzzer

   b) Alarm and hazard control plans in line with disaster control and hazard control planning, ensuring the necessary technical and organizational precautions:

   - On site emergency Procedure has been prepared to tackle Fire, Snack Bite, Major Spills, etc.
   - Mobile Phone is available with Security for communication to key people
   - Emergency Contact Number List is displayed at main security Gate
   - Fire Fighters and First Aid Trained people defined
   - Occupational Health center is in place
   - Mock Drill is conducted twice in a year to activate Onsite Emergency Plan

c) Reliable measuring instruments, control units and servicing of such equipment:
Temperature controller and Pressure Controller installed on reactor
Temperature controls installed in Spin Flash Dryers
Regular calibration done of all instruments is done
Preventive maintenance of critical equipment / machine / equipment done

d) Precautions in designing of the foundation and load bearing parts of the building: Building is designed to withstand equipment load. Buildings are constructed of RCC. Stability is checked by competent person

e) Continuous surveillance of operations:
It is done by qualified Engineer, supervisors and operators

f) Maintenance and repair work according to the generally recognized rules of good engineering practices: Good engineering practice is followed for repairing and maintenance

11. Details of communication facilities available during emergency and those required for an Off – Site

Intercoms and Mobile Phones are in place. Emergency Contact Numbers are displayed

Refer Annexure 27 & 28

12. Details of fire-fighting and other facilities available and those required for Off - Site Emergency.:

Refer Annexure 21

13. Details of first - aid and hospital services available and its adequacy.

(i) Qualified Medical Officer visits the site

(ii) Medical Assistant are available at site

(iii) People are trained in First Aid

(iv) First Aid Boxes are provided to prominent locations

(v) Agreement done with Shaafi Hospital which is 2 KM away from the site

ANNEXURE II

On site Emergency Plan is reviewed and updated upon the following situations:

- Lapses / problems identified during emergency exercises and real incidents.
- During any major changes/modifications in operating facilities or emergency equipment
- Accident/incident investigation process (reported internally as well as from external occurrence) and the recommendations therefrom
- Changes in the organization structure / communication facilities, rescue and support means and their identities
- Health /Safety audits reports and or otherwise reviewed once in three years

ANNEXURE – 1

FACTORY IDENTIFICATION

The company is located at Valsad Abrama and manufacturing Ethyl Cellulose.

Name of Factory	:	ASHA CELLULOSE (I) PVT LTD Dist: Valsad (Gujarat)
Address	:	Near Water Works, Abrama - Valsad
Telephone No.	:	(F) 02632 -- 254299 / 253665
Fax	:	02632 / 227019
Full Name & Address of Occupier	:	Mr. K. Srinivas, 201, Plaza, Tithal Road, Valsad-396001 (O) 02632-253665
Factory License No.	:	Available in Separate File
Stability Certificate No.	:	Available in Separate File
GPCB Consent Order	:	AWH-48492 Valid up to 22 May 2017
Electricity Power	:	1000 KVA
D. G. Set	:	110 & 35 KVA
Water Capacity	:	150 KL
Water Source	:	Ground Water (Bore Well)

ANNEXURE II

MAN POWER POSITION:

Company Staff: 33

Company Workmen: 07

Unskilled: 70

======

Total 110

SHIFTS	EMPLOYEES			REMARKS
	Male	Female	Total	
GENERAL	29	2	31	
FIRST (I)	29	0	29	
SECOND (II)	25	0	25	
THIRD (III)	25	0	25	
Total Manpower	108	2	110	

ANNEXURE II

FIRST PERSON TO BE CONTACTED IN CASE OF EMERGENCY

Sr. No.	NAME OF CONTACT PERSONS			
	Name & Designation	**Place of Availability**	**Phone Number**	
			Office	**Personal Mobile**
01	Mr. K. Srinivas Director – Technical	Office	02632 / 254299, 253665	9825132304
02	Mr. Babubhai Mehta Director	Office	02632 / 254299, 253665	9825147701
04	Mr. Samit Shah GM-Operation	Office	02632 / 254299, 253665	9825216726
05	Dr. A Rana	Office		9825132305
06	Mr. S.B.Parmar GM-EHS	Office		9825793639
07	Mr. Nantu Das Manager-HR	Office		9979223858
08	Mr. S. C. Patel HOD - QC Lab.	QC Lab.	02632 / 254299, 253665	9825127304
09	Mr. R. R. Vashi HOD -QA	Office	02632 / 254299, 253665	9099577811
10	Mr. Kalpesh Desai HOD – Commercial	Office	02632 / 254299, 253665	9824217170
11	Mr. D. J. Ghadiyali Asst. Manager Production	Office	02632 / 254299, 253665	9099577855
12	Mr. Gautam Vaidya	Office		9427578446

ANNEXURE II

SAFETY, HEALTH AND ENVIRONMENT POLICY

Asha Cellulose (I) Pvt. Ltd., firmly believes in manufacturing good quality products while following highest safety standards and considering occupational health hazards microscopically.

In this direction, Company will continuously take steps to enhance awareness amongst the employees to implement the Company policies.

Quarterly shop floor Safety meetings will be conducted and the suggestions from the employees, regarding elimination of unsafe conditions / unsafe acts in the plant, will be implemented.

The Company sincerely believes that the standard of Safety, Health & Environment is a line responsibility. Line supervisor will be delegated adequate responsibility for implementing Safety, Health & Environment standards.

Each employee has an individual responsibility to follow safe practices and to detect and report unsafe conditions to his superior.

A detailed on-site, off-site emergency plan is prepared and mock drills will be conducted periodically to improve the preparedness of the employees during emergencies.

A safety manual is prepared in mother tongue and will be made available to all the employees.

First aid training will be imparted to selective employees as a First Aid Policy.

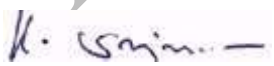
A through medical check- up is carried out every year for all the employees.

The Company will comply with all applicable laws and regulations related to Safety, Health and Environment and endeavor to make the work place and environment safe for all the employees.

The Company will keep its employees, customers and statutory authorities informed of known hazards associated with its products and available procedures and practices for their safe handling and disposal.

The Company is committed not only to regular auditing of its Safety, Health and Environment program but also cooperate with the authorities to do so in the interest of general public.

Besides above functions, the Company will engage only those contractors, transporters etc., who undertake to abide the rules and regulations in force of the company.



K.Srinivas
Director – Technical
Date: 22-01-2019

ANNEXURE II

LIST OF MAJOR RAW MATERIAL

Sr. No.	Name of Raw material
1	Wood Pulp/Cotton Linter
2	Caustic Flakes / Prills
3	Ethyl Chloride
4	Toluene
5	Acetic Acid
6	Hydrochloric Acid
7	Special Denatured Spirit

LIST OF PRODUCTS	
1.	Ethyl Cellulose
2	Ethyl cellulose Aqueous Dispersion **Non-Plasticized**
	Ethyl cellulose Aqueous Dispersion **Plasticized**

ANNEXURE II

MANUFACTURING PROCESS OF ETHYL CELLULOSE
Method - I

The bleached Cotton Linter / Wood Pulp is dipped in aqueous Caustic solution, squeezed through rollers and fed to a shredding mill. The shredded Bleached Cotton Linter or Wood Pulp is charged into rector containing Caustic solution, through alkali cellulose tank and screw conveyor. The reactor is a jacketed and agitated type autoclave. The temperature, time and concentration depend on the intrinsic viscosity desired in the product. The required amount of diluent (Toluene / crude solvent) and ethyl chloride are added to the alkali pulp and viscosity is controlled by air as an oxidizing agent.

The reaction is carried out in jacketed and agitated autoclave. Ethyl Chloride and crude solvent are also charged along with Caustic during the course of reaction if necessary. The reactor content is heated by passing steam through jacket. Working pressure of about 18-22 Kg / cm^2 is obtained maximum and the reaction is continued till the desired Degree of Substitution of Ethyl Cellulose is obtained. After 8 to 12 hours of reaction time, ethyl cellulose gets separated from solvent, salt, water & sodium hydroxide. Solvent mixture along with water is distilled off from the reactor, which is purified in distillation column, part of it is used in the process and remaining is sold off.

As the solvent is stripped out, ethyl cellulose precipitates in the liquor containing caustic and salt. The slurry is then discharged from the reactor in to a tank, where alkali solution along with salt is recovered. After giving adequate water wash, the product is neutralized by the addition of acid and centrifuged. Wet Ethylellulose is subjected to wet grinding in hammer mill. After grinding, the material is discharged in to washing tank for further purification by hot water. After purification, the slurry is centrifuged for maximum water separation and wet product is fed to spin flash dryer.

Dried product is packed in Fiber Drum / Paper Bags as per requirement.

ANNEXURE II

MANUFACTURING PROCESS OF ETHYL CELLULOSE (METHOD - II)

The bleached cotton linters or Wood Pulp sheet (Cellulose) is dipped in aqueous Caustic solution and passed through squeeze rollers to remove excess Caustic solution. Then the Alkali Cellulose sheet id fed to a shredding mill. The shredded Alkali Cellulose is charged into an autoclave containing Toluene through a mixer and conveyor. This autoclave is jacketed / limpet coiled agitated vessel. The temperature, time and concentration depend on the intrinsic viscosity desired in the final product. The required amount of diluent (Toluene / Recycled Solvent mixture) and Ethyl Chloride are added to Alkali Cellulose.

The reactor contents are heated by passing steam through jacket / limpet coil. Ethyl Chloride, Toluene along with Caustic Flakes / Prills are also charged during the reaction as per requirement. A working pressure in the range of 8 to 10 Kg / cm^2 is obtained and reaction is continued till the desired Degree of Substitution of Ethyl Cellulose is achieved. After completion of reaction, the highly viscous reaction product is discharged into settling tank.

Adequate quantity of recycled solvent mix is added and total mass is mixed thoroughly and allowed to settle for couple of hours. A layer separation of excess alkali solution along with salt and organic solvent product is achieved. The organic solvent product containing dissolved Ethyl Cellulose is passed through series of filters to ensure salt particles free product.

The filtered product is charged into granulator where the organic solvents are stripped out and recycled in the next batch. The precipitated Ethyl Cellulose slurry is transferred to washing tanks where the product is given hot water wash and pH of the product is corrected in the range of 5.5 to 7.5.

The purified Ethyl cellulose is centrifuged in basket type centrifuge and the wet cake is fed to Spin Flash Dryer. The dried product is passed through a compactor to improve bulk density if required. Dried Ethylcellulose from different batches is blended in a double cone blender as per requirement and packed in Paper Bags or Fiber Drums as per customer's requirement.

ANNEXURE II

Effluent Treatment Process

Effluent treatment process is carried out as under:

(1) Primary treatment
   a. Wastewater from plants is coming to collection tank thru drains.
   b. Collected wastewater is neutralized with the help of Hydrochloric Acid
   c. Neutralized wastewater is passed thru Filter press and collected in Primary Clarifier Feed tank
   d. Wastewater from Primary Clarifier Feed tank is pumped to Primary clarifier

(2) Primary treated wastewater thru Primary clarifier overflows to Bio Aeration basin
   a. Aeration is done in bio aeration basin by blowing air continuously from blower thru diffusers installed at the bottom of the aeration basin.
   b. Dissolved Oxygen and MLSS/MLVSS is maintained in bio aeration basin by aeration
   c. Microorganisms in bio-aeration basin consume oxygen thru diffused air to digest organic matter from wastewater resulting in reduction of COD & BOD.
   d. The bio mass from bio aeration basin is lift by air pump and fed to secondary clarifier. The bio mass is circulated from secondary clarifier to bio aeration back to secondary clarifier. Clarified treated wastewater from secondary clarifiers over flows to settling tank.
   e. Flocculating agent added in settling, aeration done for mixing and treated wastewater then after kept for settling.

(3) Clear settled treated wastewater from settling tank taken in to holding tank and pump to RO feed tank thru sand filter, carbon filter, filter press and cartridge filter.

(4) RO system consists of LPRO and HPRO unit. Treated wastewater from RO feed tank passes thru LPRO and HPRO system to get permeate and reject water. Permeate water send to DM water plant for further treatment and reject water fed to MEE

(5) Multiple Effect Evaporator (MEE) consists of three stage. First stage is falling film and other two stage forced circulation.
   a. Steam is fed to MEE thru TVR. Vacuum pump is provided to evacuate non condensable gases from MEE and to boil water at low temperature.
   b. Condensate collected from MEE is recycle back to production / cooling tower.
   c. Concentrate get converted in salt which dried and sent to approved land fill site

ANNEXURE – 2

PUBLIC LIABILITY INSURANCE

Original Copy Available in Office

STANDARD FIRE AND SPECIAL PERILS POLICY

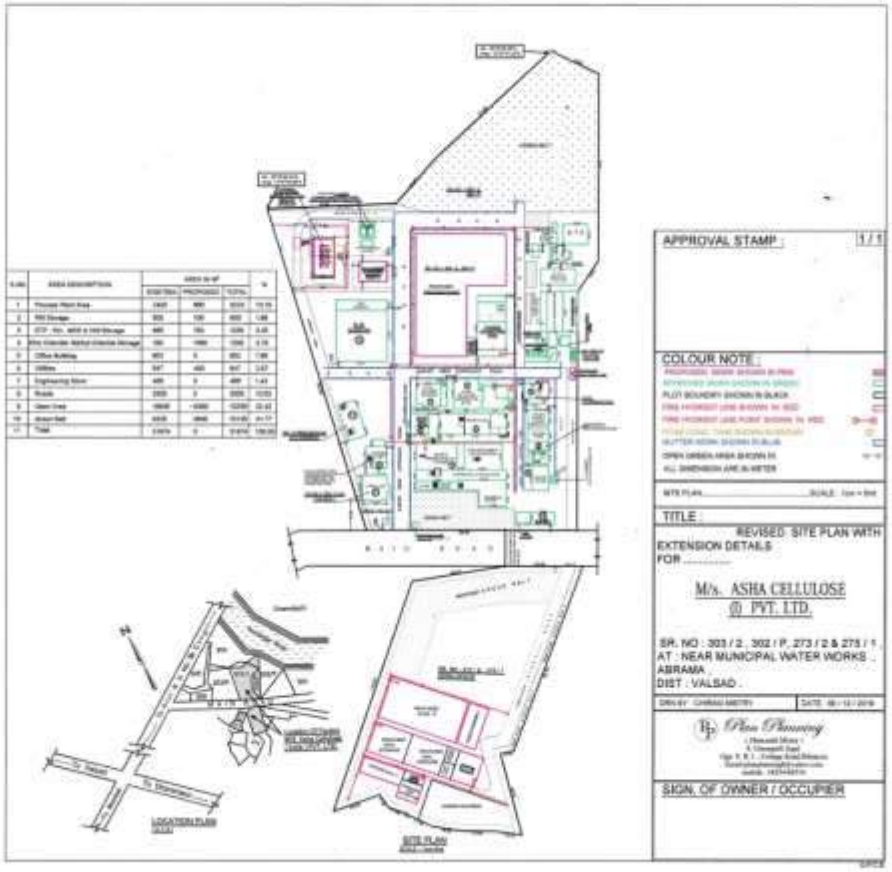
Original Copy Available in Office

POLICY SCHEDULE FOR EMPLOYEES COMPENSATION INSURANCE

Original Copy Available in Office

ANNEXURE -- 3

SITE PLAN OF PREMISES



SECTION – II

PRIMARY DATA

STORAGE & TRANSPORTATION HAZARDS AND ITS CONTROL:

We have seen earlier that our primary purpose is to make enable the factory to deal with the emergency situation arising within the premises. In order to achieve this objective we must first identify various hazards which can cause an emergency. These hazards are basically clubbed in four basic categories summarized below. It should be noted that the hazard can be of fire, explosion, toxic leakage, etc.

1. Storage Hazards and Controls.
2. Process Hazards and Controls.
3. Transportation Hazards and Controls.
4. Trade Waste Disposal

These are explained below and the hazards identified and listed in their respective formats in annexure

This list enumerated in Annexure - 5 gives a list of Raw materials, Finished Product, Intermediates and by-product which can be dangerous during storage. The Material Safety Data Sheets (MSDS) containing detailed data regarding the hazardous nature of the material is given in Annexure 4.

Annexure - 5 also lists some of the specific safety measures adopted for that material.

However, some of the safety measures applicable and adopted for the factory in general are given below.

1. Earthing provided on all equipment and tanks to avoid any electrical hazard.
2. All electrical motors and pumps installed inside plant area are of flame proof type.
3. Lightning Arrestors have been provided on the building.
4. Air direction balloon / wind indicator has provided.
5. Fire Extinguishers as per the details given later have been kept ready.
6. Safety showers and Eye Wash Showers available.
7. Information regarding the various material hazards has been distributed among the workers and staff members.
8. Transportation Hazards and control measures are narrated in Annexure - 5

ANNEXURE II

Process & Vessel Hazards and Controls

This exercise identifies those processes which can be hazardous. It also identifies the vessels involved in those processes. This is required to adopt and ascertain installation of proper safety measures to prevent any accident or emergency during operation of those processes. These are identified and detailed in annexure -7

Trade Waste Disposal

A list of solid, liquid or gaseous trade –waste generated per day and their treatment and neutralizing / inactivating method with capacity are given here. Efforts made for waste less processing can also be mentioned.

These details are available in Annexure 8.

Records of past incidents

A list of major accident, emergencies and disaster that occurred in the factory. It also contains details of such incidents that have occurred elsewhere using similar materials, process or vessel as used by the factory. Details are furnished in Annexure – 9.

Annexure - 5
List of the stored Hazardous Raw Material / Chemicals and Its Controls

Sr. No.	Name of Raw Material	Storage Capacity				MSIHC Applicability	Mode of Transport	Measures for Environment Protection	License Requirement	Instruction to Driver and Suppliers on Safety Measures during transportation
		Type of Container*	Size of Container	No. of Container	Total Qty.					
1.	Caustic Flakes/ Prills **Corrosive & Toxic**	HDPE Woven bags with Poly liners	50 Kgs	1000	50 MT	Sch. I Part II	Receiving by road in dedicated trucks	Dedicated Storage area	Not required	• Driver Training at site • Safety Instruction documents submitted to transporters & suppliers for safe transportation • TREM Card & Safety data
2.	Toluene **Flammable & Toxic**	MS Storage Tank	15 KL	1	15 KL	Sch. I Part II	Receiving by road in dedicated trucks	Underground Storage Tank with breather valve cum flame arrester	Storage License from PESO is available. Copy attached	• Same as above point no.1 • Dedicated tanker • Cleaning certificate • Haz. Chem Labels • Tanker fitness
3.	30% HCL **Corrosive & Toxic**	FRP Tank	3 KL	2	6 KL	Sch. I Part II	Receiving by road in dedicated tankers	FRP Tank with dyke arrangement. Scrubbing system is	Not required	Same as point no. 1 & 2
4.	Ethyl Chloride **Flammable**	Cylinder	600 Kg	24	14.4 MT	Sch. I Part I	Receiving by road in dedicated trucks	600 Kgs. Cylinder in approved dedicated Storage area	Storage License from PESO is in place and copy attached	• Same as Point 1 • Cylinders handling & fitness as per Gas Cylinder Rules
5.	Acetic Acid **Corrosive & Toxic**	HDPE Carboy	35 L	25	875 L	Sch. I Part II	Receiving by road in dedicated trucks	Carboys are kept in containment	Not required	• Same as Point No. 1
6.	Ethanol (SDS) **Flammable**	SS Storage tank	15 KL	1	15 KL	Sch. I Part I	Receiving by road in dedicated trucks	Above ground tank with dyke arrangement	License from Prohibition & Excise Dept. is in place. Copy attached.	• Same as above point no.1 • Dedicated tanker • Prohibition & Excise License • Cleaning certificate • Haz. Chem Labels • Tanker fitness

ANNEXURE – 5 (Continue)

STORAGE HAZARDS AND CONTROLS

Hazard Details		In-Charge Person		MSDS Sr. No.
Type Possible Emergency	Control Measures	Name	Phone	
10	11	12	13	14
• Fire • Toxic Exposure • Spillage • Failure of vessel Tank / tanker • Electrical Short Circuit	• Hydrant System • Portable fire extinguishers installed • Round O'clock security & Manning • Electrical FLP Fittings • PPE • Qualified Supervision • Training Skilled Electrician • Equipment earthing and pipeline bonding	Mr. Suresh Parmar	Mob: 9825793639	Separate File maintained

Precautionary measures:

- Kept away from source of ignition & heat. Exercise Safety Work Permit
- Portable Fire Extinguishers provided.
- Safety shower / Eye Fountain units provided.
- Un-authorized persons are not allowed to handle hazardous chemicals.
- Proper labeling & marking are made for each tanks and materials.
- Bags & Drums are handled with care to avoid physical damage.
- Provision of PPEs like Hand-gloves, Gumboot, Goggles, Safety helmet, Nose mask Respirators, SCBA set etc.
- Proper Earthing is provided to all tanks and electrical equipment is flame proof.
- For Acid / Alkali, Cautionary notice has been displayed at suitable place.

Annexure – 5 (Continue)

In-House Safety Controls

1) Inventory control practices in place
2) Liquid chemicals stored in storage tanks are handled in close loop
3) Vent condenser installed for solvent storage
4) Spill response procedure is in place
5) Qualified supervision
6) Round o'clock security
7) Emergency Preparedness Procedure in place
8) Security Gate Vehicle Check as per check list

Instruction to Driver and Suppliers on Safety Measures during transportation

1) Drivers carrying raw materials are given instruction/training by qualified supervisor at the site on safe transportation of hazardous material
   Please refer the below Safety Instruction sheet for drivers and transporters.
2) Transporters and suppliers are instructed on Safe movement of material thru transport
3) The write-up issued to raw material suppliers is attached for your reference

ANNEXURE II

આશા સેલ્યુલોઝ (ઇ) પ્રા. લિ. – વલસાડ

ટ્રાંસપોર્ટર અને સપ્લાયર માટે માલ પરિવહન માટે સામાન્ય નિયમો

1) ગાડી બધી રીતે સારી કન્ડિશન માં હોય તોજ તેના દ્વારા પરિવહન કરો. જો ટેકર હોય તો તેનુ ક્લિ નિંગ સર્ટીફીકેટ હોવુ જરૂરી છે

2) ગાડીને લગતા જરૂરી મૂળ દસ્તાવેજો ગાડીમાંજ હોવા જરૂરી છે. ગાડી ચલાવનાર ડ્રાઇવર મેડીકલી ફીટ હોવો જરૂરી છે. ડ્રાવરે જોખમી માલની હેરફેર માટેની તાલિમ લીધેલી હોવી જોઇએ

3) માલ ની વિગત જેવીકે ટ્રેમ કાર્ડ તથા એમએસડીએસ બીજા ડોક્યુમેન્ટ જોડે હોવી જરૂરી છે

4) ગાડીમા આગ હોલવવાનુ અગ્નીશામક હોવુજ જોઇએ

5) વાહન ચાલક જે ગાડી લઇ ને જવાનો હોય તેની પાસે લાયસન્સ, પરમિટ, પીયુસી હોવી જરૂરી છે. તે પોતે સ્વસ્થ હોવો જરૂરી છે. તેની આંખ ની ડોકટરી તપાસ થયેલી હોવી જરૂરી છે

6) [illegible]

आशा सेल्यूलोझ (ई) प्राइवेट लिमिटेड, अबामा - वलसाड

ट्रक / टेम्पो / टैंकर/ कंटेनर ड्रायवर के लिए सुरक्षा सुचना

(१) अपने वेहिकल को कंडीशन में रखे: जैसे अच्छे टायर, टायर में हवा, स्पेर टायर, ब्रेक/इमरजेंसी ब्रेक, लाइट, वाइपर्स, हॉर्न, वेहिकल मेन्टेनन्स किट / औजार, गाडीके दोनों साइड के मिरर, गाडी की बॉडी वगेरा!
यदि आप टेंकर से जख्मी रसायन ट्रासंपोर्ट कर रहे हो तो
- टेंकर का क्लिनीनिंग सर्टिफिकेट होना जरुरी है! टेंकर अच्छी कंडीशन में होना चाहिए और किधर से भी रसायन का लीकेज नहीं होना चाहिए! टेंकर के ऊपर लेबलिंग (हझकेम) मोटर वेहिकल एक्ट के मुताबिक़ होना जरुरी है! आपके पास जोख्मी / डेंजरस माल के परीवहन के लिए तालीम ली है ऐसा प्रमाण पत्र होने जरुरी है

(२) अपने साथ गाड़ीमे रखे:
गाडीका रजिस्ट्रेशन, ड्रायवर लाइसेंस , पीयूसी, गाडीका फिटनेस, जरुरी परमिट, ट्रेम कार्ड, केमिकल का एम् एस डी ऐस, अग्नि शामक, इमरजंसी कॉन्टेक्ट नम्बर्स, मोबाइल फ़ोन और उसको चार्ज रखने गाड़ीमे जरुरी व्यवस्था, टोर्च / इमरजंसी लाइट, रिफ्लेक्टिव जेकेट, विल चोक/स्टॉपर

(३) हमेशा नियत किये हुए मार्ग पर ही गाडी चलाये. यदि किसी कारणसर मार्ग बदलना पड़े तो तुरंत ट्रांसपोर्ट मालिक और जहासे माल लेके चले हो उस कंपनी को कॉल करे और परिस्थिति बताये

(४) कभी भी गाड़ीमे लोड किये माल के साथ दुसरा माल ना चढाये क्योंकि उससे औरिजिनल माल बिगड़ शकता है

(५) गाड़ी मार्ग पर दी गयी स्पीड लिमिट के अनुसार ही चलाये! गलत तरीकेसे गाडी औवरटेक ना करे!

(६) यदि कोई भी प्रकारकी घटना बनती है की अकस्मात होता है तो तुरत ज ट्रांसपोर्ट मालिक, जहा माल पोहचाने वाले हो और जहासे माल लेके चले हो उस कंपनी को कॉल करे और परिस्थिति बताये

(७) गाडी में लोडिंग / अनलोडिंग करते समय गाडी के साथ रहे और निश्चित करे गाडीके विल में चोक लगाए है जिससे गाडी डटी रहे और आगे पीछे न हटे

(८) ट्राफिक में हमेशा आजु बाजू का ध्यान रखके गाडी चलाये और ट्राफिक नियमो का पालन करे

(९) मोटर वेहिकल एक्ट का पालन करे! आपके पास जख्मी रसायन के ट्रांसपोर्ट के लिए ट्रेनिंग सर्टिफिकेट होना जरुरी है!

(१०) आपका स्वास्थय ठीक होना जरुरी है! आपकी आंखोकी जाँच करवाई गई है और आपको देखनेमे कोई तकलीफ नहीं है! यदि आपका स्वास्थय अच्छा ना हो ड्राइविंग ना करे और आपके ट्रासंपोर्टर को सूचित करे!

मुझे कम्पनीके अधिकारी द्वारा माल परिवहन करनेके समय रखनेकी सावधानिया समजायी गई है!
मुझे मेरी गाड़ीमे परिवहन हो रहे पदार्थ से जुड़े हुए जोखमसे परिचित कराया गया है!
मुझे परिवहन के दरमियान आने वाले जोख़िमोंसे परिचित कराया गया है!
आपातकालीन परिस्थितिमे मुझे क्या करना है वह मुझे बताया गया है!
मैं वचन देता हु की मैं सुरक्षित ड्राइविंग करूंगा और रोड परिवहन के नियमोंका पालन करूंगा!

ड्राइवर का नाम और दस्तखत **कम्पनीके अधिकारिका नाम और दस्तखत**

ट्रांसपोर्ट एजेंसी का नाम

<u>सुचना: ड्राइवर के पास सुरक्षा सुचना का फॉर्म तीन महीने में एक बार भराना अनिवार्य है!</u>

ANNEXURE – 4

MATERIAL SAFETY DATA SHEET (MSDS) – Separate File

1. Caustic Flakes / Prills
2. Ethyl Chloride
3. Toluene
4. Hydrochloric acid
5. Acetic acid
6. Special Denatured Spirit

ANNEXURE -- 6

PROCESS AND VESSELS HAZARDS AND CONTROL

Sr. No	Name of the Plant/ Dept.	Name of Hazardous Process / Operation	Material in the process / operation with Quantity / batch Kgs		Name of the vessel & its Location	Operation Details		Type of Hazards Possible @	In - charge Person's Name, Tele. No.
						Press	Temp		
1	2	3	4	5	6	7	8	9	10
1	Production	Ethylation	Wood Pulp	215	Auto clave/ First Floor	18 to 22 kg/ cm2	140^0 C	Leakage, Fire	Dr.Rana 9825132305
			Ethyl chloride	1150					
			Caustic Soda	1400					
			Diethyl Ether	100					
2.		Ethylation	Wood Pulp	425	Auto clave/ First Floor	8 to 10 kg/ cm2	140^0 C	Leakage, Fire	
			Ethyl chloride	1700					
			Caustic Soda	1000					
			Toluene	5200					

ANNEXURE – 6 (Continue)

Control Measures:

1. Reactor is provided with Safety valves, Rupture disc, Temperature indicator, pressure indicator, warning alarms etc.
2. Un-authorized persons are not allowed to handle hazardous chemicals.
3. Regular monitoring of parameters.
4. Process is carried out under supervision of qualified and experienced persons.
5. PPES are provided to use as and when required.
6. Proper training and guidance.
7. Facilitate overhead tank for water supply.
8. Fire Hydrant System
9. Portable Fire Extinguishers
10. Emergency venting dump tanks

ANNEXURE - 7

OTHER HAZARDS & CONTROL

NAME OF POSSIBLE HAZARDS/ EMERGENCY	SOURCES	EFFECT ON PERSONS / PROPERTY / ENVIRONMENT	CONTROL MEASURES PROVIDED	INCHARGE PERSONS
Natural calamities	Nature	Injury , Property damage, Soil, Air and Water Pollution	Alertness and aids from Local Crises group	Key people
Major spillage and or leakage	Failure of Storage tanks and or Leakage from ethyl chloride cylinders	Burns, Suffocation Exposure to the chemical vapor	Dyke, Water spray, First aid. Spill Response, Preventive Maintenance	Dr. Rana, Sunil Patel, Devang Ghadiyali
Fire	Naked flame/ hot work / electrical short circuit	Injury/Fatal/ Property Damage	Sand buckets, Fire extinguishers, Fire Hydrant, Mutual aid. Safety Work Permit for Hot work	Key people
BOILER: • Burning • Physical • Explosion	Over Pressure in the boiler, failure of Safety valve, Level indicator, temps.	Minor / Major Injury, loss of property	Checking & inspection of Safety valve, Level indicator Controller etc. Covered under IBR	Maintenance Head – Mr.Jigar Patel & Mr.H.N.Chauhan
SOLVENT TANKER	Unloading of Liquid tanker	Emission of Solvent Vapor Surface water contamination	Spare storage tank, Empty drums, Dyke wall, Inform to mutual aid units, Fire brigade, Siren / Alarm.	Dr. Rana, Sunil Patel, Devang Ghadiyali, Piyush Mistry

ANNEXTURE – 8

TRADE WASTE DISPOSAL

Sr. No	Trade Waste Details		Waste Generation		Safe Disposal Details	Monitoring & Control Measure		In-charge Person Name & Phone
	Name	Type	Place	Qty. (kgs)	Place Treatment Methods	Alarm	Control Measure	
1	2	3	4	5	6	7	8	9
1	ETP Waste	Transport	Process Effluent is transferred to collection tank through closed line, neutralized it and treated effluent recycled in plants as zero discharge. Solid waste is transported as per norms of GPCB to 'BEIL, VWEMCL & GEPIL.				As per 'GPCB' norms	Kalpesh Desai
2	Effluent Water	Full-fledged ETP plant					-- do --	ETP Supervisor
3	Salt	Process				Storage	Containment	Kalpesh Desai
4	Discarded Container	Plants				Storage	Containment	

Complete details of Trade Waste available in CC&A

ANNEXURE – 9

RECORD OF PAST REPORTABLE INCIDENT (Form No. 29)

Sr. No.	TYPE	DATE & TIME	PLACE	Time Required in Controlling	No. of workers that time	Number of Persons Affected		SUBSEQUENT SAFETY MEASURES PROVIDED
						INSIDE FACTORY	OUTSIDE FACTORY	
	---	-----	---	---	---	----	----	------

- **No reportable incident or accident occurred almost for the last EIGHTEEN years.**
- No information about such type of accident or incident elsewhere.
- Details available in Accident Register
- Near miss and other very minor non-reportable incidents are recorded and file is maintained

SECTION – III

ANALYSIS

RISK ASSESSMENT

PROBABLE HAZARDS & CONSEQUENCES ANALYSIS

The details of probable hazards and consequences analysis for the probable hazards associated with the hazardous materials of the proposed project are described below.

Probable Hazards

- **Toxic Hazards (Toxic Dispersion/Spill):** Acetic Acid, Ethyl Chloride, Toluene, Sodium Hydroxide, SDS (as Ethanol).
- **Flammable Hazards**:
    - **Pool Fire:** Ethyl Chloride, Toluene, SDS (as ethanol), Acetic Acid.
    - **Flammable Cloud Dispersion (Flash Fire):** Ethyl Chloride, Toluene, SDS (as ethanol), Acetic Acid.
    - **Jet Fire:** Natural gas (as methane) & Ethyl Chloride.
    - **Vapor Cloud Explosion:** Natural gas (as methane), Ethyl Chloride, Toluene, SDS (as ethanol), Acetic Acid.
    - **Fireball:** Ethyl Chloride, Toluene, SDS (as ethanol), Acetic Acid

Consequences Analysis:

Hazard scenarios as worst case & probable scenarios are considered for the chemicals as described above. The details of the input details considered for risk modelling and outcomes in form of hazard distance & area are presented in EC report. Hereunder major hazardous chemical consequences Analysis narrated in tabulation format:

Consequences Analysis – Ethyl Chloride

INPUT DATA			
Chemical Data:			
Chemical Name	**ETHYL CHLORIDE**	**Stored Quantity:**	600 Kg (Single Cylinder)
Molecular Weight: **Specific Gravity:**	64.51 g/mol 0.9214 @ 0°C	**Ambient Boiling Point:** **Ambient Flash Point:**	12.3° C -50.0° C (cc)
Ambient Saturation Concentration:	1,000,000 ppm (100.0%)	**Vapor Pressure** **Vapor Density**	1010 mm Hg at 20 ° C 2.22
Flammability Limits	LEL: 38000 ppm UEL: 154000 ppm	**Toxicity Data:**	IDLH: 3800 ppm $TWA_{8Hr.}$: 1000 ppm
Atmospheric Data: Ground Roughness: urban or forest, Wind: 1.9 meters/second from W at 10 meters (Annual Mean) Stability Class: F Cloud Cover: 3 tenths Air Temperature: 26.19° C Relative Humidity: 75%			

OUTCOME OF SCENARIO MODELS		
Jet Fire Scenario: (Leakage -Short Pipe/Valve, 1 Inch)		
Heat Flux (KW/m^2)	**Distance (m)**	**Effect if IHR at Height of simulation**
2.0	10	Pain within 60 Sec
5.0	13	2^{nd}. Degree Burn within 60 Sec
10.0	23	Potentially Lethal within 60 Sec
Max. Burn Rate: 209 kg/min, Burn Duration: 3 Min, Max. Flame Length: 12 Mt., Total Amount Burned: 600 Kg		
Fireball (BLEVE) Scenario: (Leakage -Short Pipe/Valve, 1 Inch)		
Heat Flux (KW/m^2)	**Distance (m)**	**Effect if IHR at Height of simulation**
2.0	166	Pain within 60 Sec
5.0	105	2^{nd}. Degree Burn within 60 Sec
10.0	73	Potentially Lethal within 60 Sec
Internal temp. at failure: 79.2, Mass in Fireball: 99.9%, Fireball Diameter: 49 mt., Fireball Duration: 4 Second, Pool Diameter: 0 Mt, Pool Burn Duration: ~1 Min., Flame Length: 1 mt.		
Toxic Dispersion: (Total Failure, 600 Kg Instantaneous Leakage)		
Toxicity Limit	**Distance (m)**	**Effect if IHR at Height of simulation**
IDLH:3800 ppm	139	Immediately Dangerous to Life & Health
$TWA_{8Hr.}$:1000 ppm	249	OSHA Standard: Permissible Exposure Limit
Release Duration: 1 Min, Release rate: 10 Kg/sec, Total amount Released: 600 Kg.		
Vapor Cloud Explosion* (Total Failure, 600 Kg Instantaneous Leakage)		
Over Pressure (psi)	**Distance (m)**	**Effects**
1.0	50	Window glass shatters, light injuries from fragments occur.
3.0	57	Residential structures collapse. Serious injuries are common, fatalities may occur.
5.0	50	Most buildings collapse. Injuries are universal, fatalities are widespread.
Area is congested, Release Duration: 1 Min, Release rate: 10 Kg/sec, Total amount Released: 600 Kg., Mass in Explosion:100%		

Toluene – Catastrophic Rupture)

INPUT DATA			
Chemical Data:			
Chemical Name	Toluene	Stored Quantity	17 KL (Largest o/g tank)
Molecular Weight: Density:	92.14 g/mol 0.8636 @ 20°C	Ambient Boiling Point: Ambient Flash Point:	110.6° C 4° C (cc)
Ambient Saturation Concentration:	4%	Vapor Pressure Vapor Density	28.4 mm Hg at 25 ° C 3.1
Flammability Limits	LFL: 1.1% UFL: 7.1%	Toxicity Data:	IDLH: 500 ppm $TWA_{8Hr.}$: 200 ppm Ceiling:300 ppm
Atmospheric Data: Ground Roughness: urban or forest Wind: 1.9 meters/second from W at 10 meters (Annual Mean) Stability Class: F Cloud Cover: 3 tenths Air Temperature: 26.19° C Relative Humidity: 75%			

OUTCOME OF SCENARIO MODELS		
Fireball (BLEVE) Scenario: (Leakage –Hole, 2 Inch)		
Heat Flux (KW/m^2)	**Distance (m)**	**Effect if IHR at Height of simulation**
2.0	648	Pain within 60 Sec
5.0	416	2nd Degree Burn within 60 Sec
10.	294	Potentially Lethal within 60 Sec
Internal temp. at failure: 159.7, Mass in Fireball: 99.9%, Fireball Diameter: 142 mt., Fireball Duration: 10 Second, Pool Diameter: 2 Mt, Pool Burn Duration: 35 Second, Flame Length: 9 mt.		
Pool Fire Scenario: (Leakage –Hole, 2 Inch)		
Heat Flux (KW/m^2)	**Distance (m)**	**Effect if IHR at Height of simulation**
2.0	26	Pain within 60 Sec
5.0	15	2nd Degree Burn within 60 Sec
10.0	<10	Potentially Lethal within 60 Sec
Pool Diameter: 5.1 Mt, Max. Burn rate: 98.1 kg/min, Total Amount Burned: 5814 Kg,Flame Length: 12 mt.		
Flammable Cloud Dispersion: (Leakage –Hole, 2 Inch)		
Flammable Conc.(%)	**Distance (m)**	**Effect if IHR at Height of simulation**
10% LEL	69	Immediately Dangerous to Life & Health
60% LEL	18	OSHA Standard: Permissible Exposure Limit
Max. Avg. Sustained Release Rate: 25.6 kg/min, Total amount Released: 913 Kg., Puddle Spread Diameter: 38 Mt.		
Toxic Dispersion		
Toxicity Limit (ppm)	**Distance (m)**	**Effect if IHR at Height of simulation**
IDLH:500	114	Immediately Dangerous to Life & Health
Ceiling: 300	156	OSHA Ceiling Limit for Exposure
$TWA_{8Hr.}$:200	200	OSHA Standard: Permissible Exposure Limit
Max. Avg. Sustained Release Rate: 25.6 kg/min, Total amount Released: 913 Kg., Puddle Spread Diameter: 38 Mt.		

Acetic Acid (Catastrophic Rupture)

INPUT DATA			
Chemical Data:			
Chemical Name	Acetic Acid	Stored Quantity	35 Kg Carboy
Molecular Weight: Specific Gravity:	60.05 g/mol 1.0446g/cm3 @ 25°C	Ambient Boiling Point: Ambient Flash Point:	117.9° C 39 °C (cc)
Ambient Saturation Concentration:	2.2%	Vapor Pressure Vapor Density	15.7mm Hg at 25 ° C 2.07
Flammability Limits	LEL: 4% UEL: 19.9%	Toxicity Data:	IDLH: 50ppm $TWA_{8Hr.}$: 10 ppm
Atmospheric Data: Ground Roughness: urban or forest Wind: 1.9 meters/second from W at 10 meters (Annual Mean) Cloud Cover: 3 tenths Air Temperature: 26.19° C		Stability Class: F Relative Humidity: 75%	

OUTCOME OF SCENARIO MODELS		
Toxic Dispersion: (For 1.75 T Spill Forming 15 sq. mt .Puddle		
Toxicity Limit (ppm)	**Distance (m)**	**Effect of Toxic Dispersion**
IDLH:50 ppm	49	Immediately Dangerous to Life & Health
$TWA_{8Hr.}$:10 ppm	125	OSHA Standard: Permissible Exposure Limit
Source: Leaking carboys forming evaporating puddle, Puddle Volume: 1.75 M^3, Release Rate: 193 g/Min, Duration: 1 Hr., Total amount Released: 11.3 Kg,		
Flammable Cloud Dispersion: For 1.75 T Spill Forming 15 sq. mt .Puddle)		
Flammable Conc. (%)	**Distance (m)***	**Effect of Flammable Cloud**
10% LEL	<10	Flammable doud with 4000 ppm concentration
60% LEL	<10	Flammable Cloud with 24000 ppm concentration, Flame Pockets, chances of flash fire
Source: Leaking carboys forming evaporating puddle, Puddle Area: 1.75 M^3, Release Rate: 193 g/Min, Duration: 1 Hr., Total amount Released: 11.3 Kg,		
Pool Fire (For 1.75 T Spill forming 15 sq. mt. burning puddle)		
Heat Flux (KW/m^2)	**Distance (m)***	**Effects of Heat**
2.0	<10	Pain within 60 Sec
5.0	<10	2nd Degree Burn within 60 Sec
10.0	<10	Potentially Lethal within 60 Sec
Source: Leaking carboys forming burning puddle, Puddle Area: 1.75 M^3, Max. Burn Rate: 20.1 Kg/Min, Burn Duration: 1 Hr., Total amount Burned: 1.203 Kg		

We have identified the various hazards in the earlier section and detailed them in Annexure 4 to 8; this data shall now be used to assess the risk involved inside factory premises.

As defined earlier, Risk is the probability or frequency of an undesired event in specified time or under specific circumstances. Thus, the probability or the frequency of the identified hazards (leading to an undesired event) will also give the risks involved. The analysis of how they could occur and estimation of the extent, magnitude and likelihood of any harmful effects or consequences will give us risk analysis.

ANNEXURE II

A summary of emergency of emergency scenarios with possible chain of events from the above releases detailed in the risk analysis with regards to human injury and the property damage will then give us emergency estimates. An assessment of these estimates and criteria against which societal risks may be judged will give the final result i.e. Risk Assessment.

We follow the below mentioned steps to complete our risk assessment Study.

1. Preliminary Analysis
    a) HAZOP Study
    b) HAZAN Study
2. Consequence Analysis
    a) Release rate Calculations.
    b) Dispersion Calculations.
    c) Fire & Explosion calculations.
    d) Hazard Analysis Calculations.
3. Evacuation Range.
4. Risk Assessment.

We shall discuss these steps in greater detail in the next few pages.

HAZOP Study

The Hazard & Operability (HAZOP) Study is defined as "The application of a formal systematic examination to the process and engineering intentions of the new Facilities to assess the hazard potential of mal-operation or malfunction of individual items of equipment and the consequential effect on the facility as a whole."

The examination procedure takes a full description of the process, systematically Questions every part of it to discover how deviations from the intention of design can occur and decides whether this deviation can give rise to hazards the questioning is formulated around a number of guide words which are derived from method study techniques. In effect, the guide words are used to ensure that the question, which are poised to test the integrity of each part of design, will explore every conceivable way in which are poised to test the integrity of each part of design, will explore every conceivable way in which the design could deviate from the design intention. This usually produces number of deviations and each deviation is then considered to decide how it could be caused and what could be the consequences. These would be filtered to include only those which are conceivable and hazardous. The remedial actions are then noted.

ANNEXURE II

HAZAN Study

This study identifies fault situation for the hazards identified. A fault tree analysis is then carried out for each of the fault situation. This analysis is carries out to find the failure modes, their frequencies and effects analysis. The results are useful in assessing

The reliability of man, machine and instruments by calculating their probability of working or dealing. Results are also woeful in working out safety measures and emergency plans.

Release Rate Calculations

This analysis is carried out to find out release rates of various gas-vapor-liquid mixtures in single phase to phase, evaporating spill, boil-of(cold) spill, etc. the calculations are used as an input for calculating dispersion calculations.

Dispersion Calculations

The dispersion calculation such as jet dispersion (viz. safety valve release), Gauss -- Ian dispersion (stack release of pollutants), ground level release, etc. are worked out for the various mixtures ascertained in the release rate calculations above.

The most adverse impacts are usually due to toxic/flammable gas releases at ground level and in downwind direction. The dispersion calculations of the main gases are tabulated in Annexure – 10 (Dispersion Model is available in Environment Clearance Report)

Fire and Explosion Calculations

Fire is sub – classified as set Fire (though leaking pipe); pool fire (in bund), Flash Fire (escaping gas catches fire form a source of ignition), VCE (vapor cloud Explosion) and BELEVE (Boiling Liquid Expanding Vapor Explosion)

Explosion as sub classified as Deflagration, (low flame velocity and peak pressure), Dust Explosion, Chemical Explosion, Confined Explosion (occurs in closed place and results in high peak pressure). Un-confined Explosion - Occurs in open place and results in low peak pressure.

The damaged from fire, radiant heat & or explosion can occur in three main ways.

1. Ignition at the factory or terminal causing a large but non explosive fire onsite.
2. Ignition of a rapidly expanding cloud of vapor leading to BLEVE.
3. Ignition of drifting cloud of a dense gas off site to form either a flash fire or an explosive fire ball.

ANNEXURE II

Hazard Analysis Calculations

All above mentioned analysis enable us to now quantify the hazards involved In case an emergency takes places in the factory. We present Hazard analysis calculations for the main Hazardous raw material handled by the company.

Evacuation Range

The evacuation range for an emergency situation is usually worked out based on the above analyses and bases on other empirical formulae. This has been enumerated in Annexure 11

ENVIRONMENT IMPACT ASSESSMENT

Environment Impact Assessment (EIA) may be defined as a document containing environmental analysis which includes identification, interpretation, predication and Mitigation of impacts likely to be caused by proposed action or project.

The environmental elements which are likely to be affected are usually categorized as air, water, land, sound, ecology, human aspects, economics and resources.

Some of these attributes and their impacts are closely connected to animal, plant and human life. The environmental impact is measured in terms of changes in attribute values with and without project activity.

The analysis is usually carried out at project planning stage and for clearance of a site for a new project as per EPA - 1986 and factories Act -1948. This is usually necessary for a very large project which has the potential to change attributes values significantly. A small or medium industry can't by itself have a significant impact, but a cluster of such Industries located in the same area can give measurable results. The details filled in the annexure - 12 for EIA (Environment Impact Assessment) are based more on the feel of the situation, assuming worst case scenario.

ANNEXURE – 10

GAS DISPERSION CONCENTRATION

Assuming leak rate (Q) = 3 kg / sec. i.e. 3 X 106 mg/ sec. and Wind Velocity (u) = 2 & 5 m/ sec. Downwind Concentration of some gases are calculated and tabulated as follows:

Product	**Max. Concentration (PPM) in Down Wind Direction at a Distance x, Wind Velocity (U) = 2 & 5 m/sec for most unstable after – noon weather condition (A)** **100 m 200 m 300 m 400 m 500 m 700 m 1 KM 2 KM 3 KM 4 KM 5 KM**										
	100 M	200 M	300 M	400 M	500 M	600 M	700 M	1 KM	2 KM	3 KM	4 KM	5 KM

GAS DISPERSION CONCENTRATION CHART AVILABLE in ENVIRONMENT CLEARANCE REPORT

ANNEXTURE – 11

EVACUATION RANGE

MATERIALS / PRODUCTS	WIND VELOCITY = M / sec. Or Radius of Immediate Danger Area (KM)	DIMENTION OF EVACUATION AREA (KM)	
		DOWN WIND KM	CROSS WIND KM
NH_3	0.5	0.5	----
Ethyl Chloride	0.206	0.5	---

ANNEXTURE – 12

ENVIRONMENT IMPACT AND ASSESSMENT

Sr. No.	Distance in Meters	Environment	Population With Composition		Type of Risk Possible	Duration Of Risk & its frequency	No of People
			Day Time	Night Time			
1	2	3	4	5	6	7	8
1	Up to 200 m	Own Premises	40 -50	25 - 30	Leak, fire, Toxic Fume, etc.	Up to 24 hrs	Staff, Premises, Vessels, etc.
2	Up to 200 m	Neighboring factories	30 to 35	20 - 25	--do--	Up to 12 hrs	--do--
3	Up to 1 KM	Factories, Commercial Area	300-350	200-250	--do--	Up to 6 hrs	--do--

Risk Assessment		Control Measures	
Frequency Acceptable Criteria		Avail. In Factory	Reqd. From outside
9	10	11	12
Once in 10 years	HAZOP / HAZAN	Annexure 4,6,21,38	Annexure 4,6,21,38
Once in 25 years	--do--	--do--	--do--
Once in 50 years	--do--	--do--	--do--
Once in 75 years	--do--	--do--	--do--
Once in 100 years	--do--	--do--	--do--

ANNEXTURE – 13

WEATHER CONDITION

Period		Wind Velocity. (Avg.) M / Sec.	Weather Condition (dry, rain, moist, cold, stable)	Wind Direction **
From	To			
JAN	FEB	2 – 4	COLD	NE
MAR	APR	3 – 5	DRY	SW
MAY	JUN	4 – 5	DRY	SW
JUL	AUG	4 – 5	RAINY	SW
SEP	OCT	2 – 4	RAINY	SE
NOV	DEC	2 – 4	COLD	NE

** Varying predominantly.

SECTION - IV

EMERGENCY ORGNISATION

We have identified the various hazards in the earlier section and assessed the risks involved inside the factory premises. In this section, we concentrate on building organization structure for emergency arising out of the assessed risks.

The next few pages and the annexure - 14 to 20 suggest the key personnel nominated to combat emergency with their specific responsibilities and duties. This preparedness help in making best use of the resources involved and also avoids confusion / panic arising at the time of an emergency.

All such key personnel should be available in all shifts and or on-call / on off – duty or on holidays.

INCIDENT CONTROLLER (IC)

The primary duty of an incident controller is to take charge of the incident in the initial stages from **Deputy Incident Controller**/Shift Supervisor/Chemist. He may be required to take decisions involving other plants or to stop or continue any process & to take decision to control the incident. The nominated person is usually the Shift Incharge or Asst. Manager – Production, Manager – Production. In case the incident controller is not available, then the deputy nominated should take charge of the incident.

The major responsibilities of the incident controller are as follows:

1. Getting call regarding incident, reach to the site and simultaneously inform your peers to reach at affected site. Assess the scale of emergency, guide area team in controlling an emergency. Asks your peers to call Fire Fighters, First Aid Trained people.
2. If you feel that an emergency is not controllable or is likely to escalate, then activate on site plan. Immediately contact Site Main Controller (SMC)
3. In absence of Site main controller assumes duties of the site main controller and nominates your deputy to the incident in that case.

4. Direct all operations within the affected area with following priorities.
    a. Secure safety of the personnel.
    b. Minimize damage to the plant, property & environment.
    c. Minimize loss of materials.

Direct rescue & firefighting operations until the arrival of the fire brigade.

5. Send a floor captain and search for casualties, if any.
6. Evacuate nonessential workers from plant and ask them to assemble at the assembly point.
7. Set up a communications point and establish radio / telephone/messenger contact with emergency control center.
8. Give advice & information as required to the fire brigade & other emergency Services.
9. Brief the Site Main Controller & keep informed for the developments.
10. Preserve evidences that will be necessary for subsequent inquiry in to the cause of Emergency & to conduct preventive measures.

The Annexure -- 14 & 15 gives the details of the persons nominated as incident controller and deputy incident controllers respectively.

SITE MAIN CONTROLLER (SMC)

The site main controller has the overall responsibility for directing operations within the premises & for calling outside help from Local / District Crises Group as well as neighboring companies. The nominated persons are usually having a Senior position or a top executive or a director.

The major responsibilities of the site controllers are as follows:

1. On detail communication from Incident Controller (IC), if possible reach the affected site (if affected site nearby), or reach to the Emergency Control Centre (ECC), consult IC, decide whether an emergency minor or major (controllable within or not controllable within). If an emergency beyond control/major, then declare major emergency. Inform MD and CEO of the company at Had Office. Ensure outside emergency services & mutual aid is called. Activate on site emergency plan & if necessary, inform nearby factories & residential areas.
2. Ensure that the key personnel are called at ECC.

3. Inform Deputy Director of Industrial Safety & Health, Regional Officer, GPCB, Chief Officer Fire (Local), Experts, and other statutory authorities.
4. Exercise direct operational control on parts of the factory outside affected area.
5. Continually review & assess possible development to determine the most probable course of events
6. Direct safe close down & evaluation of plants in consultation with the incident controller & key personnel.
7. Ensure that causalities receive adequate attention to be taken for hospitalization if necessary & the relatives are properly advised.
8. Ensure proper accounting for personnel & rescue of missing persons.
9. Control traffic movement within the factory.
10. Issue authorized statements to news media.
11. Control rehabilitation of affected areas & victims on cessation of the emergency. Do not restart the plant unless it is ensured that it is safe to start & cleared by the authorities. Annexure - 16 lists nominated Site main controller and his whereabouts.
12. Order restarting of the plant operations in consultation with IC, Key people.
13. Investigate the root cause of an occurrence

SAFETY PERSONNEL & TECHNICAL PERSONS

On receiving information on Incident/Accident

1. Immediate rush to the scene/place/site
2. Assess the situation & ascertain the involved chemicals, quantities, storage details, type of hazard, leak, spread / dispersion rate, injured persons, etc.
3. On collecting details of involved chemicals, M.S.D.S. , Toxicological details, neutralizing agent , responding actions, special medical treatment , antidote, etc., Safety Officer/Technical Officer / EHS Officer shall provide and consult the related matters with S.M.C/ I .C. and immediately provide necessary helps, assistance, guidance and technical details for responding act ions and specific procedure for handling the emergency on urgent basis.
4. On controlling the incident, procedure for monitoring environment, clean up, restarting and restoration, etc. details shall be provided, advised and assisted to the S.M.C. / I .C.

5. Assist, advice and guidance in preparation of investigation report and reporting various Authorities.
6. Other duties as allotted/ required by S.M.C. / I .C.

HUMAN RESOURCES MANAGER:

He will also work as liaison Officer and will be stationed at the Main Entrance (Security Office near Main Gate or ECC) during the emergency. He will under the direction of the SMC handle police, press and other inquiries, receive reports from roll-call leaders from assembly points and pass on the absentee information to the Incident Controller. His responsibilities shall include:

(1) To ensure that casualties receive adequate attention, to arrange additional help if required and information relatives.

(2) To control traffic movements into the factory and ensuring that alternative transport is available when need arises.

(3) When emergency is prolonged, arrange for the relief of personnel and organize refreshments / catering facility.

(4) Based on the information received, advise the SMC of the situation, recommending (if necessary) evacuation of staff from assembly points.

(5) Recruit suitable staff to act as runners between the Incident Controller and himself if the telephone and other system of communication fail due to whatsoever reasons.

(6) Carryout Head counting at assembly point and ensure full evacuation.

(7) In case of prolonged emergency involving risk to outside areas by wind-blown materials, contact local Meteorological Office to receive early notification of changes in weather conditions.

ANNEXURE II

KEY PERSONNEL

1. The key personnel shall be available at any time on duty or on call when of f or on holiday. The Role of key personnel is to carry out the instruct ion as given by Site Main Controller / Incident Controller during an emergency
2. The key personnel shall be Head of The Department/ Senior Officers having experience and trained. Generally, key personnel will be from senior levels, per form the major work as per the advice made by the SMC and pass on the messages.
3. They shall carryout checking of vapor / gas concentration with the help of measuring device and inform SMC about the safe area
4. They will perform the work of conveying messages, Liaison, coordination, procuring materials, maintaining discipline amongst workers, assist, advice etc. as instructed by SMC / IC, and report act ions taken and development of work to SMC/ IC. Annexure - 17 lists all such personnel as may be required

   Their major responsibilities include (under direction of site main controller):

   - Decide action needed to shut down plants, carry emergency engineering works etc.
   - Evacuate personnel.
   - Arrange for supplies of equipment, utilities (fuel, water, power etc.)
   - Carry out atmospheric test with respect to VOC.
   - Liaise with emergency planning authorities & services.
   - Liaise with hospitals, mutual aid center, relatives of casualties etc.
   - Arrange to mutual aid help. Arrange for outside shelters, evacuation camps.
   - Any other work as may be assigned by the site main controller

ANNEXURE II

FACTORY MEDICAL OFFICER / PARA MEDICAL STAFF (MEDICAL ASSISTANT)

On receiving information on Incident/Accident

1. Factory Medical Officer (FMO) has to arrange Casualty Receiving Centre with paramedical staff; necessary special medical treatment with medical equipment along with required antidotes. Rescue Centre should have sufficient space, capacity and located in a safe place. He has to carry out the work in consultation with S.M.C. and I .C.
2. There shall be sufficient first-aiders; properly trained. F.MO. has to categorized the person as per injury and arrange the serious person for hospitalization immediately with necessary instruction indicating involved chemicals, special medical treatment and antidotes and toxicological details.
3. He has to maintain the register for all persons, containing the details, with respect to type of injury, treatment given, time of arrival, observations, further recommendation, discharge, etc.

SECURITY GUARDS / OFFICER / SUPERVISOR

1. Inform all key people by Intercom or Mobile phone on getting message from the department / or outside
2. On receipt of information as directed by IC/SMC depute security guards to control traffic around area of emergency and cordoning of incident area.
3. Keep visitors out & prevent unauthorized entry.
4. Control Traffic at gate / inside and outside Plant premises.
5. Await further instructions from in-charge of emergency cent re.
6. Inform key persons as directed by in-charge of emergency cent re.
7. Help in searching affected areas for causalities.
8. Eliminating ignition sources.
9. Allow heavy vehicle to go out the premises.
10. Instruct non-essential workers to go to the safe assembly point.
11. Guide the mutual aiders, fire brigade, Government Officers, emergency vehicles, etc. for safe way towards emergency incident and safe parking.
12. Other matters as instructed by SMC/ IC.

ANNEXURE II

ESSENTIAL WORKERS

1. It is the task force of trained workers or expert teams to carry out specific job or work at site at the time of emergency and perform the duty under guidance of Incident Controller /Site Main Controller. The Work includes fire-fighting, repairing/Maintenance, helping, first Aid, instrumentation, pipe line control, Electrical, Mechanical, Water work, Weldon work, Shifting the materials and other helping hands to control the emergency on urgent basis. The different teams are formed to carry out specific works by responsible way such as, Fi re Team, First Aid Team, Repair & maintenance Team, Rescue Team, Transportation & Evacuation Team, Emergency Runners.
2. Such work shall include:

   (1) Gas leak and spill control team takes the charge.

   (2) Shutting down plant and making it safe.

   (3) Emergency engineering work e.g. Isolating equipment, materials, process, providing temporary by-pass lines, safe transfer of substance, urgent repairing or replacement, electrical work etc.

   (4) Provision of emergency power, water, lighting, instruments, equipment, materials etc.

   (5) Movement of equipment, special vehicles and transport to or from the scene of the incident.

   (6) Search, evacuation, rescue and welfare.

   (7) First – aid and medical help.

   (8) Inform to surrounding factories and neighboring public as directed by the site Main Controller.

   (9) Assistance at communication center, casualties, reception cent re, liaison with Statutory Authorities etc. as directed by SMC and any special help required.

ANNEXURE II

NON- ESSENTIAL WORKERS:

Upon hearing emergency siren/alarm or message, the non-essential workers, who have no any duties allot ted during emergency, they have to follow:

1. Leave the site/place immediately by safest route to safe assembly point, as directed.
2. Proceed at right-angels to wind direction or cross wind direction to safe place.
3. Do not re-enter site unless directed personally.
4. Assist in head count at assembly point.
5. Inform contractor personnel to stop work upon hearing f i re / gas alarm and ask to assemble at the Safe Assembly point or main security gate.
6. Do not go to incident place unless specifically instructed by Emergency in-charge.
7. Avoid Panic & do not spread any rumors.
8. Do not smoke and extinguish any source of ignition, cigarette, bidi, lighter, gas, etc.
9. Ask others to keep calm & maintain discipline.

ASSEMBLY POINT

Assembly point is specified place where all non- essential workers (i.e. those who are not assigned any duty) shall report. Assembly point should be clearly marked by a conspicuous notice and an identification mark. They should be located in a safe place, away from the area of the risk and least affected by wind direction. It may be in the open or in a building depending on the hazard involved.

More than one assembly point is required if:

1. Employees have to reach the assembly point through affected area.
2. The point lies in the path of windblown material.
3. The factory has many plants and a bigger area.

Assembly Point Should:

1. Be manned by a nominated person recording names / dept. of those reporting there.
2. Have a means of communication with the Site Main Controller to receive instructions.
3. Have suitable personal protective equipment (PPEs) if necessary, to further pass through vulnerable area.

ANNEXURE II

EMERGENCY CONTROL CENTER

Emergency Control Center is a place from which all operations of Emergency are directed and coordinated. It will be attended by Site Main Controller Key personnel, Senior Officers, from Fire Brigade, Police, Factory Inspectorate, District Authorities and emergency services.

The center should contain:

1. An adequate number of external telephones with latest telephone Directory.
2. An adequate number of Internal telephones.
3. Mobile Phone etc.

1. Factory Plan Showing:
    - ❖ Area having large inventories of raw materials including tanks, reactors, drums and compressed gas cylinders. (Annexure – 3, 4, 5 & 6)
    - ❖ Source of Siren and source of equipment including explosion, spills and Gas control.
    - ❖ Source of Fire extinguishing material.
    - ❖ Fire water system and additional source of water.
    - ❖ Assembly roles of employees, work permits, gate entries and documents for head count.

ANNEXURE – 14

INCIDENT CONTROLLER

Sr. No.	Shifts	Name	Designation	Place of Availability		PHONE NUMBERS	
				Factory	Residence	Factory	Residence
1	2	3	4	5	6	7	8
1	Shift	Mr. Subhas Patel	Supervisor	Plant	Valsad	02632-253665	9998626015
2	Shift	Mr. Anup Prajapati	Supervisor	Plant	Valsad	02632-253665	9687673753
3	Shift	Mr. Akhter H Khalifa	Supervisor	Plant	Valsad	02632-253665	9974186819

ANNEXURE – 15

DEPUTY INCIDENT CONTROLLER

S.No	Shifts	Name	Designation	Place of Availability		PHONE NUMBERS	
				Factory	Residence	Factory	Residence
1	2	3	4	5	6	7	8
1	Shift	Mr. Bakul Desai	Supervisor	Plant	Valsad	02632-253665	9408737148
2	Shift	Mr. Dilip Patel	Supervisor	Plant	Valsad	02632-253665	9825109795
3	Shift	Mr. Arvind Prajapati	Supervisor	Plant	Valsad	02632-253665	9228893737

ANNEXURE – 16

SITE MAIN CONTROLLER

Sr. No.	Name & Designation	PLACE OF AVAILABILITY		PHONE Nos.	
		Factory	Residence	Factory	Residence
1	Mr. K. Srinivas (Technical Director)	Office	Valsad	254299, 253665	Mob: 98251 32304

In absence of Mr. K.Srinivas, Mr. Samit D. Shah will act as SMC

If both Mr. K Srinivas and Mr. Samit D. Shah not available, Dr. A.K. Rana will act as SMC

ANNEXURE – 17

KEY PERSON

Sr. No.	NAME	DEPARTMENT & DESIGNATION	PLACE OF AVALABILITY		PHONE NUMBERS	
			Factory	Residence	Factory	Residence
1	Mr. K. Srinivas	Technical Director	Office block	Valsad	254299, 253665	Mob: 9825132304
2	Mr. B. B. Mehta	Director	Office block	Valsad	254299, 253665	Mob: 9825147701
3	Mr. R. V. Shah	Director	Office block	Valsad	254299, 253665	Mob: 9825116725
4	Mr. Samit Shah	GM-Operation	Office block	Valsad	254299, 253665	Mob: 9825116726
5	Mr. SB Parmar	GM-EHS	Office block	Valsad		9825793639
6	Mr. Nantu Das	Manager-HR	Office block	Valsad		9979223858
7	Dr.A.K.Rana	HOD-Production	Office block	Valsad		9825132305
8	Mr. S. C. Patel	HOD – QC	Office block	Valsad	254299, 253665	Mob: 9825127304
9	Mr. R. R. Vashi	HOD – QA	Office block	Valsad	254299, 253665	Mob: 9099577811
10	Mr. K. C. Desai	HOD – Commercial	Office block	Valsad	254299, 253665	Mob: 9824217170
11	Mr.D.J.Ghadiyali	Production – Officer	Office block	Valsad	254299, 253665	Mob: 9099577855
12	Dr.Gautam Vaidya	R&D Head	Office Block	Valsad	254299, 253665	Mob: 9427578446

ANNEXURE – 18
ESSENTIAL WORKERS

Sr. No.	Name	Department	Task Force
1	SUDHIR PATEL	Maintenance	RESCUE and FIRST AID
2	DHARMESH PATEL	R2	
3	RITESH PATEL	QC Lab	
4	DHANSUKH PATEL	R2	
5	HITESH TANDEL	Packing	
6	CHINTAN ROHIT	R1	
7	MAHESH V PATEL	Packing	
8	SAVAN D PATEL MEET PATEL	R2 Maintenance	
9	DURYODHAN SMIT PATEL	Packing ETP	
10	PATHIK K DESAI	STORES	
11	ARVIND	R1	
12	RITESH PATEL	Maintenance	FIRE FIGHTER
13	DHARMESH PATEL	Maintenance	
14	SANJAY	Electrical	
15	VIMAL	Electrical	
16	ANUP	R2	
17	RAKESH MOHAN	R2	
	HIMEN PATEL	DM Plant	
18	SHIVARAM SHAHU	R2	
19	KETAN PATEL	R2	
20	RAJU JOGI	R2	
	PRAKASH PATEL	Magnet	
21	MAHESH G NAIKA	R2	
22	VIJAY RASIK	R2	
23	PRAKASH SALT	R2	
24	ARVIND Ethyl Chlor.	R2	
25	NARESH SHAHU	R2	
26	CHINTAN PATEL	R2	
27	DHANSUKH PATEL **(First Aid)**	R2	
28	ARVIND PRAJAPATI	R1	
29	JAGDISH MAISURIYA	R1	
30	RAJU KHALAP	R1	
31	PARBHU M NAIKA	R1	
32	KIRAN	Stores	
33	MUKESH	Ashakote	
34	RAMESH SOMABHAI	Ashakote	
35	MANOJ PATEL	ETP	
36	ANKUR	ETP	
37	RAKESH	ETP	
38	SUBHASH PATEL	Maintenance	
39	BAKUL DESAI	Production	
40	DEVANG GHADIYALI	Production	

Sr. No.	Name	Department	Task Force
41	MEET PATEL	Maintenance	REPAIR AND MAINTENANCE
42	JIGAR PRAJAPATI	Maintenance	
43	JATIN PATEL	Maintenance	
44	KAMLESH NAYKA	Maintenance	
45	BHAVESH PATEL	Maintenance	
46	RAKESH PATEL	Maintenance	
47	PANKAJ PATEL	Maintenance	
48	SANDEEP PATEL (First Aider)	Maintenance	
49	RITESH	Electrical	EMERGENCY RUNNERS
50	MANISH	QC Lab	
51	SHIRSH	QC Lab	
52	PRGNESH	QC Lab	
53	PARIMAL	QC Lab	
54	DHARAM	QC Lab	
55	PARIKSHIT	QC Lab	
56	SAGAR PRAJAPATI **(First Aid)**	Ashakote	
57	SAWAN	R2	TRANSPORT & EVACUATION
58	SUBHASH PATEL	R2	
59	KRUNAL MISTRY **(First Aider)**	Accounts	
60	KHALIFA	R2	
61	HITESH PATEL	R2	
62	DILIP PATEL	R1	
63	JAYANTI	R1	
64	PRAKASH	R1	
65	VIJAY	R1	
66	PRASHANT	R1	

All above people are available Nearby Factory.

ANNEXURE – 19

SAFE ASSEMBLY POINT

Sr. No.	Location	Accommodation Capacity	Name & Designation	Place of Available		PHONE No.	
				Factory	Residence	Fact.	Mobile
1	Main Security Gate	100	Mr. Sunil .B Patel – Asst. Manger - Production	Plant Panel Room	Valsad	204	7574814448
2	East side of RM Stores open area	200	Mr. Devang Ghadiali – Asst. Manager -Production	Plant Panel Room	Valsad	204	9099587855

ANNEXURE – 20

EMERGENCY CONTROL CENTRE

LOCATION OF CENTRE	INTERNAL PHONE NUMBERS	ITEMS AVAILABLE	INCHARG PERSON	REGULAR TESTING
Security Cabin at Main gate	205 & 208	• Safety helmet • MSDS, • Handkerchief, • Safety Glasses, • Touch, • First Aid Box • List Of Fire fighters and First Aid Trained Person • SCBA • Hammer • Axe • Shovel • Steel and Plastic Bucket with tumbler • Earthing cable with Clamp • Mobile Foam Unit • Foam Carboy • Hydrant Pipes • Common Nozzle and Triple Purpose Nozzle • Hydrant valve Spanner • Fire Proxy Suit • Gum Boots, Hand Gloves, PVC Suit, Dust Mask • Bubble Hood, Organic Vapor Mask, Face Shield • Emergency Contact Numbers • Emergency Phone on receiving Mode • Caution tape for barricading • PVC airline pipe	Mr. Kalpesh Desai & Security Supervisor Jignesh Patel	Plant is working 24 hours and mock drill twice in a year.

SECTION – V

EMERGENCY

Level Of Emergencies

LEVEL - 1:
The incident or emergency which shall be confinable, controllable within the plant premises, which under normal circumstances does not affect area outside the said plant battery limit and Controlling does not involve / require external help. Such emergencies shall be handled by the same department / area in-charge. While handling an emergency all operation / process should be diverted to safe mode by stopping heating, transferring, CF operation, charging, etc.

LEVEL - 2:
In addition to action taken during Level 1 Emergency, When the incident or emergency are not be controlled within 10 to 15 minutes or does not come under control within 10 to 15 minutes, incident controller, site main controller reviews the situation and decides if situation is worsening;
a) Can affect other section of the same plant and necessitate shutdown of that sections.
b) And or Can affect other nearby plant / sections and necessitate shut down of that area.
c) And / Or affecting whole of premises but not outside the premises.

In this situation Site main Controller take decision to blow the siren and communicate Emergency Control Centre to blow the siren as per code.

LEVEL - 3:
After accessing Off – Site implications of level – 2 emergency if there is a likely hood of gas cloud formation and spreading of cloud in down wind direction affecting neighboring population of industry and villagers and / or in case of following incident IC and SMC are of the opinion that there are be Off – Site implications.

Raise level – 3 sirens and declare Off – Site emergency and activate as per Off – Site emergency plan.

ANNEXURE II

Level-I and Level-II shall normally be grouped as onsite emergency and Level-III as off-site emergency according to the hazards/risks associated as follow:

Sr. No	Type of Emergency	Applicable Plan	Causes of Emergency
1	Level – I	Onsite Emergency Plan	Small Fire due to: ➢ Spilling from the flanges/Pipeline/Filters / Tanks / Valves ➢ Pinhole leakage from Pipelines ➢ Failure of gasket resulting in leakage
			➢ Fire in Electric Panels, Oil Room and flammable solvent storage ➢ Hazards in Waste treatment processes ➢ Minor Injuries & other risks ➢ Exposure to fugitive dust, noise, and ➢ other emissions ➢ Housekeeping practices requiring ➢ contact with solid and liquid wastes ➢ Emission/spillage etc. from storage & ➢ handling – without any fire
			Major Fire due to: ➢ Spillages from tank truck due to over flow while loading/Unloading ➢ Spillages from storage tank ➢ Tank containment failure. ➢ Leakage from pipeline due to damage by external sources, sabotage, pilferage
2	Level – II	Onsite Emergency Plan	➢ Failure of mechanical structure ➢ Failure of civil structure ➢ Deposition of toxic pollutants in vegetation / other sinks and possible sudden releases due to accidental occurrences
3	Level III (Disaster)	Off Site Emergency	➢ Burst of gas Pipelines inside & outside premises. ➢ Failure of storage tanks. ➢ Pool Fires w ➢ Vapor cloud explosion. ➢ Agitation / forced entry by external group of people.

ANNEXURE II

Sr. No	Type of Emergency	Applicable Plan	Causes of Emergency
			➢ Natural Perils – Earthquake, Flood, Tsunami Sabotage, Bomb Explosion / Threat. ➢ Exposure to pollutants released from offsite/ storage/related activities ➢ Contamination due to accidental releases or normal release in combination with natural hazard

DIFFERENT EMERGENCY SCENARIOS - Onsite / Offsite Emergency

Emergency Scenarios	Threats
Medical	Serious injuries / Fatality or illness
	Heart Attack/ Health related Issues
Operational	Fire & Explosion
	Structural failure
	Pipeline leak or rupture
	Sabotage
Natural Disasters	Flood
	Cyclone
	Earthquake
Environmental	Chemical /Oil/ Hydrocarbon Product spill
	Volatile Vapor cloud release
Security	Bomb threat
	Sabotage
	Kidnap and Ransom

ANNEXURE II

PROBABLE CAUSES OF EMERGENCIES

The common causes for the above events are tabulated below for reference and the ONSITE EMERGENCY PLAN (OEP) shall prepared by the installation to deal with the following emergencies.

Man made	Natural Calamities	Extraneous
➢ Heavy Leakage ➢ Fire ➢ Explosion ➢ Failure of Critical Control system ➢ Design deficiency ➢ Unsafe acts ➢ In-adequate maintenance	➢ Flood ➢ Earth Quake ➢ Cyclone ➢ Outbreak of Disease ➢ Excessive Rains ➢ Tsunami	➢ Riots/Civil Disorder/ Mob Attack ➢ Terrorism ➢ Sabotage ➢ Bomb Threat ➢ War / Hit by missiles ➢ Abduction ➢ Food Poisoning/ Water Poisoning

Introduction of topic:

Foreseeable Emergency at this site:

(A) Natural

a. **Flood**

b. **Earth Quake**

c. **Snake Bite**

(B) Other

a. **Major Spillage of Hazardous Chemicals**

b. **Major Injury / Serious Injury / Illness**

c. **Fire (Solvent and Electrical)**

d. **Electrocution**

Do and Don'ts Before and After an Emergency

(a) Flood

Do's and Don'ts

Before floods

- Do not litter waste, plastic bags, plastic bottles in drains
- Try to be at home if high tide and heavy rains occur simultaneously
- Listen to weather forecast at All India Radio, Doordarshan. Also, messages by Municipal bodies from time to time and act accordingly.
- Evacuate low line areas and shift to safer places.

- Make sure that each person has lantern, torch, some edibles, drinking water, dry clothes and necessary documents while evacuating or shifting.
- Make sure that each family member has identity card.
- Put all valuables at a higher place in the house.

In the Flood Situation

- Obey orders by government and shift to a safer place.
- Be at safe place and they try to collect correct information.
- Switch of electrical supply and don't touch open wires.
- Don't get carried away by rumors and don not spread rumors.

(b) Flood

DO's

- Switch off electrical and gas appliances, and turn off services off at the mains.
- Carry your emergency kit and let your friends and family know where you are going.
- Avoid contact with flood water it may be contaminated with sewage,oil,chemicals or other substances.
- If you have to walk in standing water, use a pole or stick to ensure that you do not step into deep water, open manholes or ditches.
- Stay away from power lines electrical current can travel through water, Report power lines that are down to the power company.
- Look before you step-after a flood, the ground and floors are covered with debris, which may include broken bottles, sharp objects, nails etc.Floors and stairs covered with mud and debris can be slippery.
- Listen to the radio or television for updates and information.
- If the ceiling is wet shut off electricity. Place a bucket underneath the spot and poke a small hole into the ceiling to relieve the pressure.
- Use buckets, clean towels and mops to remove as much of the water from the afflicted rooms as possible.
- Place sheets of aluminum foil between furniture wet carpet.

Don'ts

- Don't walk through flowing water - currents can be deceptive, and shallow, fast moving water can knock you off your feet.
- Don't swim through fast flowing water - you may get swept away or stuck by an object in the water.
- Don't drive through a flooded area - You may not be able to see abrupt drop - offs and only half a meter of flood water can carry a car away. Driving through flood water can also cause additional damage to nearby property.
- Don't eat any food that has come into contact with flood water.
- Don't reconnect your power supply until a qualified engineer has checked it. Be alert for gas leaks - do not smoke or use candles, lanterns, or open flames.

- Don't scrub or brush mud and other deposits from materials, This may cause further damage.
- Never turn on ceiling fixtures if ceiling is wet. Stay away from ceilings those are sagging.
- Never use TVs, VCRS, CRT terminals or other electrical equipment while standing on wet floors, especially concrete.
- Don't attempt to remove standing water using your vacuum cleaner.
- Don't remove standing water in a basement too fast. If the pressure is relieved too quickly it may put undue stress on the walls.

(c) Earthquake

Do's and Don'ts

What to Do Before an Earthquake

- Repair deep plaster cracks in ceilings and foundations. Get expert advice if there are signs of structural defects.
- Anchor overhead lighting fixtures to the ceiling.
- Follow BIS codes relevant to your area for building standards
- Fasten shelves securely to walls.
- Place large or heavy objects on lower shelves.
- Store breakable items such as bottled foods, glass, and china in low, closed cabinets with latches.
- Hang heavy items such as pictures and mirrors away from beds, settees, and anywhere that people sit.
- Brace overhead light and fan fixtures.
- Repair defective electrical wiring and leaky gas connections. These are potential fire risks.
- Secure water heaters, LPG cylinders etc., by strapping them to the walls or bolting to the floor.
- Store weed killers, pesticides, and flammable products securely in closed cabinets with latches and on bottom shelves.
- Identify safe places indoors and outdoors.
- Under strong dining table, bed
- Against an inside wall
- Away from where glass could shatter around windows, mirrors, pictures, or where heavy bookcases or other heavy furniture could fall over
- In the open, away from buildings, trees, telephone and electrical lines, flyovers and bridges
- Know emergency telephone numbers (such as those of doctors, hospitals, the police, etc.)
- Educate yourself and family members

Have a disaster emergency kit ready

- Battery operated torch with extra batteries
- Battery operated radio
- First aid kit and manual

- Emergency food (dry items) and water (packed and sealed)
- Candles and matches in a waterproof container
- Knife
- Chlorine tablets or powdered water purifiers
- Can opener
- Essential medicines
- Cash and credit cards
- Thick ropes and cords
- Sturdy shoes

Develop an emergency communication plan

- In case family members are separated from one another during an earthquake (a real possibility during the day when adults are at work and children are at school), develop a plan for reuniting after the disaster.
- Ask an out-of-state relative or friend to serve as the 'family contact' after the disaster; it is often easier to call long distance. Make sure everyone in the family knows the name, address, and phone number of the contact person.

Help your community get ready

- Publish a special section in your local newspaper with emergency information on earthquakes. Localize the information by printing the phone numbers of local emergency services offices and hospitals.
- Conduct week-long series on locating hazards in the home.
- Work with local emergency services and officials to prepare special reports for people with mobility impairment on what to do during an earthquake.
- Provide tips on conducting earthquake drills in the home.
- Interview representatives of the gas, electric, and water companies about shutting off utilities.
- Work together in your community to apply your knowledge to building codes, retrofitting programs, hazard hunts, and neighborhood and family emergency plans.

What to Do During an Earthquake

Stay as safe as possible during an earthquake. Be aware that some earthquakes are actually foreshocks and a larger earthquake might occur. Minimize your movements to a few steps that reach a nearby safe place and stay indoors until the shaking has stopped and you are sure exiting is safe.

If indoors

- DROP to the ground; take COVER by getting under a sturdy table or other piece of furniture; and HOLD ON until the shaking stops. If there is no a table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building.

- Protect yourself by staying under the lintel of an inner door, in the corner of a room, under a table or even under a bed.
- Stay away from glass, windows, outside doors and walls, and anything that could fall, (such as lighting fixtures or furniture).
- Stay in bed if you are there when the earthquake strikes. Hold on and protect your head with a pillow, unless you are under a heavy light fixture that could fall. In that case, move to the nearest safe place.
- Use a doorway for shelter only if it is in close proximity to you and if you know it is a strongly supported, load bearing doorway.
- Stay inside until the shaking stops and it is safe to go outside. Research has shown that most injuries occur when people inside buildings attempt to move to a different location inside the building or try to leave.
- Be aware that the electricity may go out or the sprinkler systems or fire alarms may turn on.

If outdoors

- Do not move from where you are. However, move away from buildings, trees, streetlights, and utility wires.
- If you are in open space, stay there until the shaking stops. The greatest danger exists directly outside buildings; at exits; and alongside exterior walls. Most earthquake-related casualties result from collapsing walls, flying glass, and falling objects.

If in a moving vehicle

- Stop as quickly as safety permits and stay in the vehicle. Avoid stopping near or under buildings, trees, overpasses, and utility wires.
- Proceed cautiously once the earthquake has stopped. Avoid roads, bridges, or ramps that might have been damaged by the earthquake.

If trapped under debris

- Do not light a match.
- Do not move about or kick up dust.
- Cover your mouth with a handkerchief or clothing.
- Tap on a pipe or wall so rescuers can locate you. Use a whistle if one is available. Shout only as a last resort. Shouting can cause you to inhale dangerous amounts of dust.
- hello

(d) Snake Bite

Every year during rainy season we encounter 100-150 cases of snake bite and related complications. Rain water floods the burrows of the snakes forcing them to come out and they enter human habitat in search of food. This results in accidental human envenomation. 60-70% snake bites do not result in significant envenomation due to various reasons, like non-poisonous snakes or injection of too little/no venom.

Snakes commonly bite men/women engaged in the farming or construction activities. The extensive grass/foliage cover is perfect for snakes to hide and they attack victims when

they are disturbed by accidental stepping on them or holding/pricking them (especially vipers). Common krait bites laborers and farmers especially during night time. The construction site workers or farmers, sleeping on the floor are particularly at increased risk.

Do's in snake bite victims

- reassure the victim
- immobilize limb
- wash with soap and water
- get to a hospital
- get tetanus toxoid injection
- hydrate the patient
- keep a close watch on respiration and bleeding
- intubate and ventilate if needed
- anti-snake venom if needed
- use correct dose and formulation

Don'ts in snake bite

- do not handle a snake/dead snake
- do not move the limb/ do not run
- do not tie a tourniquet
- do not cut/burn/suck the wound
- do not waste time
- do not keep the patient starved
- do not use anti-snake venom in all patients
- do not delay transportation to a better hospital
- do not delay anti-snake venom
- do not delay ventilation and dialysis, if needed

B. Other Emergency

(a) Major Spillage

Chemical Spills Do's and Don'ts

When a chemical spill occurs, the response to the spill should be dictated by your knowledge of the material, the ability to adequately protect yourself from the hazards, and the size of the spill. **You should NOT attempt to clean up a spill if:**

- You are unaware of the hazards of the material spilled
- You lack appropriate PPE to prevent personal injury
- You cannot adequately manage the spill because of the volume spilled or the size of the area affected.

ANNEXURE II

As a general rule, any spill larger than 5 liter in volume should be managed by a spill response team. That said, as the hazards of the material increase, the volume of a "manageable spill" decreases. Any spill less than 5 L is manageable if the appropriate materials are on hand to manage the spill.

Do NOT attempt to clean up a spill if any of the following conditions apply:

- More than one chemical has spilled
- The quantity spilled is greater than one liter
- The substance is unknown or you are uncertain of the hazards of the substance
- You are uncomfortable in the situation

If you are knowledgeable and comfortable cleaning up a spill you should manage the spill yourself only if you have a spill kit available to clean up minor spills. That kit should include:

- Instructions and/or Material Safety Data Sheets for the chemical in use
- Personal protective equipment including gloves, safety goggles and other protective clothing
- Spill pads or pillows sufficient to contain and absorb 1 liter of liquid
- Plastic bags or containers to place spill waste material
- Appropriate neutralizing media for or adsorbent for the material spilled.

Minor Spill Response (Less than 5 L of a Known Material)

Minor spills may be controlled and cleaned up by employees who work with the substance and understand the hazards of the material following these steps:

- Alert people in the immediate area of the spill
- Wear protective equipment, including safety goggles, gloves and a long-sleeved shirt or other protective clothing
- If spilled material is flammable, turn off ignition and heat sources
- Avoid breathing vapors from the spill
- Apply spill pillow/pads or other absorbent material, first around the outside of the spill, encircling the material, then absorb to the center of the spill
- Sweep/shovel up absorbent material and place into a sealed, leak-proof bag or container
- Dispose of all materials (gloves, brooms, paper towels) used to clean up the spill in a sealed container as well
- Label and dispose of all bags or containers as hazard waste.
- Complete an incident report

(B) **Other Emergencies**

(b) Major Injury / Serious Injury / Trauma

A trauma system is a model of care designed to care for patients with multiple serious injuries that could result in death or serious disability, including head injuries, life-threatening wounds and multiple fractures

Call Ambulance by dialing 108 and inform about the injuries. They shall make an assessment at the scene using triage tools to ensure that those with major trauma are taken to a major trauma hospital for urgent treatment. This may involve bypassing local hospital so the person immediately receives specialist care with access to CT scans and innovative technology. Other patients may have to be taken to local trauma unit first for stabilization before he can transfer to the major trauma centre for definitive treatment. Pre-hospital care is crucial – it means the ambulance service work closely with the major trauma network to ensure the most urgent patients are sent to the most appropriate place

Injury checklist

- Most people recover emotionally following serious injury
- It is important to get practical support, information and get the support of others to help manage initial distress
- Treatment: if people are having mental health problems following injury, there are effective medical and psychological treatments that work
- It's never too late to ask for help
- If people do seek professional help, it's OK to ask the health practitioner questions about their treatment
- If something is not working, its important to tell the health practitioner and ask them to change it if necessary
- A doctor is a good place to start

(c) Fire:

Fire is a very real danger in any workplace. For workplaces that handle hazardous chemicals, the risks of injury and property damage from flames and smoke are compounded by concerns about fire-created toxic gases. Units/workplaces take many steps to prevent fires, such as using fire-retardant construction materials and equipping their buildings with smoke alarms, sprinklers, and fire extinguishers.

This site / workplace emergency action or fire protection plan covers procedures to follow in case there is a fire, and probably also includes special training.

Because the potential for fire lurks in every corner of the work area, every supervisor and employee must be aware of the fire risks of the materials, equipment, and processes and how to keep fires from starting—to reduce the chance of ever having to worry about how to deal with a real fire.

Fire is a product of three components:

- Fuel (paper, wood, oil, etc.)
- Oxygen (present in the air)
- Ignition source (from flame, electrical arcs, and sparks).

ANNEXURE II

Flammable Liquids:

Another common fire hazard is flammable liquids like oil, solvents like **Toluene, Ethyl Chloride, Ether**, and other chemicals. The biggest danger is that their vapors become flammable when they mix with air and come in contact with an ignition source. Worse still, flammable vapors are usually invisible and spread quickly—moving fastest in warm, still air. Any kind of ignition source, even an electrical spark, can set these vapors on fire, so practice these safety habits with flammable liquids:

- Use them only in areas with plenty of ventilation.
- Don't use or store them near heat or fire; don't use heat or fire or smoke near them.
- Use non-sparking tools.
- Store flammable liquids only in approved tight, metal containers—never in breakable containers. Always keep the containers closed when not in use.
- Take only the quantities of liquid needed for a job out of containers.
- Ground containers when making a transfer because static electricity could Trigger ignition.
- Limit the velocity while transferring solvent
- Clean up leaks and spills immediately, and repair any leaks.
- Immediately remove any clothing that has absorbed a flammable liquid.

Be especially cautious with containers that once held a flammable liquid but are now apparently empty. Don't store them near any kind of heat or ignition source unless they have been tested first. Even a few drops left in an "empty" container could start a fire

Fires don't always start instantly. Sometimes they occur as the result of slow heat buildup within a material. This is known as spontaneous combustion. Spontaneous combustion often occurs with rags and scraps that are saturated with oil, paint, or other flammable liquids. To prevent such an occurrence, dispose of flammable wastes in closed, airtight metal containers—and empty the containers daily. Keep flammable scrap that can't be containerized in a cool dry well-ventilated area—with frequent disposal.

Small fires often become big ones because people don't know what to do when they first spot them.

One rule should always apply. If you spot a fire, turn in the alarm immediately and if Alarm facility not available SHOUT LOUDLY FIRE…….FIRE…... to bring the notice of nearby people. Then, if it's a very small fire, a try to put it out with an extinguisher. Fires of any size should be handled by trained fire fighters well equipped.

Everyone else should quickly follow unit/workplace evacuation procedures. Periodic fire drills will help ensure that people will be able to react automatically and calmly if they're ever faced with the real thing.

ANNEXURE II

Though every unit's/workplace emergency procedures vary somewhat, here are some that usually apply in case of fire:

- Turn off machinery.
- Close off any windows or doors that aren't fire exits.
- Clear passageways.
- Leave the building quickly but calmly through your assigned exit.
- Report to your assigned evacuation location.
- Stay out of the building unless you have been assigned, trained, and equipped To fight the fire

Electrical fires are one of the top five causes of fires in manufacturing plants.
Here a non-exhaustive list of specific electrical hazards:

- Wiring that is exposed or not up to code
- Overloaded outlets
- Extension cords
- Overloaded circuits
- Static discharge
  The damage caused by these fires can quickly compound thanks to several of the other items on this list. Any of the above hazards can cause a spark, which can serve as an ignition source for combustible dust, as well as flammable liquids and gasses.

How to prevent electrical fire incidents

As with the previous risks, the key to preventing electrical fires is awareness and prevention. This involves training, maintenance, and following best practices. Here are a few to put into practice right now:

- Don’t overload electrical equipment or circuits.
- Don’t leave temporary equipment plugged in when it’s not in use.
- Avoid using extension cords, and never consider them permanent solutions.
- Use antistatic equipment where solvent is handled.
- Follow a regular housekeeping plan to remove combustible dust and other hazardous materials from areas that contain equipment and machinery.
- Implement a reporting system so that anyone who observes an electrical fire risk can report it without consequences.

ANNEXURE II

DO'S & DON'TS IN CASE OF EMERGENCY

DO'S	DON'TS
In Case of Emergency, always follow the minimum prescribed instructions for Safe shut down before evacuation	Never leave the plant abruptly unless the time available is too short.
During evacuation always follow the Prescribed Emergency Exits	Do not follow any other route during evacuation, it could be dangerous.
Always Report at the nearby Congregation Place (Assembly Point) on hearing an Emergency message if you are not a member of Emergency Squad.	Do not try to enter the dangerous area directly to see what has gone wrong.
Always enter for Emergency Control from Emergency Exits Only	Do not enter any part of the plant for Emergency control except from Emergency Exits
Always Secure the information about the type of Emergency before entering the endangered Area	Don't enter the endangered site without knowing the type of Emergency.
Always enter the endangered site after doning personal protective Equipment matching the Emergency Requirements	Never enter any endangered area without securing your own safety.
Keep calm and follow the prescribed onsite emergency procedure	Do not panic & violate the prescribed emergency procedure
Stop heating in all the equipment	Do not leave any equipment with heating on. It could aggravate the emergency
Stop addition of reactants / solvents or any hazardous chemical handling	Never leave any dosing / addition on during emergency. It could aggravate the emergency

Warning System

A high pitch warning system is installed at the site for announcing the emergency and giving the all clear signal. SMC are declaring the emergency level and operational personnel and, if necessary, public in surrounding villages are be notified about the nature of the emergency by using alarm system in the following manner:

- Level 1 Emergency (Within Plant) – No Siren (Manual Communication)
- Level 2 Emergency (On Site Emergency) – Three time continuous for 15 seconds at the interval of 10 seconds
- Level 3 Emergency (Off Site Emergency)– -DO- & Communication

ANNEXURE II

PREVENTIVE SAFETY AND EMERGENCY ARRANGEMENTS:

In the last section, we specified the organization structure required for combating emergency. In this section, we identify the arrangement required not only for combating emergency but also for prevention of such incidents and general arrangement required for maintaining safety in the premises.

The next few pages and the Annexure - 21 to 25 suggest the arrangement to be made for our factory. Many arrangements may not be feasible for a small / medium size factory but are taken care off alternate arrangement with nearby bigger units or are being maintained by township administration or district administration.

FIRE AND TOXICITY CONTROL ARRANGEMENT

This arrangement should include adequate amount of fire fighting equipment and proper analyzers/ detectors (preferably online) to control the toxic effect of a spill or a leak. These equipment should be in a ready state condition at any time and mock exercises carried out by essential workers with these equipment at regular intervals. The Annexure – 21 gives the details of the arrangements made either at factory level or at township level.

MEDICAL ARRANGEMENTS

The medical arrangements at a factory level includes sufficient number of First aid boxes at various locations and trained first aiders, Eye showers near storage / use of dangerous chemicals, sufficient stock of medicines / antibiotics / antidotes not easily available but required for treatment of injured person, due to hazardous chemicals being used in the Factory.

It should also include arrangements with nearby Hospitals / PHCS for regular medical check up of the staff, usage of Hospital facilities by the staff for any medical advise / treatment, use of ambulance at short notice and mutual aid arrangements with nearby / similar factories.

Annexure – 22 list all such arrangements made by the factory.

ANNEXURE II

TRANSPORT AND EVACUATION ARRANGEMENTS

The evacuation arrangements include marking safe authorized passages/routes for escape, decision on evacuation procedures and transportation arrangements, if required. On evacuation, the employees should be directed to safe assembly points and allowed to proceed further after noting down required details and issuing instruction.

Annexure -- 23 lists all such arrangements made for the purpose.

POLLUTION CONTROL ARRANGEMENTS

The pollution arrangements made for water, air and land include water treatment plant, air monitoring centers, safe disposal of solid waste and proper instruments to analyze and take corrective action for reduction of pollution load.

Adequate air monitoring devices are available and environment is monitored with the help of these devices. All solid waste and hazardous waste is collected and disposed to TSDF centers at Vapi and Bharuch.

Annexure - 24 gives details of the pollution control arrangements made by the factory.

OTHER ARRANGEMENTS

Arrangements not classified in this section earlier, but necessary for proper emergency monitoring and control shall be described here. Annexure - 25 itself explanatory and list such arrangements.

ANNEXURE – 21

FIRE AND TOXICITY ARRANGEMENT

FOR FLAMMABLE: Toxic Substances Storage Annexure - 4 and Process See Annexure - 6 **Key Personnel & Essential Workers See Annexure – 17 & 18**	
FIRE WATER: No. of Reservoir = 02	Total Water Available - 150 KL

OTHER SOURCE & CAPACITY	NO. OF HYDRANT POINTS	NO. OF SELF BREATHING APPARATUS	NO. OF HOSE REELS & LENGTH	NO. OF D.C.P. / FOAM TENDERS CAP.
01. Ground Water	• 21 Hydrant Points • 09 Hydrant boxes • 1 Foam Monitor	1	03 Nos. 30 Meter Hose	It will be available from Fire department & mutual aid.
02. OTHERS	--	--	--	--
TYPE OF POWER & ALTERNATIVE	Electricity: 1000 KVA & D.G. Set = 110 & 35 KVA			

TYPE OF FIRE EXTINGUISHERS	**Capacity in Kgs.**										Location
	0.5	2	**4**		4.5	5	**6**	**10**	**9 L**		
ABC	01	02	16		--	--	7	2	--	28	As per Separate List All extinguishers are installed at prominent locations
DCP	--	--			---	26	--	04	--	30	
CO2	--	--	--		23	---	--	--	----	23	
Foam	--	--	--		--	--	--	--	13	13	
Foam Trolley 100 L										01	

ANNEXURE - 22

MEDICAL ARRANGEMENT

FIRST AID CENTERES /AMBULANCE ROOM/OHC/HOSPITAL								
Sr NO	**Name& Location**	**Tel No**	**INCHARGE PERSON**			**Facilities & Equipment**	**Antidotes Availabl e**	**First Aiders Available**
			Name	**Tel No**	**Address**			
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
a) Emergency vehicle parked at Asha Penn Color (Wagon r) b) 108 Ambulance			Doctors (nearby) Valsad		Te.l No. Ann. -- 28	Others Medical Staff Full-fledged equipment and staff .		
Sr. no	Place	Cap.	Dr. Ketan Desai CMO Mr. Ritesh Patel Medical Assistant (QC Officer)					
1	V.I.A.	01			0260/ 2433960			
2	Kasturba Hospital	01			242124	Full-fledged equipment and staff		
2	Civil Hospital	01			242844	Full-fledged equipment and staff		

Mutual Aid Arrangement

Sr No	Name of Hospital	Approx. Distance	Contact persons	Facilities Available				
				Doctor	Other Staff	Equip	Antidote	Accommodation
1	SHAAFI Hospital	4 KM	Dr. Parveez	Available	Well Equip & Full Furnish Hospital			
2	Kasturba Hospital	7 KM	Doctors On Duty	15	30	Well Equip & Full Furnish Hospital		
3	Civil Hospital	7 KM	--do--	Available	Available	Well Equip & Full Furnish Hospital		
4	Doctors House	7 KM	-- do ---	Available	Available	Well Equip & Full Furnish Hospital		

ANNEXURE – 23

TRANSPORT & EVACUATION ARRANGEMENT

TYPE OF SIREN, IF ANY FOR EVACUATION: Electrical operated Siren of 'Kheraj' make.

OWN TRANSPORT CENTER: From neighbor company					Own Vehicles				
					Sr. No.	Type & Number	Capacity	No & Type of Public Warning Instrument	Driver's Name & Address
Name & Location: Kalpesh Desai	Phone No 9824217170	Name & Designation HOD- Com	In-charge Person's Residence						
			Phone 9824217170	Address Valsad					
1	2	3	4	5	6	7	8	9	10
						Owner's Car			
Outside Shelters For Evacuated Persons									
Sr. No	Name & Address	Phone No				Accommodation: Available in Valsad		Facility Available	
			Name Res. Address Tel.						

Nearby Any Authority at the time of emergency can be contacted

c) Owner's Car (during working hours)
d) Auto - rickshaw available nearby road of Factory.
e) A mini - bus of mutual aid.
f) Mutual aid / hospitals
g) Emergency board is displayed with important phone numbers.

** Our factory is of Small Scale size however main office building can be used for shelter purpose.

In case of emergency accident/ incident, Emergency Vehicle (Wagon r parked at Asha Penn Color), or an Owner's car or an 108 ambulance from Valsad is made available. An emergency board is displayed with important phone numbers.

ANNEXURE – 24

POLLUTION CONTROL ARRANGEMENT

WATER POLLUTION CONTROL										
Type & Capacity ETP	**No. of Sample Monitoring Centre & its Frequency**	**Other Control Measures**	**Logbook & Record**	**In-harge Person Name, address & Phone**	**No & Place Of Sample Monitoring center**	**Control Measures provided**	**Type of Parameters frequency of Tests**	**Wind Direction & Velocity Meter**	**Instrument Available**	**Logbook & Records**
As per 'GPCB' Approval Aeration type ETP'	Daily	PH, COD, TDS.	Log Book available	Shift In charge	3 Places	Periodical	As per GPCB norms	Wind sock	In house & Out side Agency	Log Book available

In – Charge person: ETP Supervisor
Contact No. Mob: 8511854461, 8141041458, 9601389044

ANNEXURE – 25

OTHER ARRANGEMENTS

Sr. No.	Type & Name of Arrangements Available	QUANTITY	Place Of Availability	IN-CHARGE PERSONS		
				NAME	RESIDENCE	
					PHONE	ADDRESS
01	PPES	Safety Showers, PPEs, B. A. sets	Nearby Agencies	Mr. D.J.Ghadiyali	9099577855	Valsad
02	Power Alternative	D. G. Sets 2 Nos	Inside Factory	Mr. H.N Chauhan	9898677290	
03	Test Certificates	All vessels & equipment	Office room	Maintenance Head – Mr.Jigar Patel		
04	Heavy vehicles	From Mutual Aid	From Mutual aid			
05	Lift, Cranes etc.	,,	As above			
06	Special instruments	,,				
07	Special Material	,,	,, ,,	Mr. Kalpesh Desai	9824217170	

SECTION – VI

EMERGENCY COMMUNICATION

INTRODUCTION:

The third crucial factor for effectively handling an emergency, apart from the Organization structure and the emergency arrangements, is the emergency communication systems. Under section 41-B of the factories Act, the disclosure of information to the workers, general public local authority and the chief inspector of factories are compulsory. This meant to communication system is required to be taken for effective handling.

A quick & effective communication system is required to make the emergency Known.

1. Inside the factory.
2. To key personnel outside normal working hours,
3. To the outside emergency services and authorities and
4. To neighboring factories and public in the vicinity.

The first step is to put right alarm system.

ANNEXURE II

ALARM / SIREN SYSTEM & PHONES

Any person noticing an emergency able to rise, or cause to be raised an alarm. All employees should be trained to operate such emergency alarms and all such points should be known to them. There should be adequate number of points from where an employee can raise an alarm directly by actuating an audible/visible warning or indirectly via signaler message to a permanently manned location.

The main alarm should be audible/visible warning or indirectly via signaler message to a permanently manned location.

The main alarm should be audible in every part of the factory, and provision for a big bell (independent of power) is suggested in case of a total failure of electricity and telephone Messenger / runners can also be employed in such a case. The public Address system (PAS) and or internal telephones throughout the factory will also serve the purpose of a quick communication.

The annexure -- 26 to - 28 gives details of the type of alarms installed, the details of the internal and external phones installed. A format to record the messages received in an emergency is given in annexure - 30 which should be filled by telephone operator to Pin point area of concern and to avoid confusion.

ANNEXURE II

DECLARING EMERGENCY

The declaration of an emergency requires proper thought and matured Judgment and should not be done in haste. This is because the scale of activities activated after declaration puts many agencies on action, disturbing system which may be costly at times or the consequences may be serious.

However, it should also be taken without wasting time, as many early actions save the emergency basically rests on the experience and knowledge of the persons Empowered to take such decisions and so, it is advisable to restrict the authority nominated to declared it. The number of persons nominated is not restricted as it depends on the size of the works, as long as the nominated to declare meet the above criteria.

Annexure - 29 list persons nominated to declare an emergency.

ANNEXURE II

EMERGENCY AND STATUTORY COMMUNICATION

Inside the factory to the workers:

The statutory information of the factories act must be made known beforehand in the form of a safety manual or safety booklet, the workers so that they can prepare themselves to prevent or control an emergency.

Such information may include.

1. Statutory requirements u/s 41-B, 41-C, & 41-H of the factories act.
2. A list of hazardous processes carried on in the factory.
3. Location and availability of MSDS.
4. Physical and health hazards involved in the factory.
5. Measures taken by the management to ensure safety and health hazard control.
6. Measures to be taken by the workers to ensure their and works safety.
7. PPES required to be used during their daily working
8. Meaning of various labels and marking on the container / bags/drums, etc.
9. Measures to be taken in case of spillage or leakage of hazardous substances.
10. Signs and symptoms manifested on exposure to hazardous substances
11. Role of workers vise - a - versa the emergency plan, particularly the evacuation procedure.

14. Any other information considered necessary.

ANNEXURE II

Key Personnel outside normal working hours

Generally, the key personnel and the essential workers will be available in all shifts
Or on short call. However, it may not materialize many times or more persons may be required to handle the emergency. In such cases, the updated lists of such personnel should be kept in the Emergency control center and the communication center, so that those personnel can be contacted and informed.

Outside emergency services and the authorities

The out side emergency services like the fire brigade, ambulance should be informed in the shortest possible time. The list of such services along with their phone number and address should be update regularly and sufficient copies available. The emergency must also be immediately conveyed to the government authorities such as the District Emergency Authority Police, Collector and the local factory inspector.

The statutory information to above authorities must be supplied before hand so that they are prepared to operate their 'off-site emergency control' or the district emergency plan feedback from them is also necessary to modify the factory's own on- site plan.

Neighboring firms and the general public

A major emergency my be directly notifies top the nearby industrial concerns to enable them to protect their employees, take preventive measures in their premises for any adverse effects and assist as per mutual aid plan.

Generally, the police when alerted will take steps to safeguards members of the public however, the statutory information required as per section 41-B of the factories Act must be supplied beforehand to the general public for their emergency preparedness.

Annexure - 31 gives details on the statutory information given to the workers, public and the authorities.

ANNEXURE – 26

ALARMS & SIRENS

ALARM POINTS:

Sr. No					
	No. of Floor	**Area Of Each Floor (S. M.)**	**Alarm Points**	**Type of Alarm OR Siren**	**Location**
01.	G + 2	6500 sq. mts.	01	Siren 'Kheraj' make	Near DM plant
02			03	Hooters	Hooter in Panel Room Hooter push button at (a) Opposite Plant Cooling tower (b) Near Solvent Storage Yard (c) ETCL Cylinder Storage area

ANNEXURE – 27

INTERNAL TELEPHONES

Sr. No.	Name of Person	Plant/ Department.	Intercom No.
1	Mr. K. Srinivas	Office	200
2	Mr. B. B. Mehta	,,	202
3	Mr. S. D. Shah	,,	203
4	Mr. S.B.Parmar	EHS	235
5	Mr. Nantu Das	HR	219
6	Mr. Kalpesh Desai	,,	205
7	Mr. Devang Ghadiali	,,	231
8	Dr. Arup K. Rana	,,	214
9	Mr. Dilip Patel	Plant	204
10	Mr. Sanjay Patel	Lab	222
11	Mr. H. N. Chauhan	Office	218
12	Mr. Jigar Patel	,,	209
13	Mr. Piyush Mistry	Stores	213/227
14	Mr. Rajesh Vashi	Office	232
15	Packing Dept.	Packing	211
16	Mr. Hemant Patel	,,	217
17	Asha Celluloid	--	212
18	Pilot Plant	--	210
19	Security Office	--	208
20	ETP	-	242

ANNEXURE – 28

EXTERNAL TELEPHONE NUMBERS

Sr. No.	NAME	DESIGNATION	TELEPHONE NUMBERS
01	FIRE Station	FIRE Officer	101, 2430101, 2431506,5550501, 2431300,
02	POLICE Station	In- Charge Officer	100, 02632 / 253333
03	Factory Inspector	DISH	02632 253612 / 9825801547
04	Civil Hospital	Medical Officer	02632 253080/ 9978905371
05	District Collector	District Magistrate	02632 253613 / 9978406225
06	Regional Officer	GPCB RO-Vapi	02602432089
07	AMBULANCE	--	108
08	ESIC – D(1) Vapi ESIC – D(2) Vapi	Medical Officer	2421598, 2421802 2428576
09	Mr. K. Srinivas	Technical Director	Mob: 9825132304
10	Mr. Samit Shah	GM - Operation	Mob: 9825216726
11	Mr. Babubhai Mehta	Director	Mob:9825147701
12	GEB – Atak Pardi	Office in-charge	02632 / 244313, 242600
13	Valsad Nagarpalika	Chief Officer	02632 242702/9724305645

ANNEXURE -- 29

NOMINATED PERSON TO DECLARE EMERGENCY

Sr. No.	NAME & DESIGNATION OF THE NOMINATED PERSON TO DECLARE MAJOR EMERGENCY	DUTY, DESIGNATION GIVEN, IF ANY, UNDER THE ON / OFF SITE PLAN	PHONE NUMBER OF OFFICE	RESIDENCE	
				Phone No.	Address
1	2	3	4	5	6
1	Mr. K. Srinivas	Site Main controller	254299, 253665	9825132304	Valsad
2	Mr. B. Mehta	Key persons	254299, 253665	9825147701	Valsad
3	Mr. Samit Shah	Key persons	254299, 253665	9825216726	Valsad
4	Dr. A Rana	Production Head	254299, 253665	9825132305	Valsad
5	Mr. S.B.Parmar	Key Person	254299, 253665	9825793639	Valsad

ANNEXURE - 30

A FORM TO RECORD EMERGENCY CALLS & OTHER INFORMATION

PART- A. **ESSENTIAL INFORMATION**

Details of call as recorded	
Callers Name and Designation/Authority	
Date: **Phone/Mobile No** **Time:**	
Purpose of call	
Is any particular advise required Immediately	

PART II

Name Of Chemicals	
Brief Description of incident	
Fire / Explosion / Spillage / Gas Release	
Quantity involved :	
Location of Incidence	
Handling Details :	
Cause in Brief if known :	

ANNEXURE – 31

STATUTORY COMMUNICATION

Sr. No.	STATUTORY INFORMATION TO BE GIVEN	PERIODICITY OF SUCH INFORMATION TO BE GIVEN (Statutory or Self decided)	DATE OF LAST INFORMATION GIVEN	TO HOW MANY PERSONS	SUGGESTIONS RECEIVED IF ANY	LAST DATE OF IMPLEMENTATION OF USEFUL SUGGESTIONS
1	**The Worker:**	Once & Updated				
	Disclosure of Information	Once & Updated		All level employees		
	Hazards of Chemicals and safety aspects	Once & Updated				
	Emergency action Sequence	Once & Updated				
2	**The General Public and neighboring units**					
	Disclosure of Information	Once & Updated		All neighboring unit and public in the vicinity		
	Emergency action Sequence	Once & Updated				
3	**Local/District Crises Group**					
	MSDS	Once & Updated		SDM, Emergency Control Room, Police Station, Fire Brigade, Mutual Aiders. Dist. Collector , Dy. Collector, Central Control Room, DSP, Fire Brigade.		
	On Site Emergency Plan	Once & Updated				
	Disclosure of Information	Once & Updated				
	Emergency action Sequence	Once & Updated				
4	**Director Industrial Safety & Health**					
	MSDS	Once & Updated		Office of Deputy Director Industrial safety & health		
	On Site Emergency Plan	Once & Updated				
	Disclosure of Information	Once & Updated				
	Emergency action Sequence	Once & Updated				

SECTION - VII

ON - SITE ACTION PLAN

Introduction to the topic:

We have specified the basic building block of an 'ON SITE EMERGENCY PLAN', namely organization structure, Emergency arrangements and emergency communication. These were ideas and measures suggested for proper handling of an Emergency. We now concentrate on ensuring that these ideas and measures are implemented (if preventive) or proper steps taken to ensure that they are in state of readiness. In short, pre- emergency activities we also look at some import points to be followed during an emergency and a glance at post – emergency measures are required to be taken by the factory.

This section is action - oriented and hence called as Action On – Site.

ANNEXURE II

PRE – EMERGENCY ACTIVITIES

The pre – Emergency activities include periodic activities carried out in company for detection of unsafe acts, prevention of unsafe acts, tests carried out to ensure emergency organization structure, arrangements and communication system are in place and understood by all concerned. These activities are enumerated below:

Safety Surveys:

The safety surveys conducted can be either Internal or Third Party. The Internal safety survey is carried by a task force of members of the factory itself and are supported to identify various hazards, check workability of the preventive and safety system and equipment already in place and suggested extra requirement / modification.

Pressure Vessel Testing

The pressure vessel testing is required to be carried out in a prescribed format as per the Factories Act, 1948 and latest amendments of Gujarat Factories Rule, 1963. It is recommended that a list of various pressure vessels operating in the premises be prepared along with their operation details and planned properly for testing by competent person (as defined by factory rules). The records should be maintained for reference.

Apart from the pressure vessels, all other equipment (like cranes, lifts, hoists, etc.) and pipelines should also be listed, planned and tested for non-destructive test.

Safety/Relief Valves Testing

The action plan for safety/relief valves testing are also similar to pressure vessel testing in that a list of all such valves is prepared, properly planned for NDT testing and repairs/replacements implemented in a specified time frame.

Fire System Testing

Fire systems include fire hydrants, fire appliances, fire pumps, water monitors, foam monitors, automatic fire alarms, smoke detectors and other available equipment. The testing includes preparing and maintaining record of the fire systems, drawing testing plans, recording findings, replacing/modifying defective equipment/accessories and checking capacities and delivery pressures of fire pumps.

Mutual Aid Scheme

The mutual aid scheme envisages entering into agreement with the neighboring organizations for getting and extending help to each other in an emergency. The scheme will be operated by a Co- coordinator for this purpose

ANNEXURE II

Mock Drills

The mock drill is a part of the preparedness exercise to check the people behavior, performance of the Operations and to know the gaps in the system for taking corrective measures. Mock Drill exercise shall be conducted minimum **once in six month** considering the scenario of Fire, Major Spillage, and Environment Pollution etc.

Training

The regular training of employees is one of the crucial factors in ensuring preventive safety measures in place and also ensuring emergency preparedness. It also goes a long way in changing the mental attitudes of the workers and staff towards safety.

Other Activities

1. PPES: Store adequate number of personal protective equipment in each plant control room and to train workers in use of such PPEs.
2. Communication: Maintain adequate number of internal and external phones and install wind balloons for indicating wind direction.
3. Emergency light:
    a) Install and maintain Emergency Lights in emergency control center, communication room and select plant areas.
    b) Keep sufficient number of torches/batteries in emergency control room.
4. Liaison with Government Authorities:
   Keep Informed Civil Authorities, Local hospitals, Police, Fire, Collector, Factory Inspectorate, etc. about factory's requirements, mock drills and understand their plans.

5. Hospital Facilities :
    a) Keep Blood group records of all employees.
    b) Keep liaison with city hospitals to ensure that they have the staff needed to handle emergency cases, have adequate stock of antidotes required.
    c) Keep list of blood donors ready.

6. Statutory Information:
   To the workers, public and government authorities.

ANNEXURE II

EMERGENCY CONTROL

A successful emergency handling depends on correct decisions and actions on-site. The staffs (especially key personnel and essential workers) are expected to work in a coordinated manner to meet the emergency situation, remove the emergency conditions and bring the plant to normalcy with the help of resources available.

Some major points are highlighted below:

1. Type of hazard and Hazard level: The type of hazard and hazard level poised by the emergency will dictated the decisions taken to bring the emergency under control and decisions regarding evacuation and plant shut-down. Annexure gives the decisions required for various types of flammable releases and for toxic releases.
2. Mutual Aid: The mutual aid can be called and utilized as per need. They may be especially useful in supply of equipment not available or not working or finished in your premises. They can also be helpful in certain off-site activities.
3. External Authorities/ Experts: Outside authorities like police, district emergency authority, collector, factory inspector, health and medical officers and experts on safety, health, pollution control, etc. will especially be helpful in providing resources, mobilizing resources, off-site activities, etc.
4. Medical Treatment: Urgent medical treatment to the injured will ensure that the casualties are restricted to a minimum. Proper First-aid facilities should be kept ready.
5. Accounting for personnel: It is advisable to have a daily presence list of personnel attending the factory to facilitate proper accounting. The persons should be allowed to leave only after recording their whereabouts.
6. Restarting : The factory/Plant Should Not be restarted unless it is ensured that all fires are extinguished, gas leakages plugged and gas clouds dispersed, area thoroughly examined, evidences collected and relevant authorities satisfied to give a restart signal.

ANNEXURE II

POST EMERGENCY ACTIVITIES

Post- emergency activities comprise of steps taken after emergency is over so all to establish the reason of the emergency and preventive measures identified.

Some major steps are highlighted below.

1. Collection of records.
2. Conducting inquiries and concluding preventive measures.
3. Making insurance claims.
4. Preparation of enquiry reposts and suggestion schemes.
5. Implementation of recommendations.
6. Rehabilitate affected person within and Out Site Plan.
7. Restart the plan.

ANNEXURE - 32

SEPARATION DISTANCE

Sr. No.	SUBSTANCE	TANKS		Separation Distance From each vessel (Meters)
		CAPACITY	NUMBERS	
01	Toluene	17 KL	01	Two METER
02	Ethyl Chloride	12 MT	Toners	---
03	Caustic Flakes	20 MT	Bags	----
04	Hydrochloric acid	03 MT	01	ONE METER
05	Acetic acid	12 MT	10 MT	----

ANNEXURE – 33

DISCLOSURE OF INFORMATION TO GENERAL PUBLIC

- The management has taken ample steps to run the plant safely & has prepared the On-Site Emergency plan to meet emergency, i f arise. However, an emergency may strike at any time due to unavoidable circumstances & beyond control by the management.
- The probability of type of emergency depends upon the operation, storage, or process of the hazardous chemicals, the quantity and prevailing weather conditions, etc.
- The Declaration of emergency will indicate by sounding siren. The public in vicinity shall take prompt action to protect them as instructed.
- The following suggest ions/act ions are to be implemented immediately, in case of any emergency arising in the Factory and escalate outside:

  4.1 Do's

  a) Shut down open flame, gas, electrical appliances etc. to disconnect any sources of ignition, in case of release of f flammable chemicals.
  b) Smoking is prohibited.
  c) Be calm, and try to come out safely from emergency.
  d) Shut down the windows, doors and sit in open ground or terrace.
  e) Follow the instruct ion and convey to others. Ascertain the type of emergency and its gravity.
  f) Al low animals to leave the place.
  g) Listen, Radio, TV or Public Addressing System.
  h) Rush to the safe shelter, as instructed by authority and report there.
  i) Inform the other person in vicinity and draw their attention regarding the emergency to save their life.
  j) Rush to the crosswind direction in case of gas dispersion & reach safe shelter immediately, ask others fellow also.
  k) Wash with plenty of water, if , contaminated the body part due to exposure of chemicals.
     Otherwise get medical treatment immediately under intimation to authorized person.
  l) Offer your services of your ability, knowledge, skill etc. in respect of emergency. Help and
     Co-operate the handling or rescue operation during emergency.

4.2 Don't

a) Do not move any vehicle near the site.
b) Do not carry mobile phone or any source of ignition, like Bidi/Cigar/Lighter etc.
c) Do not move near the incident & don't al low others.
d) Do not al low unnecessarily crowd nearby incidence place.
e) Don't panic.
f) Do not believe in rumors.
g) Do not worry your home, save your life.
h) Don't keep engaged your radio, TV or other communication system and get correct information & inform accordingly amongst the public in vicinity.
i) Do not take any food or water if contaminated; and inform others.

- On announcement of withdrawal of emergency or clearance single/siren, you can star t your routine work.
- During emergency, you can deposit your statement on emergency as experienced by you to the authority, if called for.
- Co-operate, help & provide assistance to the person(s)/authority during the Mock drill / exercise on handling of emergency operation.

ANNEXURE – 33 A

EMERGENCY INSTRUCTION BOOKLET

S. No	Role to be played as	Emergency duties / function	Also Refer	He should Report at
1.	Site Main Controller	1. Assess the incident or likely to happen, declare scale of emergency in consultation with I.C. 2. Activate On-site plan if required, activate emergency control center, ensure availability of key personnel, and call outside emergency services and mutual help. Activate off-site plan if necessary. 3. Exercise direct control on parts of the works not affected by the emergency. 4. Continually review and assess the developments to determine most probable course of events, 5. Direct safe close down and evacuation of plants in consolation with I.C. & Key personnel. 6. Ensure accounting of personnel, direct search for missing & ensure causalities attended. 7. Set-up communications points and telephonic record maintained. 8. Liaise with Fire Brigade, Police, And District Emergency Authorities & Factory Inspectorate. 9. Ensure evidences and records of events maintained, Photographed or video filmed. 10. Control rehabilitation of affected areas and victim on cessation of emergency. 11. Obtain permission from authorities before restarting the plan.	On Site Emergency Plan	E.C.C.
2.	Incident Controller / Safety officer / Technical Officer	1. Assess scale of emergency, activate on-site plan if required, off-site if necessary. 2. Assume duties of SMC pending latter's arrival, depute Dy, I.C. to the scene. 3. Direct all operations in the affected area, secure safety of personnel, minimize damage to the plant. Property & the environment; direct rescue and firefighting operations till arrival of fire brigade. 4. Search for causalities, evacuate non-essential personnel, give advice to fire brigade as required, brief SMC of developments and preserve evidences.	On Site Emergency Plan	Affected area

ANNEXURE II

3.	Other Key Personnel	1. Provide advice to the SMC and implement decisions made by the SMC. 2. Decide actions needed to shut down plants, carry out emergency engineering work, arrange for supplies of equipment, utilities (fuel water. Power, etc,) carry out pollution check tests, etc. or any other work assigned to them by me SMC.	Safety Manual	E.C.C.
4.	Security Officer	1. Raise siren or alarm to indicate emergency, post guards to various check points for proper rescue & evacuation operations, carry out accounting of personnel at safe assembly points 2. Liaise with Police to maintain law & order at the gate, free approach roads for emergency traffic.		Sec. Officer
5.	Essential Workers	1. Carry out firefighting, gas leak & spill control, rescue operations till arrival fire Brigade. 2. Help fire brigade & mutual aid teams, if required. 3. Carry out plant shut down, emergency engineering work, pollution control tests; make provision for emergency power, water, lighting instruments, equipment, materials, transport, etc. 4. Give first aid and medical help, assist casualties, assist communication centers if required.	Safety Manual	Incident
6.	Telephone Operator	1. Receive and note down emergency messages, immediately pass to relevant personnel. 2. Keep updated lists of key personnel and essential workers along with their phone Nos, call them on instruction of SMC & give a short, pre-arranged message of the emergency. 3. Prepare identity cards for key personnel & essential workers to enable them to carry out their duties without hindrance.		Comm. Center

ANNEXURE II

STATUTORY INFORMATION TO GENERAL PUBLIC AND NEIGHBOURING FIRMS

1) General public and neighbors would be informed by messenger / PAS. (Public address system). They would be informed in advance about meaning of alarm / Siren & its duration.
2) Members would be advised with emergency warning on action to be taken (i.e. to remain indoors or evacuate direction of wind etc.)
3) Factory has its own arrangements to fight fire, control gas leak / chemical spills as mutual- aid arrangement for emergency needs.
4) For further information, please contact the Manager/shift in-charge of the plant.

(a) STATUTORY INFORMATION TO LOCAL AUTHORITY

I. As per '33 & 33A'

II. Hazardous substance stored with its Quantity.

(b) STATUTORY INFORMATION TO FACTORIES INSPECTORATE:

Copies of ON-SITE / OFF- SITE emergency plan are to be submitted to the factory inspectorate office. It would be revised as per suggestion received from them.

ANNEXURE II

SECTION –VIII

OFF SITE ACTION PLAN

Introduction of the topic:

A major accident, major Emergency of a disaster may affect areas outside the works. The risk involved can be to a large Fire, a big Explosion or release of toxic substance / gases. The effect can cover a large area.

This section deals with measures to prevent and control emergency affecting public and environment outside the premises of the Factory.

The main two purpose of an 'OFF SITE EMERGENCY PLAN' are to provide the following information to the local / District authorities, Police, Fire Brigade, Doctors and Neighboring industries:

1. Basic information of the risk and Environmental impact assessment (section – 3) appraise of them of the consequences, protection / prevention measures and control plans and to seek their help to communicate with the public in emergency. This information from very industry enables to district authorities to educate the public what can go wrong the measures taken and required to be taken and to train them of their individual role in emergency.
2. Assist district authorities for preparing 'OFF – SITE EMERGENCY PLAN' for a district or a particular area, to organize rehearsal from time to time and initiate corrective actions based on the lessons learnt.

ANNEXURE II

MAJOR RISK AND THEIR EFFECTS

FIRE:

A major fire without any explosion risk releases heavy thermal radiation and smoke.

This may have the following effects.

1. Evacuate nearby people residing or working or if time is short, ask them to stay indoor with their houses shut to seal themselves from the adverse effects. People residing in nearby Houses should preferably be evacuated.
2. The smoke hampers control and rescue operations resulting in delay of this activities and increasing more chances casualties and damage.
3. Road and or rail traffic in affected area may have to be halted or diverted.

EXPLOSION:

An explosion may have following effects:

1. Scatter debris over wide areas, resulting in damage at places located quite far away. This in turns can result, in secondary fires / explosion / toxic releases. It becomes necessary to evacuate people from the area likely to be affected.
2. The blast can cover considerable distances, resulting in casualties and damage due to sound shock. This in turn means that part of the resources available for firefighting emergency will have to be diverted as the effect is immediate.
3. Road and or rail traffic in in affected area may have to be halted or diverted.

RELEASE TOXIC OR FLAMMABLE MATERIAL/MAJOR SPILLAGE:

This is perhaps the most significant risk to outside areas. This may result in the following:

1. Release of flammable material pose a dangerous threat of starting fire and explosion at places far from the emergency site. This can also result in escalation of fire / explosion at the site itself.
2. The release of toxic chemical like Hydro Chloric Acid, Acetic Acid, Ammonia gas from cylinder, is more severe in that the toxic clouds are generally hazardous at much lower concentration and hence, affect large area. Also a toxic cloud drifting at say, 300 meters per minute, covers a large area of a land quickly. This makes rescue and evacuation operations are much difficult. Many times, it makes sense to ask people residing in RCC houses to remain indoors with all doors and windows shut and diverting rescue and evacuation operation to people residing in shanty houses, which offer no protection.

3. These releases require expert advice on controlling the situation as well as information on weather condition and a wind direction / velocity, etc. from the meteorological office.

EARTHQUAKE:

Many of the existing chemical, pharmaceutical and other industrial facilities in the world were built years ago, and without consideration for potential seismic risks. Even modern facilities sometimes gloss over this subject. This is alarming considering that for some chemical processes the worst upset scenario is loss of cooling, which can be caused by loss of power following an earthquake. An upset scenario at a process facility can have two significant consequences

1) the release of hazardous materials that have an impact on public health, and environment
2) the loss of expensive product and plant outage.
3) Fire

FLOOD

The consequences of floods, both negative and positive, vary greatly depending on their location, duration, depth and speed, as well as the vulnerability and value of the affected natural and constructed environments. Floods impact both individuals and communities, and have social, economic, and environmental consequences

People are well aware, the immediate impacts of flooding include loss of human life, damage to property, destruction of crops, loss of livestock, and deterioration of health conditions owing to waterborne diseases. As communication links and infrastructure such as power plants, roads and bridges are damaged and disrupted, some economic activities may come to a standstill, people are forced to leave their homes and normal life is disrupted.

Similarly, disruption to industry can lead to loss of livelihoods. Damage to infrastructure also causes long-term impacts, such as disruptions to supplies of clean water, wastewater treatment, electricity, transport, communication, education and health care. Loss of livelihoods, reduction in purchasing power and loss of land value in the floodplains can leave communities economically vulnerable.

Floods can also traumatize victims and their families for long periods of time. The loss of loved ones has deep impacts, especially on children. Displacement from one's home, loss of property and disruption to business and social affairs can cause continuing stress. For some people the psychological impacts can be long lasting.

ANNEXURE II

THE 'OFF SITE ACTION PLAN'

The off-site action plan is largely a matter of effective co – ordination of existing services and their readiness for the specific hazards and problems which may arise in an accident. The plan is usually prepared by the local authorities or by the district emergency authority, after receiving information of likely hazards, risk and events from every industry in the region. It is customary to appoint a Emergency planning officer to liaise with the factory for this purpose. The roles of the main agencies involved in 'OFF SITE PLAN' are described below:

1. Factory Management: The Site Main Controller to provide accurate information and correct assessment of the situation. He is also to provide copy of the On Site & Off Site plan to the district authorities, factory inspectorate and emergency services in advance to enable them to prepare District / Area 'Off Site Plan'.

2. Emergency Coordinating Officer: Most likely a senior police officer or a senior Fire officer will liaise with the Site Main Controller and coordinate various services.

3. Local Authorities: Prepare Area 'Off Site Plan', Appoint Emergency planning officer, make various services aware of their role, carry – out rehearsals maintain good communication system, inform police, news media and announce public protection measures, termination of emergency subsequent public precautions. Also, preferably maintain separation distance as recommended by ILO (Annexure).

4. Fire Authorities: Responsibility to control of Fire, Explosion and toxic release, familiar with the location on the site of hazardous area, water and foam supply points and PPES.

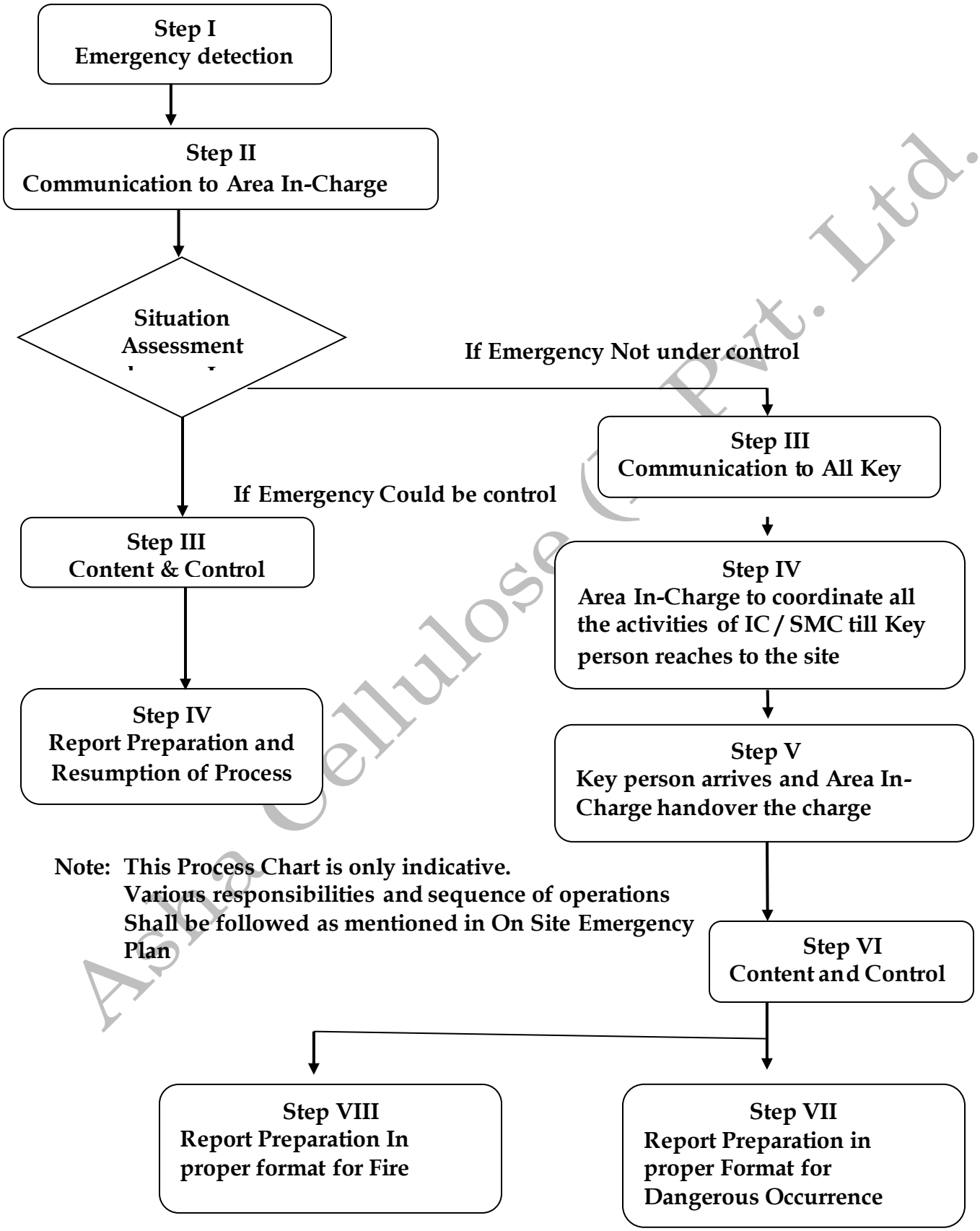
5. Police and Evacuation Authorities: Overall control of Emergency, appoint a senior officer as Emergency Coordinating officer, protect life and property, control traffic movements, evacuate public, identify dead and deal with casualties, inform relatives of dead and injured.

6. Medical Authorities: Medical authorities, including doctors, surgeons , hospitals, Ambulances, should have the knowledge and experience to handle effects of thermal radiation, toxic release etc. and be equipped with appropriate equipment and treatment facilities.

7. Factory Inspectorate: Ensure that the Organization responsible for producing an 'Off Site Plan' has made proper arrangements for Emergency of all type, made rehearsal to test the plan and advise on control operations during an Emergency and safe rehabilitation of affected areas.

ANNEXURE II

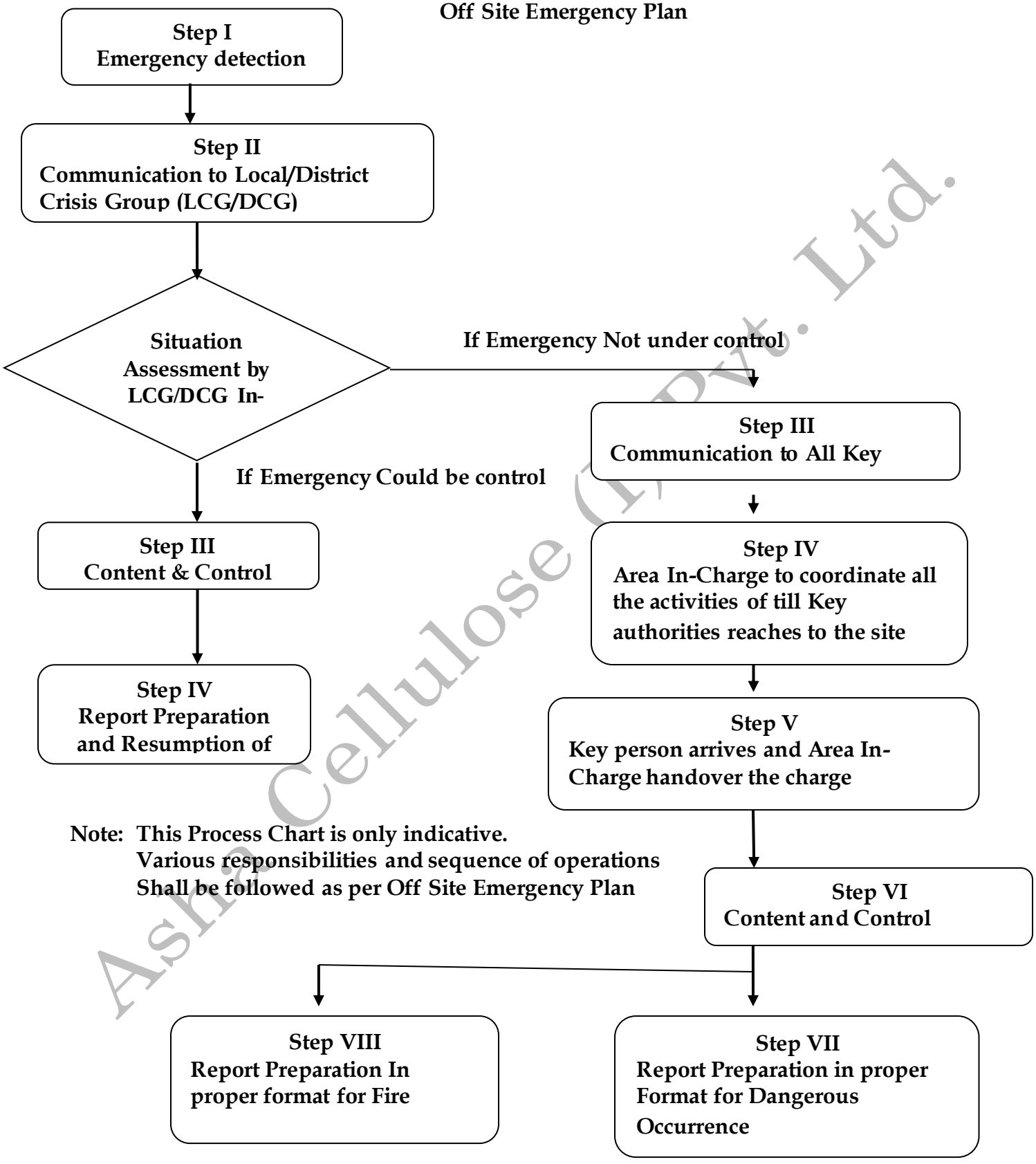
On Site Emergency



Note: This Process Chart is only indicative.
Various responsibilities and sequence of operations Shall be followed as mentioned in On Site Emergency Plan

ANNEXURE II

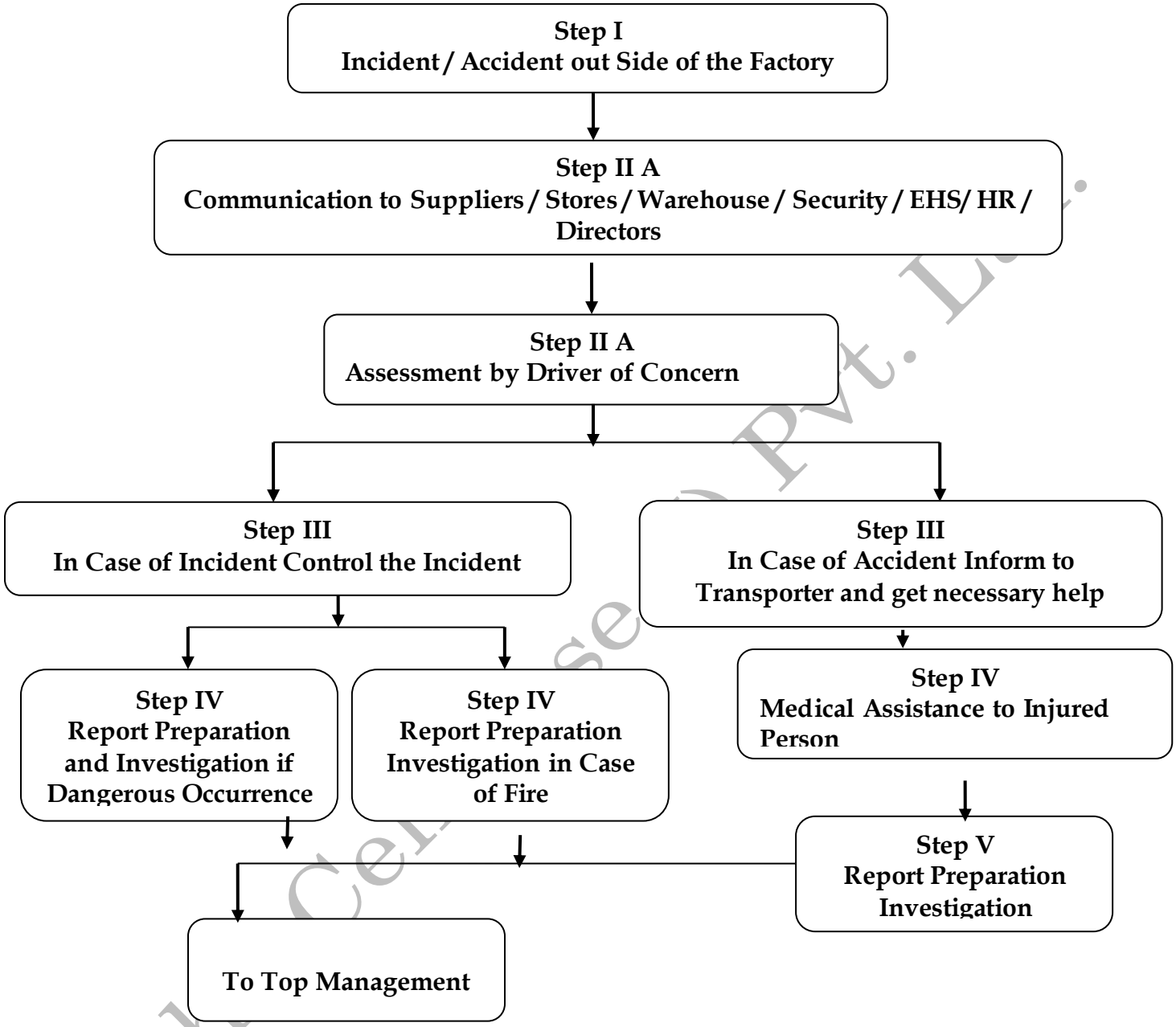
Off Site Emergency Plan



Note: This Process Chart is only indicative.
Various responsibilities and sequence of operations Shall be followed as per Off Site Emergency Plan

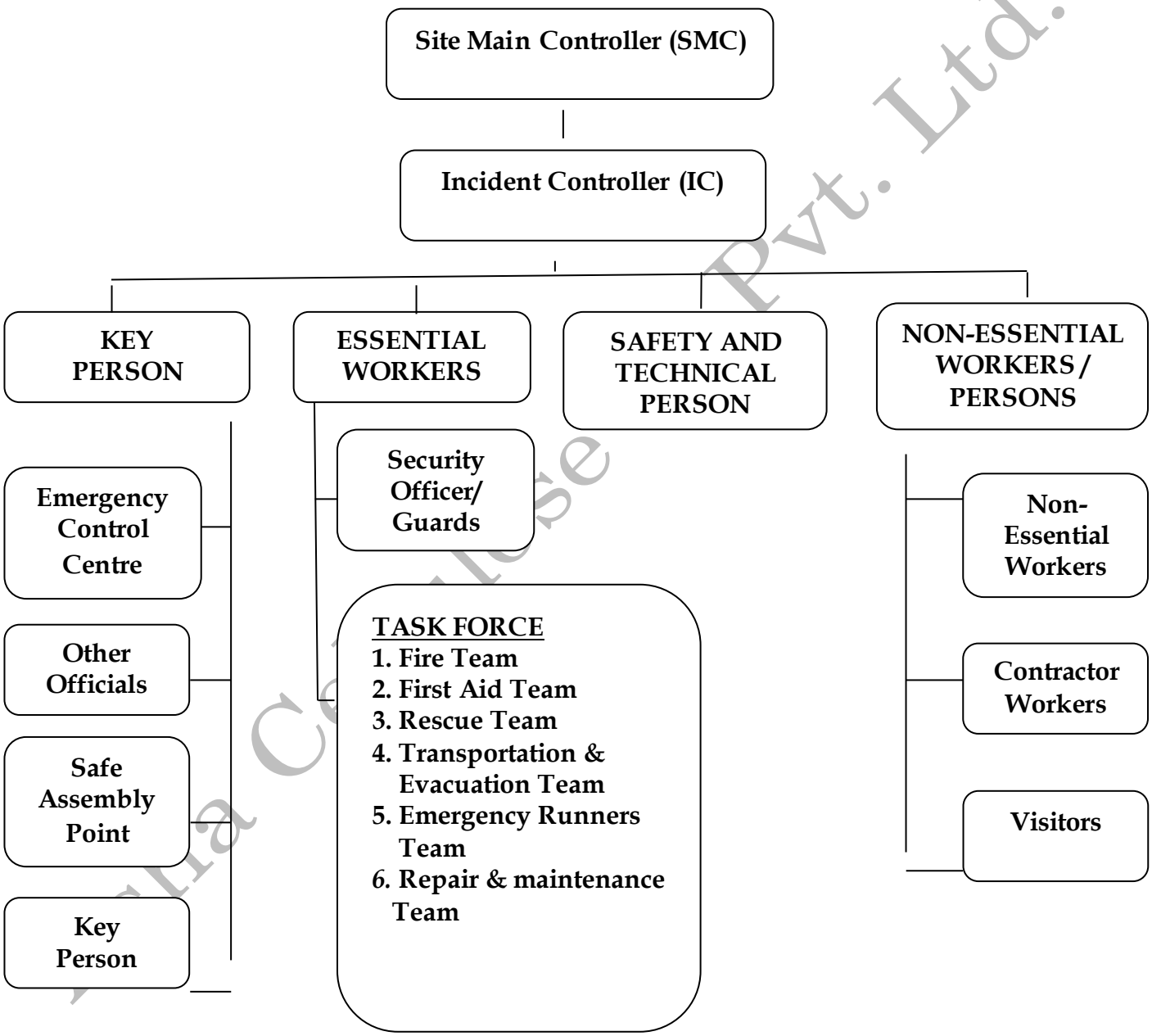
ANNEXURE II

Incident / Accident Controlling and Reporting (Out Side the Factory)



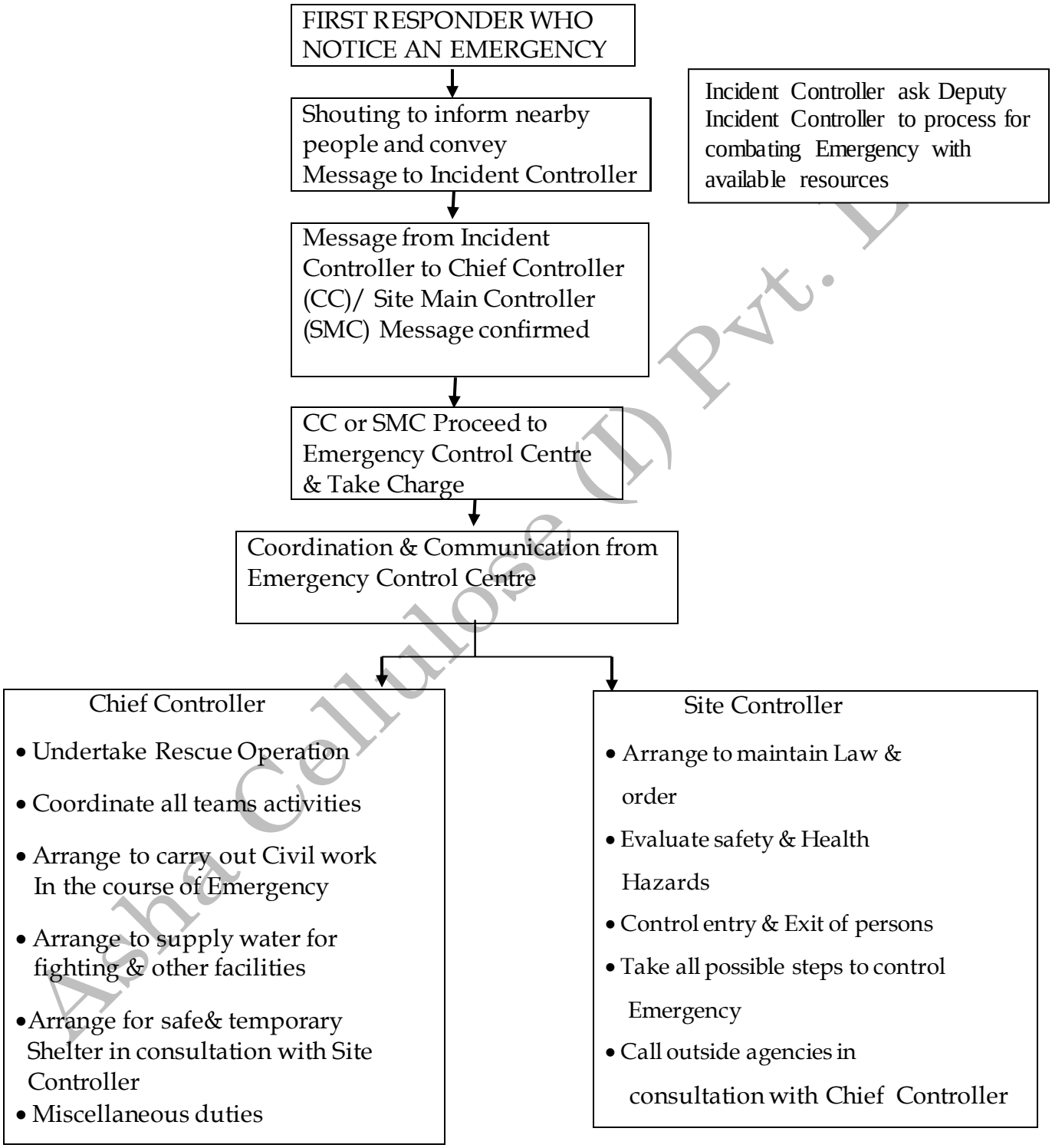
ANNEXURE II

EMERGENCY SET UP



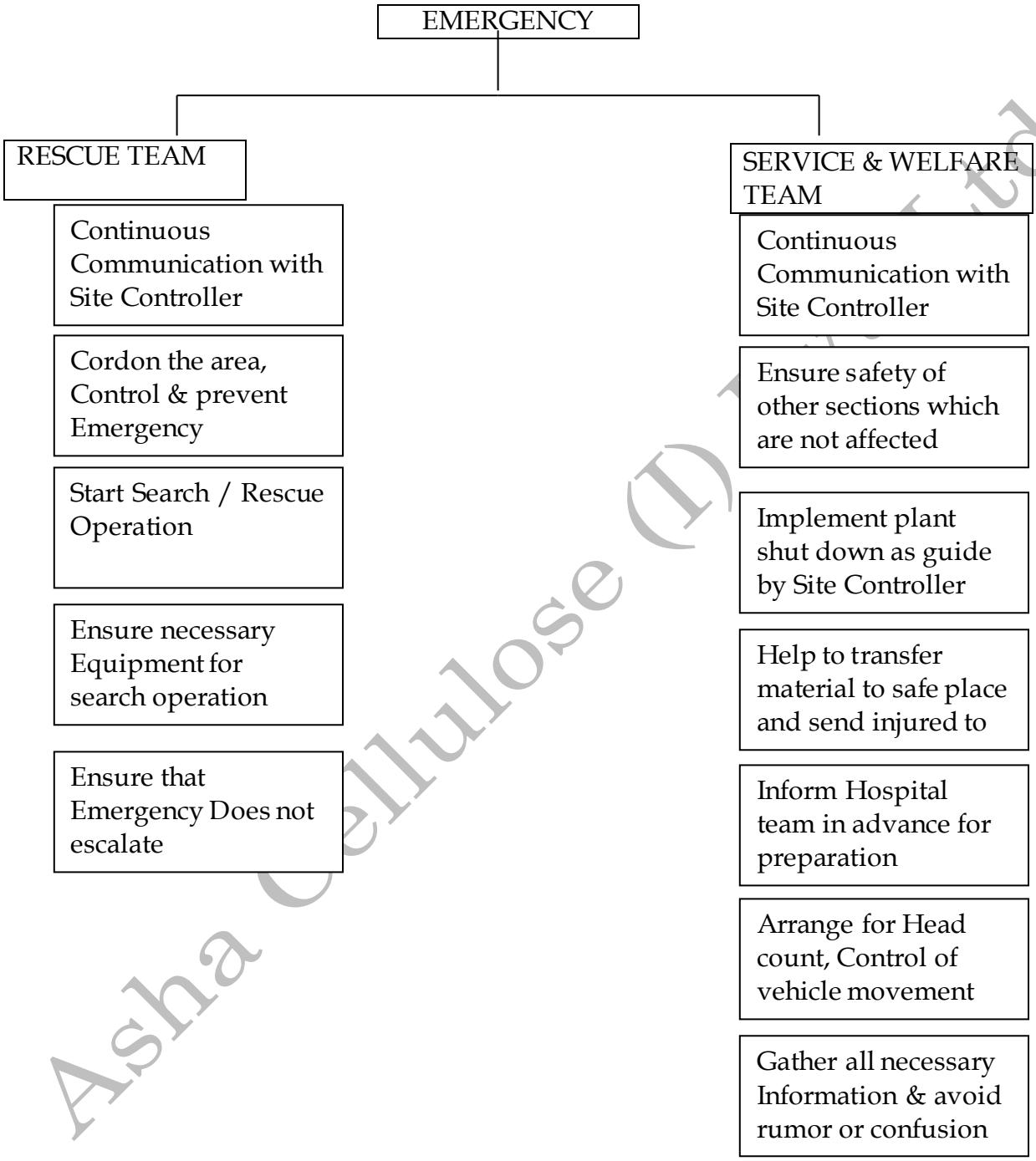
ANNEXURE II

ERGENCY GUIDELINES - I



ANNEXURE II

EMERGENCY GUIDELINES II



ANNEXURE II

IMPORTANT TELEPHONE NUMBERS IN CASE OF EMERGENCY

1. KEY PERSONNEL:

Sr. No.	Name of Persons	Designation	Phone No.
1	Mr. K. Srinivas	Technical Director	9825132304
2	Mr. B. B. Mehta	Director	9825147701
3	Mr. R. V. Shah	Director	9825116725
4	Mr. Samit Shah	GM-Operation	9825116726
5	Mr. SB Parmar	GM-EHS	9825793639
6	Mr. Nantu Das	Manager-HR	9979223858
7	Dr.A.K.Rana	HOD-Production	9825132305
8	Mr. S. C. Patel	HOD – QC	9825127304
9	Mr. R. R. Vashi	HOD – QA	9099577811
10	Dr. Gautam Viadya	HOD – R&D	
11	Mr. K. C. Desai	HOD – Commercial	9824217170
12	Mr. D. J. Ghadiyali	Production - Officer	9099577855

2. Additional help:

Sr. No.	NAME OF COMPANY	LOCATION	TELEPHONE NUMBERS
1	Vapi Emergency Control Centre	VAPI	0260 / 2430950, 2431950, 5550502, 9825144214
2	Nitrex India (P) Ltd. Abrama -- Valsad	Neighbouring Factory – Abrama	02632 / 227406, 227801
3	Asha Penn Color, Abrama - Valsad	Neighbouring Factory – Abrama	02632 / 250613, 651210
4	Pidilite Industries	VAPI	0260 / 2430520, 2431517, 2400669
5	Aarti industries	VAPI	3093328, Mob: 9377804595
6	Bilag Industries	VAPI	0260 / 2432698, 243279

ANNEXURE II

3. HOSPITALS:

Sr. No.	**NAME OF HOSPITALS**	**PHONE No.**
1	HARIA HOSPITAL – VAPI	0260 / 2426153, 2430654, 2430206
2	ESIC HOSPITAL – VAPI – Chanod	0260 / 2428576, 2421598, 242102
3	CIVIL HOSPITAL – VALSAD	02632 / 251744, 251911, 251046
4	Kasturba Hospital - Valsad	02632 / 242124
5	Doctors House - Valsad	02632 / 242124
1	Shaafi Hospital – Dr. Parveez	02632 227484
2	Dr. Ketan Desai (CMO)	9825947525
3	Kasturba Hospital	02632 244168/245754
4	**For Snake Bite** Vaidya Hospital, Dungri Dr. Dinesh C Vaidya	9925046231
	Sainath Hospital, Dharampur Dr. D.C.Patel	9879745588
F	**SNAKE CATCHER**	
1	Ujesh Patel	9327005222
2	Bunty	8460090205
3	Sagar	9033123357

4. AMBULANCE:

Sr. No.	NAME OF TRUST	PHONE No.
1	Haria hospital – VAPI	0260 / 2426153, 2430654, 2430206
2	VECC – VAPI	0260 / 2430950, 2431950, 5550502, 9825144214
3	Civil Hospital -- Valsad	02632 / 251744, 251911, 251046
4	Kasturba Hospital - Valsad	02632 / 242124
5	MANAV SEVA TRUST – VAPI	0260/ 2421306, 2431505, 2420068,
6	JANSEVA HOSPITAL – VAPI	0260/ 2431511
7	VAPI GENERAL HOSPITAL	0260/ 2424401, 2430103
8	Shri Yuva Shakti Mandal	9825373123
9	Saibaba Trust	02632 244419 / 253269

5. FIRE BRIGADE / STATION:

ANNEXURE II

Sr. No.	NAME OF THE FIRE STATION	PHONE No.
1	FIRE STATION GIDC – VAPI – I	0260/ 2431546, 2430101
2	FIRE STATION GIDC – VAPI – II	0260/ 2431300, 5550501
3	FIRE BRIGADE – KACHIGAM (Vapi)	0260/ 3430601
4	GIDC FIRE STATION – SARIGAM	0260/ 2780222
5	DAMAN FIRE STATYION – DAMAN	0260/ 2252666, 3090161, 2242666
6	SILVASSA FIRE STATION – SILVASSA	0260/ 2640022, 2640014
7	FIRE STATION – VALSAD	02632/ 242702
8	FIRE STATION – BILIMORA	02634/ 255637, 285637, 285827
9	FIRE VAPI TOWN	0260/ 246100, 2461601, 30 9 0161
10	FIRE STATION – NAVSARI	02637/ 25 9 0 01, 259101, 30 9101

6. HIGHER AUTHORITIES & POLICE STATION:

Sr. No.	AUTHORISED PERSON	Ph. OFFICE	Ph. RESIDENCE
1	POLICE STATION GIDC – VAPI	0260/ 2432101	----
2	POLICE STATION VAPI – TOWN	0260/ 2432101, 100	
3	POLICE STATION – VALSAD	02632/ 253333,	
4	POLICE STATION – PARDI	0260/ 2373433	
5	POLICE STATION – DAMAN	0260/ 2254101	
6	POLICE STATION – SILVASSA	0260/ 2642057	
7	POLICE CONTROL ROOM – VALSAD	02632/ 2429000	
8	COLLECTOR & DITRICT MEGISTRATE – VALSAD	02632/ 243417, 253613	02632/ 253050, 246626
9	DISTRICT SUPERITENDENT OF POLICE – VALSAD	02632/ 248053, 254222	02632/ 253093
10	GPCB CONTROL ROOM – VAPI	0260/ 2432089	-----
11	DSPIS – VALSAD	02632/ 254222	
12	DYSP – VALSAD	02632/ 253082	

7. GEB

1	Atak Pardi - Valsad	244313, 242600	-------

ANNEXURE III

Figure: 2.4 Existing Water Balance Diagram

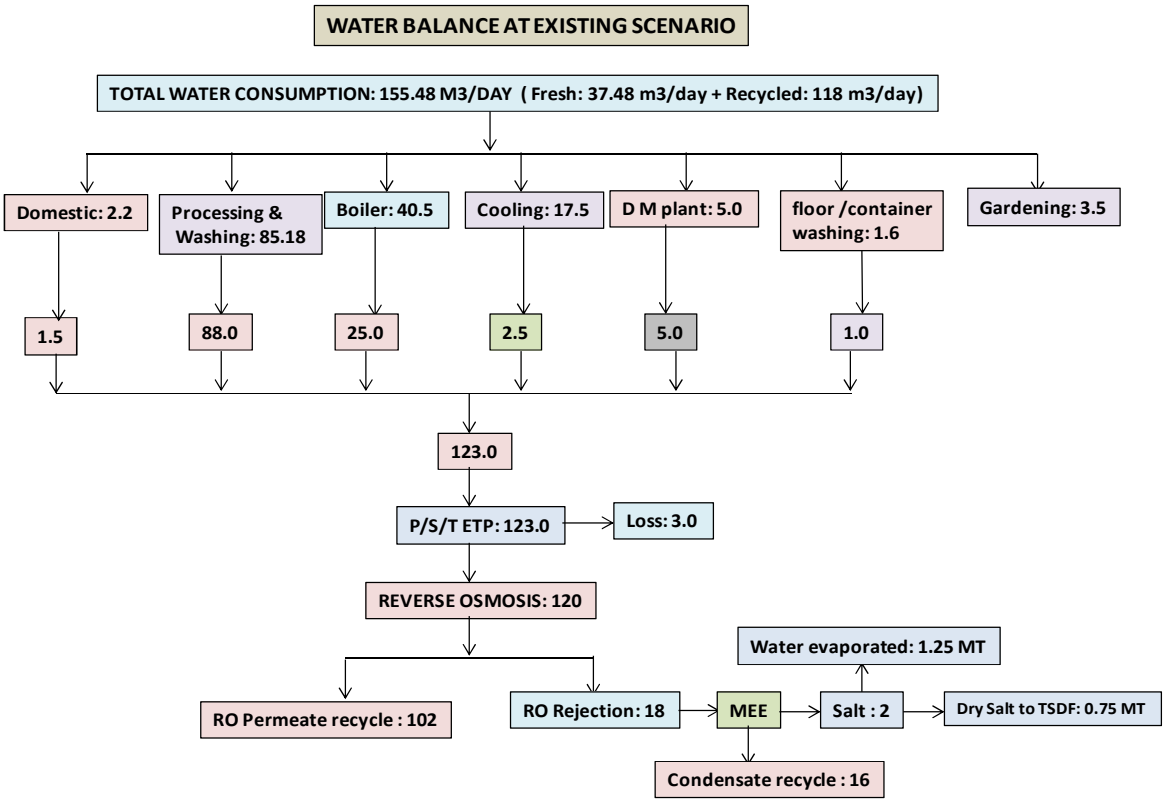
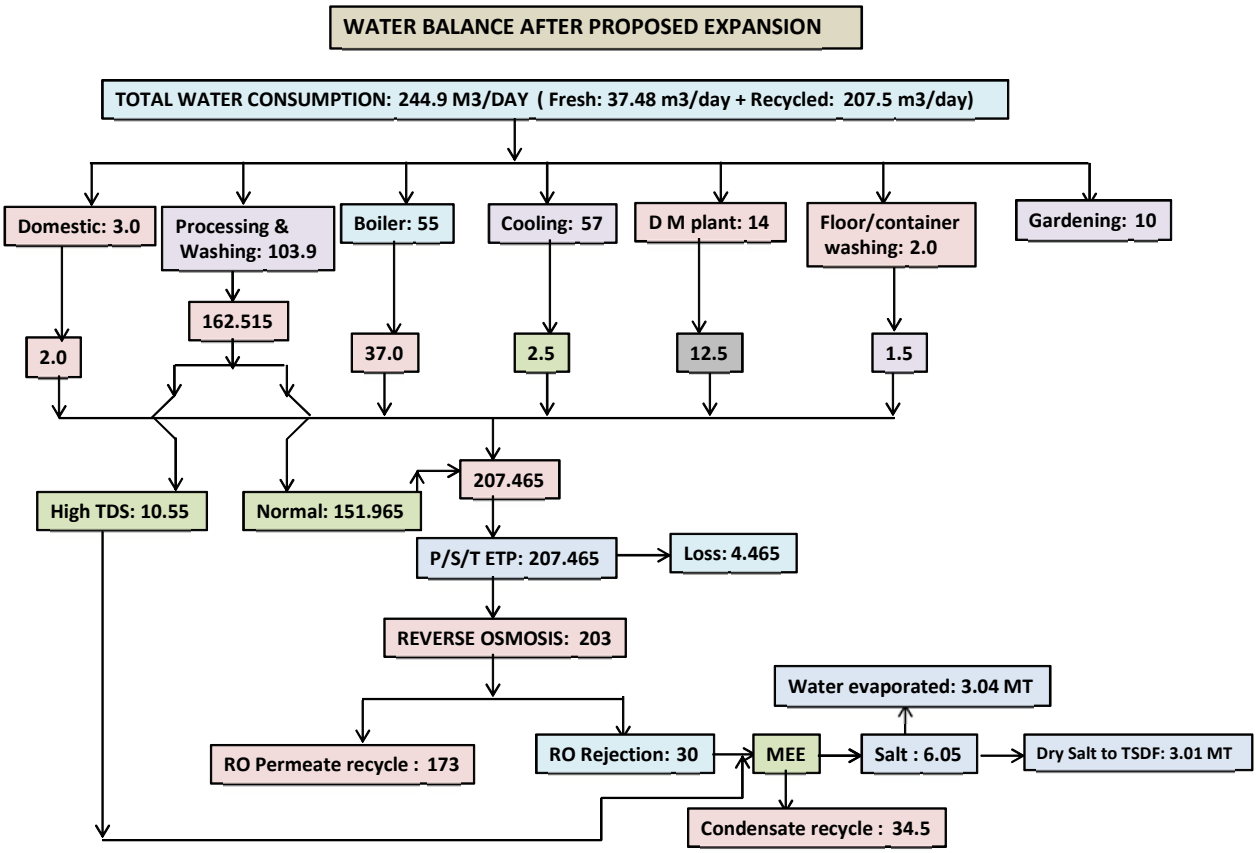


Figure: 2.5 Water Balance Diagram after Expansion



ANNEXURE IV

BY E-MAIL

भारत सरकार
GOVERNMENT OF INDIA
पर्यावरण, वन एवं जलवायु परिवर्तन
मंत्रालय
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE

Regional Office, Western Region,
"Kendriya Paryavaran Bhavan"
Link Road No. 3
E-5, Ravi Shankar Nagar,
Bhopal-462016 (M.P.)
Telefax: 0755-2465054
E-mail: rowz.bpl-mef@nic.in

File No .: 5-8/2011(ENV)/339
Dated: ..../04/2020
16/06/2020

To

Ms. Geeta Menon,
The Joint Secretary, Monitoring Cell,
Ministry of Environment, Forest and Climate Change
Indira Paryavaran Bhawan,
Jorbagh Road, Aliganj,
New Delhi - 110003

Sub: Expansion of existing Ethyl Cellulose Unit (20 TPM) by installing Organic Chemical Plant (79.69 TPM) at Sy. No. 303/2& 302/P, Village Abrama, Tehsil and District Valsad, Gujarat by M/s. Asha Cellulose (I) Pvt. Ltd.- Action Taken Report – reg.

Ref: 1. Ministry's Letter No. J-11011/316/2011-IA.II (I) dated 25.06.2015
2. Project Proponent's letter no. nil dated 01.02.2020

महोदय

Kind attention is invited to the above-cited letters on the above-mentioned subject matter. This office has earlier sent the certified EC compliance report vide letter dated 14.12.2018. PP vide their letter dated 01.02.2020 has submitted an action taken report with respect to conditions marked as partly complied / complied subject to condition. This office has examined ATR cum compliance report submitted by the PP based on which updated status of compliance of conditions is revisited. Accordingly, an addendum to the Monitoring Report submitted earlier by this office vide letter dated 14.12.2018 is enclosed herewith.

2.0 This is issued with the approval of competent authority.

Yours faithfully,

GHVCchy

(Dr. H.V.C. Chary Guntupalli)
Scientist-D/Joint Director

Encl. As above.

Contd...2

ANNEXURE IV

Copy to :

1. Dr. R.B. Lal, Scientist 'E', Ministry of Environment, Forest and Climate Change Indira Paryavaran Bhawan, Jorbagh Road, Aliganj, New Delhi-110003 for kind information please.

2. Smt. Shruti Rai Bhardwaj, Scientist-'E', Monitoring Cell, Ministry of Environment, Forest and Climate Change Indira Paryavaran Bhawan, Jorbagh Road, Aliganj, New Delhi- 110003 for kind information please.

3. Shri K. Srinivas, Director, M/s. Asha Cellulose (I) Pvt. Ltd., Sy. No. 303/2& 302/P, Village Abrama, Tehsil and District Valsad, Gujarat-396001 for kind information please.

(Dr. H.V.C. Chary Guntupalli)
Scientist-D/Joint Director

ANNEXURE IV

Ministry of Environment, Forest & Climate Change
Regional Office Bhopal

Subject: Addendum to the compliance status reported vide letter dated 02.07.2019 by MoEF&CC, RO Bhopal particularly with respect to conditions marked as partly complied /Complied subject to condition

This office has submitted a certified EC Compliance report to MoEF&CC, New Delhi vide letter dated 14.12.2018 wherein compliance of the some conditions were marked as partly complied / complied subject to condition. PP vide letter dated 01.02.2020 received in MOEFCC, RO Bhopal on 07.02.2020 submitted an action taken cum compliance report (ATR) w.r.t. conditions marked as partly complied /Complied subject to condition which was examined by this office. Addl. clarifications w.r.t. Condition No. xxi were sought vide e-mail dated 28.05.2020 and the reply was received from the PP vide e-mail dated 29.05.2020. Detailed analysis of ATR and subsequent details furnished by the PP is presented below:

<table>
<tr><th>Sr. No.</th><th>EC Condition</th><th>Non-compliance reported by MoEF&CC RO, Bhopal vide letter dated 14.12.2018 (based on site visit on 27.09.2018, and submissions of the PP in response)</th><th>Action taken report submitted by the PP vide letter dated 01.02.2020 received in MoEF&CC, RO Bhopal on 07.02.2020, in reply to the MoEF&CC RO, Bhopal's letter dated 14.12.2018</th><th>Remarks of MoEF&CC, RO Bhopal on the ATR submitted by the PP.</th></tr>
<tr><td>A</td><td>Specific Conditions</td><td></td><td></td><td></td></tr>
<tr><td>ii</td><td>Adequate stack height should be provided to gas fired boiler /hot air generator, Bag filter shall be provided to additional spin flash dryers.

At no time the emission levels should go beyond the prescribed standards.</td><td>Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopal on 29.11.2018 submitted the following:
We have provided 11 meters height of chimney to the gas fired boiler and hot air generator per formula (H=14(Q)$^{0.3}$, where as Q is SO_2 emissions in Kg/hr) given by CPCB. Also we have provided bag filter to spin flash dryer to control particulate matter in atmosphere.</td><td>We have provided 30 meters height chimney for gas fired boiler and 11 meters height chimney for Hot Air generators. Bag filters for spin flash dryers.
Scan copies of Stack monitoring reports, chimney & bag filter photographs are enclosed as Annexure – 1. Period: Oct 2017 to Mar 2018
Boiler Chimney
<table>
<tr><th>Parameter</th><th>Min</th><th>Max.</th><th>Standard Limit</th></tr>
<tr><td>PM mg/Nm^3</td><td>71.4</td><td>78.3</td><td>150</td></tr>
<tr><td>SO_2</td><td>24.5</td><td>27.5</td><td>100</td></tr>
<tr><td>NOx</td><td>7.21</td><td>8.15</td><td>50</td></tr>
</table></td><td>During the site visit, it is noted that stack of 30 m and 11 m height was provided to gas fired boiler and hot air generator, respectively. Test reports related to stack monitoring undertaken by NABL accredited laboratory were furnished and the test results reveal that all the parameters are complying the stipulated norms.

In view of the updated information furnished by the PP and the observations noted above, the stipulated condition is considered as complied.</td></tr>
</table>

We ensure that no emission level will beyond the prescribed standard.

Observations made by RO, MoEF& CC, Bhopal:

In view ofthe information furnished by the PP, the stipulated condition is considered complied subject to submission of elaborated compliance on the contents of the stipulated condition with specific details like stack monitoring data by an MOEF EPA approved laboratory and test reports thereof.

COMPLIED SUBJECT TO CONDITION

Hot Air Generator – 1

Parameter	Min	Max.	Standard Limit
PM mg/Nm^3	09.60	09.80	150
SO_2	06.30	06.60	100
NOx	08.32	08.55	50

Hot Air Generator – 2

Parameter	Min	Max.	Standard Limit
PM mg/Nm^3	10.60	12.50	150
SO_2	07.10	07.80	100
NOx	09.62	09.82	50

Stack – SFD 1

Parameter	Min	Max.	Standard Limit
PM mg/Nm^3	10.00	10.50	150

Stack: SFD 2

Parameter	Min	Max.	Standard Limit
PM mg/Nm^3	09.80	10.00	150

COMPLIED

ANNEXURE IV

vi	The company shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on its website and shall updates the same periodically. It shall simultaneously be sent to the Regional office of MoEF, the respective Zonal office of CPCB and the GPCB. The levels of PM10, SO_2, NOx, COx, VOC and CO in ambient air and emission from the stack shall be monitored and displayed at a convenient location near the main gate of company and at	Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopal on 29.11.2018 submitted the following: We will upload the status of compliance of conditions mentioned in EC including results of monitored data etc on our company web site. We have regularly submitted EC compliance report along with monitoring data to Regional office of MOEF, CPCB and GPCB. We are regularly monitored level of PM10, 502 ,NOx, Cox, VOC and CO ,in ambient air and emission from the stack through NABL accredited laboratory M/S Ecosystem Resource Management Pvt. Limited, Surat on monthly basis. We have provided display board at main gate of the unit indicating monitoring data. Results of which are enclosed herewith as Annexure: VII & VIII in the main report. Summary of the results are as under; **Observations made by RO, MoEF& CC, Bhopal:**	**We have uploaded EC compliance reports with effect from October 2016 in our website: www.ashacel.com under sub menu Environmental Management Title. Besides EC compliance reports, PH proceedings and conditions of EC, related licenses, Environmental Policy, EIA report etc are also uploaded. The web link is as follows.** Please visit the below weblink: http://ashacel.com/environmental.asp	The weblink where the status of compliance of the stipulated environmental clearance conditions, including results of monitored data was uploaded was randomly checked and it is noted that the all the relevant data is seen uploaded. **In view of the updated information furnished by the PP and as per the observations noted above, the stipulated condition is considered as complied.** **COMPLIED**

<table>
<tr>
<td></td>
<td>important public places.</td>
<td>In viewoftheinformationfurnishedby thePP, thestipulatedconditionis consideredcompliedsubject to submissionofspecificdetails like web linkwhere EC compliance is uploaded.

COMPLIED SUBJECT TO CONDITION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vii</td>
<td>Total fresh water requirement from ground water source should not exceed 52.7 m^3/ day and prior permission should be obtained from the CGWA/SGWA.</td>
<td>Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopal on 29.11.2018 submitted the following:

We are using fresh water from our Own bore well. We have used average 40.5 m^3 /day of fresh water from our own bore well. To calculate water consumption, we have provided flow meter at the bore well. Details of waterconsumption for six months are as under;
<table>
<tr><th rowspan="2">Sr. No.</th><th rowspan="2">Month</th><th colspan="2">Water Consumption, KL</th></tr>
<tr><th>Per Month</th><th>Per Day</th></tr>
<tr><td>1</td><td>October 2017</td><td>890</td><td>34.2</td></tr>
<tr><td>2</td><td>November 2017</td><td>1080</td><td>41.5</td></tr>
<tr><td>3</td><td>December 2017</td><td>912</td><td>35.0</td></tr>
<tr><td>4</td><td>January 2018</td><td>864</td><td>33.2</td></tr>
</table>
</td>
<td>We are maintaining printed log book for bore well water consumption. We have provided water flow meter at pump discharge line to calculate water consumption. Scan copies of daily and monthly details are attached as Annexure - 2

Borewell water consumption details from October 2017 to March 2019.
<table>
<tr><th>Month</th><th>Consmn. KL/Month</th><th>Min. KL/Day</th><th>Max. KL/Day</th><th>Ave. KL/Day</th></tr>
<tr><td>Oct 2017</td><td>890</td><td>29.6</td><td>36.9</td><td>34.2</td></tr>
<tr><td>Nov 2017</td><td>1080</td><td>34.8</td><td>43.4</td><td>41.5</td></tr>
<tr><td>Dec 2017</td><td>912</td><td>28.9</td><td>37.1</td><td>35.0</td></tr>
<tr><td>Jan 2018</td><td>864</td><td>27.5</td><td>35.7</td><td>33.2</td></tr>
<tr><td>Feb 2018</td><td>1012</td><td>32.30</td><td>40.5</td><td>38.9</td></tr>
<tr><td>Mar 2018</td><td>1032</td><td>24.7</td><td>42.2</td><td>39.6</td></tr>
<tr><td>Apr 2018</td><td>895</td><td>31.2</td><td>40.1</td><td>35.8</td></tr>
<tr><td>May 2018</td><td>1026</td><td>30.8</td><td>42.8</td><td>31.9</td></tr>
<tr><td>Jun 2018</td><td>1065</td><td>33.6</td><td>42.8</td><td>35.5</td></tr>
<tr><td>Jul 2018</td><td>910</td><td>30.6</td><td>38.5</td><td>31.4</td></tr>
<tr><td>Aug 2018</td><td>1030</td><td>35.6</td><td>42.4</td><td>36.8</td></tr>
<tr><td>Sep 2018</td><td>1042</td><td>34.6</td><td>45.3</td><td>43.3</td></tr>
<tr><td>Oct 2018</td><td>592</td><td>19.5</td><td>35.7</td><td>21.9</td></tr>
</table>
</td>
<td>As per the latest records made available by the PP, prior permission was obtained from CGWA vide letter dated 19.04.2012, copy of which is made available.
The updated information furnished by the Project Proponent reflects the month-wise daily consumption of water (since Oct., 2017) as recorded in the log books and it is noted that the maximum water consumption in a day is well below the stipulated limit of 52.7 m3/day.
In view of the updated information furnished by the PP and the observations as noted above, the stipulated condition is considered as complied.

COMPLIED</td>
</tr>
</table>

ANNEXURE IV

5	February 2018	1012	38.9
6	March 2018	1032	39.6
	Total	5790	222.4
	Average	965	37.0

Our area was not covered under dark zone of CGWA. So we have not applied for permission of CGWA. Now it is mandatory to take permission of CGWA and we will apply for permission of CGWA.

Observations made by RO, MoEF& CC, Bhopal:

In view of the information furnished by the PP, the stipulated condition is considered complied subject to submission of monthly minimum and maximum water consumption per day during the compliance period in accordance with the data recorded in the daily log book maintained in the plant premises.

COMPLIED SUBJECT TO CONDTION

Nov 2018	561	19.2	33.6	28.1
Dec 2018	657	22.5	34.1	25.3
Jan2019	709	21.4	33.8	32.2
Feb 2019	620	21.0	35.2	25.8
Mar 2019	322*	12.38	32.8	13.41

***Production was low due to less number of working days.**

ANNEXURE IV

<table>
<tr>
<td>viii</td>
<td>Total effluent generations shall not exceed 240.5 m3/ day. Effluent shall be should be treated in ETP comprising primary, secondary and tertiary treatment (RO).

RO rejects will be evaporated in MEE.
The RO permeates and MEE condensate shall be recycled in the process.</td>
<td>Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopal on 29.11.2018 submitted the following: We have generated average 144.3 m^3/day of industrial effluent.

We have provided primary, secondary and tertiary effluent treatment plant and RO/MEE to treat entire industrial effluent.
RO rejected effluent is taken to MEE.
RO permeate and MEE condensate is recycle in the process. Details of ETP, RO and MEE are enclosed herewith as Annexure: IX in the main report.

<u>Observations made by RO, MoEF& CC, Bhopal:</u>
In viewoftheinformation furnishedby thePP, thestipulatedconditionis consideredcompliedsubject to submission ofmonthlyminimumand maximum effluent generation perday during the compliance period in accordancewith the datarecorded in the daily log book maintained inthe plantpremises.

COMPLIED SUBJECT TO CONDTION</td>
<td>We are maintaining printed log book for generation and treatment of industrial effluent. We have provided flow meter at the inlet of ETP, RO and MEE plants.
Scan copies of effluent generation daily log and monthly details are attached as Annexure – 3
<table>
<tr><th>Month</th><th>Effluent Generation KL/Month</th><th>Min. KL/Day</th><th>Max. KL/Day</th><th>Ave. KL/Day</th></tr>
<tr><td>Oct 2017</td><td>2262</td><td>81.4</td><td>96.7</td><td>90.5</td></tr>
<tr><td>Nov 2017</td><td>2822</td><td>91.6</td><td>101.3</td><td>94.1</td></tr>
<tr><td>Dec 2017</td><td>2604</td><td>80.7</td><td>97.3</td><td>89.8</td></tr>
<tr><td>Jan 2018</td><td>2100</td><td>80.6</td><td>96.0</td><td>87.5</td></tr>
<tr><td>Feb 2018</td><td>2596</td><td>91.6</td><td>101.1</td><td>92.7</td></tr>
<tr><td>Mar 2018</td><td>2327</td><td>86.5</td><td>105.2</td><td>93.08</td></tr>
<tr><td>Apr 2018</td><td>2203</td><td>81.3</td><td>96.2</td><td>88.1</td></tr>
<tr><td>May 2018</td><td>2924</td><td>83.1</td><td>101.4</td><td>94.3</td></tr>
<tr><td>Jun 2018</td><td>2812</td><td>87.8</td><td>102.4</td><td>93.7</td></tr>
<tr><td>Jul 2018</td><td>2745</td><td>81.3</td><td>96.5</td><td>88.6</td></tr>
<tr><td>Aug 2018</td><td>2728</td><td>86.7</td><td>103.4</td><td>94.1</td></tr>
<tr><td>Sep 2018</td><td>2364</td><td>86.2</td><td>103.6</td><td>94.6</td></tr>
<tr><td>Oct 2018</td><td>2369</td><td>78.2</td><td>93.8</td><td>84.5</td></tr>
<tr><td>Nov 2018</td><td>1876</td><td>77.6</td><td>92.0</td><td>85.3</td></tr>
<tr><td>Dec 2018</td><td>2268</td><td>79.5</td><td>93.1</td><td>86.8</td></tr>
<tr><td>Jan2019</td><td>1933</td><td>81.3</td><td>94.8</td><td>88.2</td></tr>
<tr><td>Feb 2019</td><td>2296</td><td>82.1</td><td>93.9</td><td>88.1</td></tr>
<tr><td>Mar 2019</td><td>2110</td><td>76.7</td><td>89.8</td><td>84.4</td></tr>
</table>
</td>
<td>The updated information furnished by the Project Proponent reflects the month-wise daily effluent generation (since Oct., 2017) as recorded in the log books and it is noted that maximum effluent generation in a day is well below the stipulated limit of 240.5 m3/day.
In view of the updated information furnished by the PP and the observations as noted above, the stipulated condition is considered as complied.

COMPLIED</td>
</tr>
</table>

ANNEXURE IV

x.	Automatic/ online monitoring system (24 x 7 monitoring devices) for flow measurement and relevant pollutants in the treatment system to be installed. The data to be made available to the respective SPCB and in the Company's website.	Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopal on 29.11.2018 submitted the following: We are not covered under 17 categories of industries and hence online monitoring system is not applicable to us. However we have provided flow meter at the inlet and out let of ETP also flow meter is provided at the recycled point. Photographs of which is enclosed herewith as Annexure: XA in the main report. We will put the water consumption, waste water generation and recycled treated effluent data on our web site. We are regularly submitting the water consumption, wastewater generation and recycled treated effluent data on GPCB xgn site on monthly basis. In view of the submission by the PP and as the unit is a zero liquid discharge unit, the stipulated condition is considered complied subject to acceptance by EC issuing authority. **Observations made by RO, MoEF& CC, Bhopal:** **COMPLIED SUBJECT TOACCEPTANCE BYECISSUEING AUTHORITY**	**We are a ZLD unit. We are not covered under 17 categories of industries and on line monitoring system is not applicable to us. We have installed flow meters in the inlet of ETP, Out let of ETP, feed to RO, in RO permeate, in RO rejection, in feed to MEE and in MEE condensate etc. and also maintaining log books. Monitoring data is furnished in six monthly compliance reports submitted to MOEF & CC Regional Office – Bhopal and also same is uploaded in our company website. We are regularly furnishing the monitoring data to GPCB officers during their inspection visits and also recording the necessary data in GPCB XGN web site on monthly basis.**	The project proponent re-iterates the earlier submission that the unit is achieving Zero Liquid Discharge (by treating the process effluent in the ETP followed by RO plant wherein RO permeate is being recycled to the process and the RO rejects are being sent to MEE and MEE condensate is in turn being used in the Cooling Tower) and was not covered under 17 categories of industries to install online monitoring of effluent. However, the flow measurements are being done and the related data is being submitted to GPCB by uploading on GPCB XGN website on a monthly basis. **In view of the information furnished by the PP and as per the observations noted above, the stipulated condition is considered as complied subject to acceptance by EC issuing authority.** **COMPLIED SUBJECT TO ACCEPTANCE BY EC ISSUING AUTHORITY**

ANNEXURE IV

xiv	As proposed, process organic residue and spent carbon should be sent to cement industries. ETP sludge, process inorganic & evaporation salt should be disposed off to the TSDF.	Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopal on 29.11.2018 submitted the following: We are disposing our organic residue, spent carbon for incineration at M/S BEIL, Ankleshwar. For which we are having valid membership of BEIL, Ankleshwar. Copy of membership is enclosed herewith as Annexure: XI in the main report. Now onwards we will sent our organic residue, spent carbon to M/S RSPL, Panoli for co-processing, for which we will obtain membership of M/S RSPL, Panoli for co-processing. ETP waste, inorganic waste and MEE waste are regularly dispose off into TSDF of Vapi. For which we are having valid membership of TSDF, Vapi. Copy of membership is enclosed herewith as Annexure: XI in the main report. **Observations made by RO, MoEF& CC, Bhopal:** **In view of the information furnished by the PP, the stipulated condition is considered complied subject to submission of elaborated compliance on the contents of the stipulated condition with specific details like**	**We have enclosed herewith the details of generation, storage and disposal of hazardous waste as per hazardous waste rules 2016 for two years. Annexure – 4** **Scan copies of online manifest are also enclosed for reference as Annexure 4A.**	As per the details furnished by the PP, it is noted that there is no generation of spent carbon and process organic residue (generated by distillation of mixed solvent) during the compliance period instead the mixed solvent is being sold to authorized recycler under Rule 9 as per the consolidated consent & authorization issued by GPCB. ETP sludge, process inorganic & evaporation salt is being disposed off to the M/s. BEIL, Ankleshwar. Requisite manifest records were furnished by the PP. The updated information furnished by the Project Proponent reflects the details like quantum of hazardous waste generated as well as disposed during the audited periods (2017-18 and 2018-19) and during the last 4 compliance periods and it is noted that hazardous waste generation limits are well within the limits stipulated in the CCA. **In view of the updated information furnished by the PP and the observations as noted above, the stipulated condition is considered as complied.** **COMPLIED**

ANNEXURE IV

		quantum of hazardous waste generated as well as disposed during the audited period and during the compliance period COMPLIED SUBJECT TO CONDTION		

Month wise details of Hazardous Waste Generation &Disposal for the period 2017 - 18 and 2018 - 19

S. No.	Hazardous Waste	Period 2017-18	Opening Stock-MT	Generation MT	Disposal MT	Recycled MT	Closing Stock-MT		Period 2018-19	Opening Stock-MT	Generation MT	Disposal MT	Recycled MT	Closing Stock-MT
	Salt from Process and MEE Plant	Apr-17	35.163	33.785	42.165	0.000	26.783		Apr-18	1.289	46.800	0.000	0.000	48.089
		May-17	26.783	22.865	21.815	0.000	27.833		May-18	48.089	47.794	61.510	0.000	34.373
		Jun-17	27.833	24.206	0.000	0.000	52.039		Jun-18	34.373	48.694	0.000	0.000	83.067
		Jul-17	52.039	38.884	0.000	0.000	90.923		Jul-18	83.067	59.475	0.000	0.000	142.542
		Aug-17	90.923	37.055	0.000	0.000	127.978		Aug-18	142.542	58.564	0.000	0.000	201.106
1		Sep-17	127.978	42.195	0.000	0.000	170.173		Sep-18	201.106	40.285	60.200	0.000	181.191
		Oct-17	170.173	47.219	195.93	0.000	21.462		Oct-18	181.191	38.392	188.995	0.000	30.588
		Nov-17	21.462	49.114	59.890	0.000	10.686		Nov-18	30.588	32.168	0.000	0.000	62.756
		Dec-17	10.686	50.835	0.000	0.000	61.521		Dec-18	62.756	34.691	61.645	0.000	35.802
		Jan-18	61.521	51.218	0.000	0.000	112.739		Jan-19	35.802	40.681	0.000	0.000	76.483
		Feb-18	112.739	54.115	84.18	0.000	82.674		Feb-19	76.483	34.785	13.63	0.000	97.638
		Mar-18	82.674	38.080	119.465	0.000	1.289		Mar-19	97.638	14.287	56.585	0.000	55.340
	Total			489.571	523.445				Total		496.616	442.565		

S. No.	Hazardous Waste	Period 2017-18	Opening Stock-	Generation MT	Disposal MT	Recycled MT	Closing Stock-		Period 2018-19	Opening Stock-	Generation MT	Disposal MT	Recycled MT	Closing Stock-MT

			MT				MT			MT				
		Apr-17	10.9	1.735	0.000	0.000	12.635	Apr-18	8.397	1.764	0.000	0.000	10.161
		May-17	12.635	1.046	10.585	0.000	3.096	May-18	10.161	1.592	10.65	0.000	1.103
		Jun-17	3.096	1.118	0.000	0.000	4.214	Jun-18	1.103	1.815	0.000	0.000	2.918
		Jul-17	4.214	1.447	0.000	0.000	5.661	Jul-18	2.918	1.871	0.000	0.000	4.789
		Aug-17	5.661	1.529	0.000	0.000	7.190	Aug-18	4.789	1.697	0.000	0.000	6.486
2	ETP Sludge	Sep-17	7.190	1.678	0.000	0.000	8.868	Sep-18	6.486	1.369	0.000	0.000	7.855
		Oct-17	8.868	1.813	0.000	0.000	10.681	Oct-18	7.855	1.486	0.000	0.000	9.341
		Nov-17	10.681	1.612	9.975	0.000	2.318	Nov-18	9.341	1.411	0.000	0.000	10.752
		Dec-17	2.318	1.584	0.000	0.000	3.902	Dec-18	10.752	1.845	0.000	0.000	12.597
		Jan-18	3.902	1.558	0.000	0.000	5.460	Jan-19	12.597	1.847	0.000	0.000	14.444
		Feb-18	5.46	1.646	0.000	0.000	7.106	Feb-19	14.444	1.511	11.765	0.000	4.190
		Mar-18	7.106	1.291	0.000	0.000	8.397	Mar-19	4.190	0.816	0.000	0.000	5.01
	Total			18.057	20.56	0.000		Total		19.024	22.415	0.000	

S. No.	Hazardous Waste	Period 2017-18	Opening Stock-MT	Generation MT	Disposal MT	Recycled MT	Closing Stock-MT	Period 2018-19	Opening Stock-MT	Generation MT	Disposal MT	Recycled MT	Closing Stock-MT
		Apr-17	0.030	0.330	0.00	0	0.360	Apr-18	0.000	0.290	0.000	0	0.290
		May-17	0.360	0.355	0.00	0	0.715	May-18	0.290	0.285	0.000	0	0.575
		Jun-17	0.715	0.340	0.00	0	1.055	Jun-18	0.575	0.245	0.000	0	0.820
		Jul-17	1.055	0.315	0.00	0	1.370	Jul-18	0.820	0.305	0.000	0	1.125
		Aug-17	1.370	0.335	0.850	0	0.855	Aug-18	1.125	0.275	0.864	0	0.536
3	Discarded Containers	Sep-17	0.855	0.325	0.875	0	0.305	Sep-18	0.536	0.315	0.000	0	0.851
		Oct-17	0.305	0.385	0.00	0	0.690	Oct-18	0.851	0.285	0.856	0	0.280
		Nov-17	0.690	0.365	0.880	0	0.175	Nov-18	0.280	0.325	0.000	0	0.605
		Dec-17	0.175	0.280	0.00	0	0.455	Dec-18	0.605	0.350	0.000	0	0.955
		Jan-18	0.455	0.255	0.00	0	0.710	Jan-19	0.955	0.305	0.000	0	1.260
		Feb-18	0.710	0.166	0.876	0	0.00	Feb-19	1.260	0.375	0.000	0	1.635
		Mar-18	0.00	0.00	0.00	0	0.00	Mar-19	1.635	0.340	1.91	0	0.065
	Total			3.451	3.481	0		Total		3.695	3.630	0	
S. No.	Hazardous Waste	Period 2017-18	Opening Stock-MT	Generation MT	Disposal MT	Recycled MT	Closing Stock-MT	Period 2018-19	Opening Stock-MT	Generation MT	Disposal MT	Recycled MT	Closing Stock-MT
		Apr-17	4.316	14.312	6.085	9.428	3.115	Apr-18	4.283	19.740	5.365	14.808	3.850

ANNEXURE IV

ANNEXURE IV

xvi	The company shall strictly comply with the rules and guidelines under manufacture storageand import ofhazardouschemicals (MSIHC)Rules1989asa mendedtimetotime. Alltransportation ofHazardouschemicals shall beasperthemotor vehicleAct(MVA), 1989.	Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopalon 29.11.2018submitted the following: Wearestrictly following the rules and regulation of MSIHC rules 1989 as amended time to time. Andthe same is inspected by factory inspector periodically. Weare transporting all hazardous chemicals areasperthe motorvehicle Act(MVA),1989. **Observations made by RO, MoEF& CC, Bhopal:** **Inviewoftheinformation furnishedby thePP,the stipulatedconditionis considered complied subject to submission ofelaborated compliance onthecontentsof thestipulated conditionwithspecificdetails.** **COMPLIED SUBJECT TO CONDTION**	**Response: We are storing raw materials which are hazardous nature as per applicable MHISC rules. We are not importing and manufacturing any hazardous chemical. Raw material quantity, storage conditions and mode of transport are attached as Annexure 5. We are receiving raw materials in dedicated vehicles registered as per MVA 1988.** **We are transporting our products in registered vehicles with necessary documents. We are receiving hazardous / flammable chemicals like Sodium Hydroxide, Hydrochloric Acid, Acetic Acid, Toluene and Ethyl Chloride. All necessary storage licenses are in place.** **Safety codes and safety requirements are followed during transportation of hazardous chemicals as laid down in Central Motor Vehicle (CMV) rules. We ensure supplier adhere to the following rules while transporting above chemicals to our site.** **Rule 129: Every good shall display a distinct mark of the class label appropriate to the type of dangerous or hazardous goods.** **Rule 130: The class label shall be positioned as per this rule.** **Rule131: Describes the responsibility of the consignor for safe transport of dangerous or hazardous goods.** **Rule132: Describes of responsibility of the transporter or owner of goods carriage.** **Rule 133: Describes the responsibility of driver.**	The updated information furnished by the PP reveals a detailed compliance to the storage and transportation of hazardous chemicals, as the unit is not manufacturing or importing any type of hazardous chemical. From the data furnished, it is evident that hazardous chemicals like Sodium Hydroxide, Hydrochloric Acid, Acetic Acid, Toluene and Ethyl Chloride are being handled in the plant in accordance with the MSIHC rules. Distinct labels of the hazardous chemicals being transported are displayed on the transportation vehicles. **In view of the updated information furnished by the PP and as per observations noted above, the stipulated condition is considered as complied.** **COMPLIED**

			Rule 134: Provision of instruction to display of emergency information panel. **Rule135: The owner of every goods carriage transporting dangerous or hazardous goods shall ensure to the consignor that the driver of the goods carriage has received adequate instructions and training.** **Rule 136: The driver of goods carriage transporting any dangerous or hazardous goods shall, on occurrence of an accident involving any dangerous or hazardous goods transported by his carriage report fort with to the nearest police station.**	
xviii	Occupational healthsurveillance oftheworkers shall be done on a regular basisand records maintained asperthefactories act.	Project Proponent vide letter dated 28.11.2018 received inMOEF&CC, RO Bhopal on 29.11.2018 submitted the following : We are regularly carried out pre• medical of each worker through private medical officer Dr. Ramesh H Agrawal and maintain the records as per factory act rules. Details of Occupational health records are enclosed herewith asAnnexure: XIIIin themainreport. **Observations made by RO, MoEF& CC, Bhopal:** **In viewoftheinformation furnishedby thePP, thestipulatedconditionis considered complied subject to submission of**	**We are regularly conducting medical examination for our employees. Summary reports, Reports of findings, Sample reports of few people are attached as Annexure – 6** The following medical tests are conducted in the medical examination of each and every individual employee (Permanent & Contract): 1. General Examination (Body temperature, Pulse, Blood Pressure etc.) 2. Cardio Vascular System 3. Respiratory System & Abdomen 4. Vision test – (Visual & Colour vision) 5. Blood Test (RBC, WBC, Platelet count, Haemoglobin, Differential count, ESR, Blood Sugar, Total Cholesterols, TG, Sr-Creatine, SGPT, blood group etc. 6. Urine examination – Standard tests 7. Audiometric test	The updated information submitted by the PP presents all the relevant details desired: no. of people who underwent medical check-up,detailsofinvestigations/tests carriedout, outcomeof themedical check-up, sample records. **In view of the updated information furnished by the PP and as per observations noted above, the stipulated condition is considered as complied.** **COMPLIED**

<table>
<tr>
<td></td>
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<td>elaborated compliance on thecontentsofthestipulated condition with specificdetailslikeno. of people who underwent medical check-up,detailsofinvestigations/tests carriedout,outcomeof themedical check-up,samplerecords,etc.

COMPLIED SUBJECT TO CONDTION</td>
<td>8. Computerised Pulmonary test
9. Electrocardiogram Test
10. Chest (X-Ray test – Digital)

<table>
<tr><th>Year</th><th>No. of people undergone medical test</th><th>Outcome of medical test</th><th>Advice</th></tr>
<tr><td>2018</td><td>110</td><td>Diabetic: 03 people</td><td>They are already on medication for past few years.</td></tr>
<tr><td></td><td></td><td>HT: 06 people</td><td>Reduced Ghee & Oil in diet., to monitor BP regularly.</td></tr>
<tr><td>2019</td><td>115</td><td>Anaemia-Mild: 02 people</td><td>Diet rich in iron to be consumed</td></tr>
<tr><td></td><td></td><td>Diabetic: 06 people</td><td>They are already on medication for past few years</td></tr>
<tr><td></td><td></td><td>Refractive error: 05 people</td><td>Persons have already used prescribed eye lens regularly.</td></tr>
</table>
</td>
<td></td>
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<tr>
<td>xx</td>
<td>Allthecommitments madetothepublicduri ng thePublicHearing/Pu blicConsultationmeet ing held on is"</td>
<td>Project Proponent vide letter dated 28.11.2018receivedinMOEF&CC,RO Bhopalon 29.11.2018submitted the following:

We have complied with all the commitment madeduringthe public</td>
<td>There were no specific assurances committed in the public hearing / public consultation held on 15.12.2012. Copy of public hearing proceedings is enclosed for reference as Annexure -7
<table>
<tr><th>Name of person</th><th>Question & Response from the Project Proponent</th></tr>
</table>
</td>
<td>The updated information furnished by the Project Proponent presented a detailed answers to the queries raised during the public hearing which are mostly related to the plant requirements like water usage, solvent usage, Mockdrill, Safety Audit and Risk Assessment, cost to be incurred on</td>
</tr>
</table>

	December, 2012 should be satisfactorily implemented and a separate budget for implementation for the same should be allocatedand information submitted to theMinistry'sRegional officeatBhopal.	hearing/public consultation held on 15/12/2012. Wehavealsomadeseparatebudget fortheimplementation. **Observations made by RO, MoEF& CC, Bhopal:** **Inviewoftheinformation furnishedby the PP, the stipulatedconditionis considered complied subject to submission of elaboratedcompliance on thecontentsofthestipulated conditionwithspecificdetails.** **COMPLIED SUBJECTTOCONDTION**		**from the dias**	ETP, employment to the locals, caustic generation in the plant, viability of MEE in the plant, location of the plant, etc. The recommendations of public hearing are very general and more related to plant related aspects which are already implemented and specific recommendation is related to the employment of local people and it is noted that the unit has engaged 105 local people (38 company employees and 67 contractual labor) in the plant, out of total manpower of 112. **In view of the updated information furnished by the PP and as per observations noted above, the stipulated condition is considered as complied.** **COMPLIED**
			Shri IkbalKureshi Village: Valsad	➢ Asked that how much water of municipality is used by this company and how much quantity will be used in future? **Representative from the project Proponent replied that company is using their own borewell water and will continue to use in future also.**	
			Shri Vishwas Village: Valsad	➢ How much quantity of solvent is to be used by the company and how much is to be recovered? ➢ He further asked about Mockdrill, Safety Audit and Risk Assessment etc. are carried out at regular interval or not? **Representative from the project Proponent replied that Solvent recovery @ 96% is carried out andMockdrill & Safety Audit etc. are being carried out annually andReport is also forwarded to factory inspector.**	

ANNEXURE IV

			Shri S.K. Nandi Village: Atul	➢ What will be the treatment cost in the ETP? **Representative from the project Proponent replied that for the proposed expansion Rs. 43/KL cost will be incurred for industrial effluent treatment.**		
			Shri Rajnikant Desai Village: Valsad	➢ Whether for proposed project local people will get the employment or not? **Representative from the project Proponent replied that employment will be given to the local people based on their qualification and experience.**		
			Shri Pravinbhai Pursottambhai Bhanusali Village: Valsad	➢ As Company is located in the area of Nagarpalika, any officer of the Nagarpalika is present here or not? ➢ He added that after 16/11/2012 whether Nagarpalika has given any permission. M/s. Asha Cellulose (I) Pvt. Ltd. Has conducted this kind of public hearing which is		

				highly appreciable and other company should also do same activity. ➢ He further informed that recently permission was granted to the project of Rs.170 Crore of M/s. Sidmak Laboratories but this kind of public hearing was not conducted. ➢ He asked whether company is located in Gundlav GIDC or Valsad? ➢ He added that Gujarat Pollution Control Board has also issued notice to the Nagarpalika for the sewagetreatment Plant. ➢ In addition, he mentioned that it is necessary that action should be taken by the collector in case of pollution by the Nagarpalika. **Shri G.V.Patel, Regional Officer, GPCB, Vapi enquired about the present of officers from Valsad Nagarpalika and on inquiry stated that nobody from Nagarpalika has turned up in the**		

				Public Hearing. **Representative from the project Proponent replied that this plant is located in the area of Valsad Nagarpalika.** **Shri G.V.Patel, Regional Officer, GPCB, Vapi informed that action will be taken as an when required.**	
			Shri Rajendra Parekh, Valsad	➢ Asked the company to clarify whether Caustic Solution is generated in existing manufacturing process? As to why caustic solution will not be generated in the new project? **Representative from the project Proponent replied that consumption of Caustic is more in aqua process but proposed expansion will be solvent based, so consumption of caustic will be less and there will be no generation of additional spentcaustic.**	
			Shri Hiren Desai, Valsad	➢ Whether proposed R.O. and MEE system are viable or not?	

<table>
<tr><td></td><td></td><td></td><td></td><td>Representative from the project Proponent replied that feasibility trials conducted in the plant and details are also mentioned in the project report.</td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td>➢ How many accidents or causalities occurred in last five years?
Representative from the project Proponent replied that no such accidents or casualties occurred during last five years.</td><td></td></tr>
<tr><td>xxi</td><td>Atleast5%ofthetotal costofthe project shouldbeearmarkedtowardsthe Enterprise SocialCommitment (ESC) based onlocalneeds and action plan with financial and physical breakup/ details should be prepared and submitted to the Ministry's Regional office at Bhopal,</td><td>Project Proponent vide letter dated28.11.2018receivedinMOEF&CC,RO Bhopalon29.11.2018 submittedthe following:

We have earmarked 5% of the total project cost (i.e. Rs. 75 lakhs) for the Enterprise Social Commitment (ESC) basedon local needs. We have done CSR i.e. Rs. 14.19 lakhs in the yearof 2015to2017and Rs. 2.57 lakhs in the year of 2017-2018. Balance will be done in2-3 years period. Details of CSR is enclosed herewith AsAnnexure: XX in the main report.</td><td colspan="2">We are contributing regularly towards ESC/CSR for the last many years. Copy of Year wise details of contributions are enclosed as Annexure - 8
Receipts of contributions are also enclosed.
<table><tr><th>Financial Year</th><th>Total Contribution towards ESC-CSR in Rs.lacs</th></tr><tr><td>2015</td><td>13.74</td></tr><tr><td>2016</td><td>0.46</td></tr><tr><td>2017</td><td>2.57</td></tr><tr><td>2018</td><td>5.67</td></tr><tr><td>2019</td><td>10.21 + 5.0 lacs to Cancer Hospital is planned in</td></tr></table></td><td>The updated information furnished by the Project Proponent presented the details like year-wise contribution towards Enterprise Social Commitment (ESC) since 2015 and also a time targeted action plan for various welfare activities till 2023-24.
Further, in reply to a clarification sought by e-mail dated 28.05.2020, PP vide e-mail dated 29.5.2020 submitted the following addl. information :
• Rs. 5.00 Lakhs has been given to M/s. Anjali Society for rural health and development. Copy of the receipt no. 5106 dated 06.03.2020 for cheque no. 003487 dated 03.03.2020 issued by the proponent was also furnished.
• In addition to the above, Project Proponent submitted that they have shortlisted villages Abrama, Gundlav, Chenvai, Vasiyar, Magod,</td></tr>
</table>

	Implementation of such program should beensured accordingly in a time bound manner.	**Observations made by RO, MoEF& CC, Bhopal:** Inview oftheinformation furnishedby the PP, thestipulatedconditionis considered compliedsubject to submission ofdetailedtimetargeted actionplanon CSR activitiestobe undertaken overthenext2-3 years. **COMPLIED SUBJECT TOCONDTION**		Muli and Kanjan Rachod for providing water filtration units and furniture in schools worth Rs. 5 lakhs as a part of ESC for the FY 2020-21. However, the project proponent cited the lockdown due to prevailing COVID-19 pandemic for keeping the implementation of action plan on temporary hold. Moreover, a cheque of Rs. 2.51 Lakhs in favor of Chief Minister's Relief Fund in response to the District Collecor's letter dated 27.05.2020 was submitted to District Collector as a part of CSR and the copy of which is made available. • Kind attention is also invited to the EIA notification, 2006 wherein, the validity of Environmental Clearance for developmental industrial projects spans over 7 years. It is also noted that so far nearly 2.5% of project cost has been spent on various welfare activities (since the grant of EC in 2015). Further, a time targeted action plan under Enterprise Social Commitment for various welfare activities till 2023-24 is already made available in the ATR submitted by the PP in compliance of Condition no. xxi. As the implementation of such action plan is to be ensured accordingly, in a time bound manner, the implementation of the action plan has been directed to be reported regularly in the six-monthly compliance report to be furnished to MOEFCC, RO Bhopal which will be reviewed from time to time.

	March 2020.
Total	**37.65**

We have also made contributions through our group and the details of as follows. Rs. In Lacs.

Year	Amount	Purpose
2015-16	**9.51**	**To set up computer lab Kumar Shala-1, Valsad**
2016-17	**11.57**	**Sewing Machines to Cheshire Home-Mumbai, Computers Vocational Training Centre for Girls-Valsad, Community Hall – Meswan , Thane**
2017-18	**10.62**	**Computers & School furniture for AtakPardiPrathamik Shala, Valsad. Rotary Public Charitable Trust - Mumbai**
2018-19	**3.48**	**Drinking Water unit at Navi Nagari Prathamik Shala, Abrama, Valsad**
2019-20	**2.15**	**Drinking Water unit at Bagwada High School, Valsad. Developing Urban Dense Forest**

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<tr><td></td><td></td><td>plantation as pilot project by Miyawaki Technique - Japan</td></tr>
</table>
Future Planning. Rs. in lacs
<table>
<tr><th>Year</th><th>Amount Rs. Lacs</th><th>Purpose</th></tr>
<tr><td>2020 - 21</td><td>5.0</td><td>Water Filtration units and school furniture in near villages</td></tr>
<tr><td>2021-22</td><td>10.0</td><td>Science Lab and furniture, Library in schools</td></tr>
<tr><td>2022-23</td><td>10.0</td><td>Computer lab and school furniture in Tribal school nearby village, providing Drinking Water unit.</td></tr>
<tr><td>2023-24</td><td>10.0</td><td>Drinking Water units, Library and Science Lab, furniture in High Schools in nearby village.</td></tr>
<tr><td>Total</td><td>35.0</td><td></td></tr>
</table>
</td><td>In view of the updated information furnished by the Project Proponent, the compliance of the stipulated condition is considered partly complied w.r.t. action plan submitted and welfare activities undertaken so far. However, the future compliance w.r.t. the activities planned as per the action plan shall be reviewed on a six-monthly basis based on the compliance report submitted by the project proponent. Accordingly, the PP has been directed to report the implementation of the action plan in the six-monthly compliance reports to be furnished to MOEFCC, RO Bhopal. Further, PP shall also undertake fresh need based assessment and accordingly, the action plan may be re-visited and the implementation of the action plan shall be reported regularly in the six-monthly compliance reports to be furnished to MOEFCC, RO Bhopal.
PARTLY COMPLIED</td></tr>
<tr><td></td><td>B.GENERAL CONDITIONS</td><td></td><td></td><td></td></tr>
<tr><td>i</td><td>The project authorities shall strictly adhere to the stipulations made by the state</td><td>Project Proponent vide letter dated28.11.2018 received in MOEF&CC, RO Bhopal on 29.11.2018 submitted the following:</td><td>Response: We are strictly adhering to the stipulations made in GPCB CCA. The elaborate compliance report with evidence is attached as Annexure- 9. Salient points are narrated in brief as below.</td><td>The updated information furnished by the PP presented a detailed compliance to the stipulations of Consolidated Consent and Authorization (CCA). From the compliance status, following is evident:</td></tr>
</table>

ANNEXURE IV

	Pollution Control Board (GPCB),State Government andanyother statutory authority.	We are strictly following the stipulations made by the GPCB Compliance of CCA issued by the board is attached as Annexure: XV in the main report. **Observations made by RO, MoEF& CC, Bhopal:** **In view of the information furnished by the PP, the stipulated condition is considered complied subject to submission ofelaborated compliance onthe stipulationsofCCA with supporting data and"photographs, if any.** **COMPLIED SUBJECTTOCONDTION**	**1.** Management of solid waste generated from industrial activities shall be as per solid waste management rules, 2016. **We are generating hazardous waste listed in CC&A issued by the board and dispose off as per hazardous waste rules 2016. Also we update the details on XGN on regular basis.** **Condition under Water act** **2.** The quantity of total water consumption shall not exceed 155.848 KLD(Domestic 2.2 KLD & Industrial 149.48 KLD). - **Complied** Source of fresh water shall only be Borewell – **Complied** We have permission for extracting ground water from CGWA. **3.** The quantity of Trade effluent discharge from the industry shall not exceed 121.5 KLD. Entire effluent shall be treated in ETP, followed by RO and MEE and achieve Zero Liquid Discharge condition. – **Complied** **4.** The quantity of sewage from industry shall not exceed 1.5 KLD – **Complied** **5.** Domestic effluent shall be disposed off through septic tank/soak pit system – **Complied** **Condition under Air act** **6.** The following shall be used as fuel in the boilers, Hot air Generation & D.G sets: i.e. Natural Gas, Furnace oil and LDO, HSD	• Air pollution control devices are installed and are being operated to meet the stipulated emission norms. Flue gases from steam boiler are being fed to heat recovery unit and released to atmosphere through a stack of 30 m height. Flue gas from Hot Air Generators are fed to individual chimneys of 11 m height. D.G.Sets are operated only in case of emergency / power failure and Flue gas from these units are being fed to dedicated chimneys having 11 meters height. All Solvent storage tanks vents are connected to chilled water condensers. Spin Flash Dryer Bag filters vent is connected to dedicated vent stacks which are 11 meters in height. Test reports related to ambient air quality and stack monitoring (as monitored by an NABL accredited laboratory) reveal that all the parameters are well within the stipulated norms. • Fresh water consumption is well within the stipulated limits and the unit is achieving Zero Liquid Discharge (by treating the process effluent in the ETP followed by RO plant wherein RO permeate is being recycled to the process and the RO rejects are being sent to MEE and MEE condensate is in turn being used in the Cooling Tower) and effluent generation is also well within the stipulated limits. The unit has requisite permission for groundwater drawl from

			We are using Natural Gas, Furnace oil and LDO in our boiler and Hot air generator. HSD is used in DG which is being operated during emergency and power cut only. **7.** The flue gas emission from existing stack shall confirm the standards. **Flue gas emission from boiler is through 30 m height self-supported chimney.** **Spin flash dryer exhaust is through 11 m height chimney.** **We are operating and maintaining our air pollution control equipment like dust separator, bag filters and cyclone separator.** **We are maintaining norms of flue gas emission as specified by board. Analysis reports are enclosed as attachment 4.** **8.** The process emission through various stacks/vent of reactors, process, vessel shall conform the norms. – **Complied** **9.** The ambient air concentration for all substances in premises and at a distance of 10 meters from the source should not exceed the ambient air quality standards. - **Complied** **10** The applicant shall provide portholes, ladder, platform etc at chimney for monitoring the air emission shall be open for inspection for Board's staff – **Complied** **11** The industry shall take adequate measures for control of noise levels from its own sources and maintain ambient air quality standards in respect of noise levels.– **Complied**	CGWA. Domestic effluent is being disposed of through septic tank /soakpit system. Test reports related to effluent quality (as monitored by an NABL accredited laboratory) reveals that all the parameters are well within the stipulated norms. • As per the details furnished by the PP, it is noted that there is no generation of spent carbon and process organic residue (generated by distillation of mixed solvent) during the compliance period instead the mixed solvent is being sold to authorized recycler under Rule 9 as per the consolidated consent & authorization issued by GPCB. ETP sludge, process inorganic & evaporation salt is being disposed off to the M/s. BEIL, Ankleshwar. Requisite manifest records were furnished by the PP. The updated information furnished by the Project Proponent reflects the details like quantum of hazardous waste generated as well as disposed during the audited periods (2017-18 and 2018-19) and during the last 4 compliance periods and it is noted that hazardous waste generation limits are well within the limits stipulated in the CCA. • Noise generating equipment like DG sets are provided with acoustic enclosures and the ambient noise levels are well within the stipulated norms.

ANNEXURE IV

			12 General Conditions – **All Complied** Details of evidence documents are attached as Annexure IX.	**In view of the updated information furnished by the PP and as per the observations noted above, the stipulated condition is considered as complied.** **COMPLIED**
viii	Training shallbeimparted toallemployees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis.	Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopalon 29.11.2018 submitted the following: We have regularly carried out training on safety and health once in a six month through authorized agency. Certificate of training is enclosed herewith as Annexure: XVIII in the main report . We are regularly carried out pre-medical of each worker through private medical officer and maintain therecords as per factory act rules. Details of Occupational health records are enclosed herewith as Annexure: XIII in the main report. We have regularly carried out training on handling of hazardous chemicals once in a six month through competent authority.	We are following SOP/PDN/050 for handling of hazardous chemicals. Also training is imparted regularly on handling of hazardous chemicals. Evidence reports are attached as Annexure - 10. **We are providing training to our workers as well as employees on regular intervals covering all sort of informative subjects such as First aid (17-1-2018), MSDS and handling of Hazardous chemicals (11-8-2017), Hazard communication (14-4-2018) etc.** **Medical summary reports, finding reports, individual sample reports and pre-employment reports are attached as Annexure - 6.** The following medical tests are conducted in the medical examination of each and every individual employee (Permanent & Contract): 1. General Examination (Body temperature, Pulse, Blood Pressure etc.) 2. Cardio Vascular System 3. Respiratory System & Abdomen 4. Vision test – (Visual & Colour vision)	The updated information submitted by the PP presents all the relevant details desired: no. of people who underwent medical check-up, details of investigations/ tests carried out, outcome of the medical check-up, sample records. **In view of the updated information furnished by the PP and as per observations noted above, the stipulated condition is considered as complied.** **COMPLIED**

	Training to all employees on handling of chemicals shall be imparted.	**Observations made by RO, MoEF& CC, Bhopal:** **Inviewoftheinformation furnishedby the PP, the stipulated condition is considered complied subject to submission of elaborated compliance on the contents of the stipulated condition with specific details like no. of people who underwent medical check-up, details of investigations /tests carried out, outcome of the medical check-up, sample records, etc.** **COMPLIED SUBJECT TO CONDTION**	5. Blood Test (RBC, WBC, Platelet count, Haemoglobin, Differential count, ESR, Blood Sugar, Total Cholesterols, TG, Sr-Creatine, SGPT, blood group etc. 6. Urine examination – Standard tests 7. Audiometric test 8. Computerised Pulmonary test 9. Electrocardiogram Test 10. Chest (X-Ray test – Digital)	

Year	No. of people underg one	Outcome of medical	Advice
2018	110	Diabetic: 03 peoples	They are already medication for past few years
		HT: 06 people	Reduced Ghee & Oil in diet., to monitor BP regularly
2019	115	Anaemia-Mild: 02 peoples	Diet rich in iron to be consumed
		Diabetic: 06 peoples	They are already medication for past few years
		Refractive error: 05 peoples	Persons have already used prescribed eye lens

			regularly.	
ix.	The companyshallalsocomplywith allthe environmental protection measures and safeguardsproposed in theproject report submitted tothe Ministry. All the recommendation madeinthe EIA/EMP inrespect of environmental management, risk mitigation measuresandpublichearingrelating totheprojectshallbeimplemented.	Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopal on 29.11.2018 submitted the following: We are complying with all the environmental protection measures and safe guards mentioned in the project report submitted to the Ministry. We have complied with all the suggestions / observations made in risk assessment report, EIA and EMP. Compliance of Risk assessment report is enclosed herewith as Annexure: XIX **<u>Observations made by RO, MoEF& CC, Bhopal:</u>** **Inviewoftheinformation furnishedby the PP, the stipulated condition is considered complied subject to submission of elaborated compliance on the contents of the stipulated condition withspecificdetails.** **COMPLIED SUBJECT TO CONDTION**	**We are implementing measures related EIA and EMP. Details of risk analysis and mitigation measures are enclosed as Annexure - 11** **Water Pollution Control Measures** As we are a Zero Liquid Discharge unit our plant has been equipped with efficient effluent treatment plant. The effluent generated from the process is being treated to the extent that the purified water can be utilized in the plant itself. Thus, we are not discharging any effluent on the surface or discharing to river / sea. **Air Pollution Control Measures** We have installed Boiler stacks for flue gas emission. We have DG Chimney to vent out the gases at safe height. Bag filters are fitted as an APC device with Spin Flash Dryers to trap dust particles and particulate matter. **Land Pollution Control measures** We are utilizing the treated effluent from ETP in to the process. We are not discharging any effluent on land thus, preventing Land Pollution and its deterioration. **Noise Pollution** We have created green cover surrounding the	The updated information furnished by the PP presented a detailed compliance to the environmental protection measures and safe guards mentioned in the project report submitted to the Ministry/ CCA. From the compliance status, following is evident: • Air pollution control devices are installed and are being operated to meet the stipulated emission norms. • Fresh water consumption is well within the stipulated limits and the unit is achieving Zero Liquid Discharge (by treating the process effluent in the ETP followed by RO plant wherein RO permeate is being recycled to the process and the RO rejects are being sent to MEE and MEE condensate is in turn being used in the Cooling Tower) and effluent generation is also well within the stipulated limits. • Hazardous waste generation and disposal is as per norms and well within the stipulated limits. Designated waste storage area for each category of wastes including recyclable wastes with proper sign boards & placards. Non Hazardous and Hazardous Waste are segregated and

plant so that the trees can act as natural noise barriers and reduce the intensity of the noise generated from the plant. We do not have high noise making equipment.

Sr. No.	EMP FOR AIR EMISSION
1	Adequately designed enclosed materials storage area to prevent particulate emissions
2	Stacks of adequate height & internal diameter at top withsampling port attached to Boiler chimney and DG chimney
3	Proper Gas skid, PRV station & NG pipelines connected tothe utilities
4	Bag Filters to Spin Flash Dryer
5	Proper ventilation in storage area is ensured and all materials stored in suitable packing to preventcontamination of air due to particulates & volatile emissions from storage area
6	Valid PUC to vehicles
7	Solvent vapor collection & recovery system in process unit
8	Properly designed method & practices of transportation,storage & handling of materials established and maintained along with necessary facilities to reduceairborne particle of materials and VOCs
9	Solvent storage tank and day tanks are connected cilled water/chilled Brine condensers to prevent loss of solvents in the atmosphere
	EMP FOR WATER AND WASTEWATER
10	In-house bore-wells with required pipelines & other facilities.

stored separately. Hazardous Waste is disposed to approved sites as per the CC&A conditions.

- Noise generating equipment like DG sets are provided with acoustic enclosures and the ambient noise levels are well within the stipulated norms.

In view of the updated information furnished by the PP and as per the observations noted above, the stipulated condition is considered as complied.

COMPLIED

ANNEXURE IV

			11 Water Storage Tank of adequate storage capacity 12 Sewage Treatment Plan for disposal of sewage 13 Our site is Zero Liquid Discharge facility with well-designed Effluent Treatment Plant consisting of Primary Treatment, Bio-aeration Treatment, Tertiary Treatment followed RO Unit and Multiple Effect Evaporator. 14 Water Softening and DM water plant along with purified water facility 15 In-house lab for pH, COD, DO, MLSS, MLVSS, TDS checking facility 16 Qualified staff to monitor wastewater treatment facility 17 RCC Roads all around the plant **HAZARDOUS & NON-HAZARDOUS WASTE MANAGEMENT** 18 Designated waste storage area for each category of wastes including recyclable wastes with proper sign boards & placards 19 Non Hazardous and Hazardous Waste are segregated and stored separately 20 Hazardous Waste is disposed to approved sites as per the CC&A conditions	
x.	The company shall undertake CSR activities and allrelevant measures for improving the socio-economicconditions ofthesurrounding	Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopal on 29.11.2018 submitted the following: Wehave done CSR activities and all relevant measuresfor improving socioeconomic conditions of the surrounding area.	**We are contributing regularly towards ESC/CSR for the last many years. Copy of Year wise details of contributions are enclosed as Annexure - 8. Further, the annual turnover of the company is well below the limit that attracts the provisions of CSR under Companies Act.**	The updated information furnished by the Project Proponent presented the details like year-wise contribution towards Enterprise Social Commitment (ESC) since 2015 and also a time targeted action plan for various welfare activities till 2023-24. From the financial figures furnished by the PP, it is evident that the unit does not fall under the purview of CSR allocations under

<table>
<tr>
<td></td>
<td>area</td>
<td>Details of CSR activities are enclosedherewithas Annexure: XX in the main report. We havedone CSR i.e. Rs. 14.19 lakhs in theyear of2015to 2017and Rs. 2.57 lakhsintheyearof2017-2018. Balance will be done in 2-3 years period.

<u>Observations made by RO, MoEF& CC, Bhopal:</u>
Inview of the information furnished by the PP, the stipulated condition isconsideredcompliedsubject to submission ofdetailedtimetargeted actionplanon CSR activitiestobe undertakenoverthenext 2-3 years.

COMPLIED SUBJECT TO CONDTION</td>
<td>
<table>
<tr><th>Financial Year</th><th>Annual turnover in Rs.Crores</th></tr>
<tr><td>2016-17</td><td>21.79</td></tr>
<tr><td>2017-18</td><td>35.11</td></tr>
<tr><td>2018-19</td><td>39.68</td></tr>
</table>
Receipts of contributions are also enclosed.
<table>
<tr><th>Financial Year</th><th>Total Contribution towards ESC-CSR in Rs.lacs</th></tr>
<tr><td>2015</td><td>13.74</td></tr>
<tr><td>2016</td><td>0.46</td></tr>
<tr><td>2017</td><td>2.57</td></tr>
<tr><td>2018</td><td>5.67</td></tr>
<tr><td>2019</td><td>10.21 + 5.0 lacs to Cancer Hospital is planned in March 2020.</td></tr>
<tr><td>Total</td><td>37.65</td></tr>
</table>
We have also made contributions through our group and the details of as follows. Rs. In Lacs.
<table>
<tr><th>Year</th><th>Amount</th><th>Purpose</th></tr>
<tr><td>2015-16</td><td>9.51</td><td>To set up computer lab Kumar Shala-1, Valsad</td></tr>
<tr><td>2016-17</td><td>11.57</td><td>Sewing Machines to Cheshire Home-Mumbai, Computers Vocational Training Centre for Girls-Valsad, Community Hall – Meswan , Thane</td></tr>
</table>
</td>
<td>Companies Act. PP shall undertake fresh need based assessment and accordingly, the action plan may be re-visited and the implementation of the action plan shall be reported regularly in the six-monthly compliance reports to be furnished to MOEFCC, RO Bhopal.
In view of the updated information furnished by the PP w.r.t. non-applicability of fund allocation under CSR but as the unit is allocating funds under Enterprise Social Commitment, the stipulated condition is considered as complied.

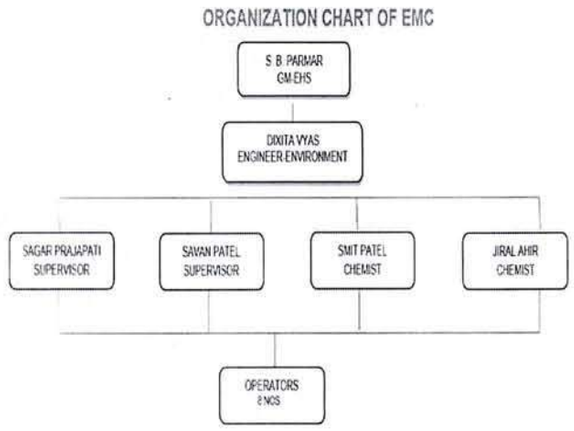
COMPLIED</td>
</tr>
</table>

ANNEXURE IV

2017-18	10.62	Computers & School furniture for AtakPardiPrathamik Shala, Valsad. Rotary Public Charitable Trust - Mumbai
2018-19	3.48	Drinking Water unit at Navi Nagari Prathamik Shala, Abrama, Valsad
2019-20	2.15	Drinking Water unit at Bagwada High School, Valsad. Developing Urban Dense Forest plantation as pilot project by Miyawaki Technique - Japan

Time bound action Plan for next 4 years

Year	Amount Rs. Lacs	Purpose
2020 - 21	5.0	Water Filtration units and school furniture in near villages
2021-22	10.0	Science Lab and furniture, Library in schools
2022-23	10.0	Computer lab and school furniture in Tribal school nearby village, providing Drinking Water unit.

			2023-24	**10.0**	**Drinking Water units, Library and Science Lab, furniture in High Schools in nearby village.**	
xii.	A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be setup to carry out the Environmental Management andMonitoringFunctions	Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopal on29.11.2018submitted the following: We have developed environmental management system within the premises and full-fledged laboratory for the analysis of waste water sample like pH, COD, BOD, TDS, and NH3-N etc. Ambient Air monitoring, process gas,flue gas I fugitive and VOC monitoring. We have contractedwith NABL approved laboratoryonmonthlybasis. Wehave permanentlyappointedtwo chemicalengineerandfour chemists fortheoperationof environmental managementsystem and testing of various parameters of the waste water. Organogram ofEnvironmental ManagementCell isenclosedherewith asAnnexure: XXI inthemainreport. **<u>Observations made by RO, MoEF& CC, Bhopal:</u>** **Inviewoftheinformation furnishedby the**	**Response: Enclosed the current EMC with designation and name of the persons with qualification. Annexure - 12** **Details of ETP laboratory apparatus with photographs enclosed as Annexure – 13**  **Educational qualification & experience details:**	From the updated information, it is evident that the unit is having an dedicated Environmental Management Cell with environmentally qualified personnel and the unit is having an internal laboratory equipped to monitor basic parameters and majority of the environmental monitoring functions are being undertaken through an NABL accredited laboratory. **In view of the updated information furnished by lated condition is considered as**

PP, the stipulated condition is consideredcompliedsubject to submission offollowing:

- Details of EMCinthe format: Name of the person, designationand technical qualification.
- Details of parameter-wise laboratory equipment available in-housefor environmental monitoring.

COMPLIED SUBJECT TO CONDITION

Name of Employees	Qualification	Experience
Mr. Suresh B. Parmar	Diploma Chemical & PDIS	40 Years
Mrs. Dixita Vyas	M.E Environmental	2 Years
Mr. Sagar Prajapati	B. E. Chemical	3 Years
Mr. Savan Patel	B. E. Chemical	5 Years
Mr. Smit Patel	B.Sc (Chemistry)	4 years
Mr. JiralAhir	B.Sc (Chemistry)	2 Years
Operators	SSC	More than 10 Years

We have dedicated ETP laboratory and we do carryout the following tests. Detailed methods of analysis for the tests are enclosed in Annexure – 13.

1. Determination of COD
2. TDS measurement
3. MLSS measurement
4. Determination of Dissolved Oxygen
5. Measurement of MLVSS
6. pH Measurement

ANNEXURE IV

<table>
<tr>
<td></td>
<td></td>
<td></td>
<td>7. TSS measurement
8. Turbidity Meter

For special analysis we utilize main Quality Control Laboratory.</td>
<td></td>
</tr>
<tr>
<td>xiii.</td>
<td>Thecompanyshall earmarksufficientfun dstowardcapitalcost/ annumtoimplementa l the conditionsstipulated by theMinistryOf EnvironmentandFore stsaswellastheState Government alongwith the implementation schedule for all the conditions stipulated herein.

Thefundssoprovideds hallnotbe diverted for andother purpose.</td>
<td>Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopal on 29.11.2018 submitted the following:

We havesecuredfunds (i.e Rs. 210 lakhs) for the recurringandnone recurring toimplementtheconditions stipulated by the Ministry of Environment&Forests as wellasthe State Government along ·with the implementation schedule for allthe conditions.
Weensurethatthesaidfundisalreadyutilized forthedevelopmentof environmentalmanagementsystemas mentioned inthe data sheet.

The funds provided for EMS is not diverted for any other purposes. In view of the information furnished by the PP, the stipulated condition is considered complied subject to submission of CAPEX incurred till date and recurring</td>
<td>We have allocated adequate amount of funds towards capital and recurring cost. Details of capital expenses and recurring expenses are enclosed as Annexure – 14. We have not diverted any allocated fund.

<table>
<tr><th>PARTICULARS (INR)</th><th>2016-17</th><th>2017-18</th><th>2018-19</th></tr>
<tr><td>Production</td><td>188441</td><td>297202</td><td>306267</td></tr>
<tr><td>RO Plant Operation & Maintenance</td><td>1067432</td><td>1067432</td><td>1116164</td></tr>
<tr><td>Expenses-ROCHEM</td><td>2185489</td><td>1969910</td><td>1908740</td></tr>
<tr><td>Salary</td><td>23916</td><td>59154</td><td>40672</td></tr>
<tr><td>ETP Sludge Disposal Expenses</td><td>892742</td><td>1207166</td><td>829007</td></tr>
</table>
</td>
<td>The updated information furnished by the PP presented the details related to CAPEX incurred till date and recurring expenditure incurred over the years with sub-head wise break-up. Copy of the Annexure-14 is enclosed herewith for ready reference.
In view of the updated information furnished by the PP and as per the observations noted above, the stipulated condition is considered as complied.

COMPLIED</td>
</tr>
</table>

		expenditure incurred over the years with sub-head wise break-up details. **Observations made by RO, MoEF& CC, Bhopal:** **COMPLIED SUBJECTTOCONDTION**	<table><tr><td>HW Transport Expenses</td><td>432650</td><td>487316</td><td>665472</td></tr><tr><td>Electricity Expenses</td><td>2223492</td><td>2262059</td><td>2316141</td></tr><tr><td>Unit Cost of Steam Rs/Kg</td><td>2.4</td><td>2.6</td><td>3.5</td></tr><tr><td>Steam Consumed in MEE Plant (Kg)</td><td>659</td><td>1045</td><td>1063</td></tr><tr><td>Steam expenses for MEE Plant</td><td>1581600</td><td>2717000</td><td>3720500</td></tr><tr><td>ETP Chemical Expenses</td><td>160489</td><td>175609</td><td>193547</td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td>Total</td><td>8568471</td><td>9946694</td><td>10718009</td></tr></table>	
xiv.	A CopyoftheClearancel etter shall be sent by the project proponent to Concerned Panchayat, ZilaParisad/Municipa l Corporation Urban local Body and the local NGO, if any from Whom suggestions I	Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopal on 29.11.2018 submitted the following: We have already sent clearance letter to concerned Panchayat, Zilla Parishad / MuncipalCorporation Urban local Body and the local NGO. The documentary proof was lost during flood in the month of August 2015. **Observations made by RO, MoEF& CC,**	**Wehave already sent clearance letter to concerned Panchayat, Zilla Parishad / MunicipalCorporation. The documentary proof was lost during flood in the month of August 2015. Photographs of flood during the year is enclosed herewith as Annexure – 14 A** **We have shifted our record room to next floor.**	**The project proponent re-iterates the earlier submission that the documentary proof related to providing of copy of clearance letter to Concerned Panchayat, ZilaParisad/Municipal Corporation Urban local Body is lost during the floods, photographs of which is furnished. However, in light of the submission of the PP that the clearance letter was indeed sent to Concerned Panchayat, ZilaParisad/Municipal Corporation Urban local Body, the stipulated condition is considered as deemed complied.** **DEEMED COMPLIED**

ANNEXURE IV

	Representations if any werereceived while processing the proposal.	**Bhopal:** **Inviewofthesubmissionby the PP,the stipulated condition is considered complied subjectto acceptanceby E C issuing authority.** **COMPLIED SUBJECT TO ACCEPTANCE BYEC ISSUNGAUTHORITY**	**We assure you that we have started keeping such important records in soft form also.**	
xv.	The project proponent shall also submit six monthly reports onthe statusofcompliance of the stipulated Environmental Clearance conditions including result of monitored data (both inhard copies aswell bye-mail) to the respective Regional office of MoEF, the respective ZonalOfficeof CPCB andtheGujarat Pollution Control Board. A copyof Environmental Clearance and Monthly Compliance	Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopal on 29.11.2018 submitted the following: We are submitting herewith our 2nd six monthly EC compliance report and we assure you that now onwards we will submit regularly six monthly compliance report to the Regional office of MoEF, Bhopal. We will upload sixmonthly compliancereports on our website. **Observations made by RO, MoEF& CC, Bhopal:** **Inviewoftheinformation furnishedby the PP, thestipulated condition is considered partly complied until the compliance status report is uploaded on company's website. Further, PP shall ensure regular submission ofsix-monthlycompliancereport.**	**We are now regularly updating our website. Six monthly EC compliance report for the period April 2019 to September 2019 has been uploaded in our website www.ashacel.com under sub menu Environmental Management.** **Please refer below weblink:** http://ashacel.com/environmental.asp	PP submitted the web link of uploaded EC Compliance Report on their website and the web-link was checked and the document is found to be uploaded. **In view of the updated information furnished by the PP and as per the observations noted above, the stipulated condition is considered as complied. PP shall ensure regular uploading of compliance report on the company's website.** **COMPLIED**

	status report shall postedonthewebsite ofthe company.	**PARTLY COMPLIED**		
xvi.	The environmental statement for each financial year ending 31th March in form - V as is mandated shall be submitted to the concerned state pollution control Board as prescribed under the environment (protection) Rules 1986as amended subsequently shall also be put on the website of the company along company alongwith status of compliance environmental clearance conditions and shall also be sent to the respective Regional Office of MoEF by e-mail.	Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopal on 29.11.2018 submitted the following: We have regularly submitted form V Environmental statement to GPCB web site. Copy of Form V for the March 2017 is enclosed herewith as Annexure: XXII in the main report **<u>Observations made by RO, MoEF& CC, Bhopal:</u>** **In view of the information furnishedby the PP, the stipulated condition is considered complied subject to clarity on the submission of environment statement to Ministry's regional office atBhopal.** **COMPLIED SUBJECT TO CONDTION**	**We have enclosed copy of Form 'V' for the year 2017 -18 and 2018-19 for your reference. Annexure – 15** **We are regularly enclosing form V in the six-monthly compliance reports submitted to MOEF & CC regional Office – Bhopal for the respective period. We herewith confirm that we have already enclosed form V for the year 2017-18 in the six-monthly compliance reports submitted to MOEF & CC regional Office – Bhopal.**	The updated information furnished by the Project Proponent reveals that the Form-V is being enclosed as a part of the six-monthly compliance reports being submitted to MOEF & CC regional Office – Bhopal for the respective period instead of by e-mail. **In view of the updated information furnished by the PP and as per the observations noted above, the stipulated condition is considered as complied. However, in future PP shall furnish the copy of Form-V to MOEFCC, RO Bhopal by e-mail to <u>rowz.bpl-mef@nic.in</u> in strict compliance of the EC stipulation in letter and spirit.** **COMPLIED**
xvii.	Theprojectproponent shallinformthe public	Project Proponent vide letter dated28.11.2018 received in MOEF&CC,		**The project proponent re-iterates the earlier submission that the documentary proof**

	that the Project has been accorded environmentalclearancebythe Ministryand copiesoftheclearance letterare available with theSPCB/ committee andmayalsobeseenat websiteoftheMinistry at http:/envfor.nic.in. This shall be advertised within seven days from thedateof issue oftheclearance letter,atleast intwo local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concernedanda copyof the same shall be forwarded to the concerned	RO Bhopal on 29.11.2018 submitted the following: We have already informed to the public by local newspaperthat we haveaccorded environmental clearance by theMinistry and copies of clearance letter are available with the state Pollutions Control Board and may also be seen at website of the Ministry of Environmental and Forests at website of the Ministry of Environmental and forest at http/envfor .nic.in. We have already given advertisement in local newspaperon 02/07 /2015 regarding obtaining EC clearance issued byMoEF, New Delhi. Copy of the advertisement is lost during flood in August 2015. During flood our so many files and documents were lost. **<u>Observations made by RO, MoEF& CC, Bhopal:</u>** **InviewofthesubmissionbythePP,the stipulatedconditionis considered complied subjectto acceptancebyEC issuingauthority.** **COMPLIEDSUBJECT TO ACCEPTANCE BY EC ISSUNG AUTHORITY**	**We have already given advertisement in local newspaperon 02/07 /2015 regarding obtaining EC clearance issued byMoEF, New Delhi. Copy of the advertisement is lost during flood in August 2015. During flood our so many files and documents were lost. Photographs of flood during the year is enclosed herewith as Annexure:14 A** **We have shifted our record room to next floor.**	**related to advertisement in local newspapers is lost during the floods, photographs of which is furnished. However, in light of the submission of the PP that the advertisement was indeed made in local newspapers on 02/07/2015, the stipulated condition is considered as deemed complied.** **DEEMED COMPLIED**

ANNEXURE IV

	Regional office of the Ministry.		**We assure you that we have started keeping such important records in soft form also.**	
xviii.	The project authorities shall inform the Regional office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and thedate of start of the project.	Project Proponent vide letter dated 28.11.2018 received in MOEF&CC, RO Bhopal on 29.11.2018 submitted the following: We have completed and commissioned our expansion project in the month of November 2015. **<u>Observations made by RO, MoEF& CC, Bhopal:</u>** **Inviewoftheinformation furnishedby the PP,the stipulated condition is consideredcompliedsubject to submission of elaborated compliance on thecontentsofthestipulated conditionwithspecificdetails.** **COMPLIED SUBJECT TO CONDTION**	**We have completed the expansion project and commissioned in the November 2015 with the help of our own fund. Project completion report was submitted through Six Monthly EC compliance report for the period October 2016 to March 2017 to MOEF & CC Regional Office – Bhopal.**	The updated information furnished by the Project Proponent reveals that the unit is internally funded and hence, financial closure is not applicable to PP. Further, PP submitted that the project completion details and other approvals were submitted as a part of the six-monthly compliance report for the period October 2016 to March 2017 and the same was found to be satisfactory. **In view of the updated information furnished by the PP and as per the observations noted above, the stipulated condition is considered as complied.** **COMPLIED**

ANNEXURE IV

SUMMARY NOTE:

i. **Updated status of implementation of Conditions:**

In view of the details furnished above, the updated status of non-complied/partly complied /Complied subject to condition is presented below:

Compliance status of non-complied/partly complied /Complied subject to condition reflected in the MNR report dated 14.12.2018	**Updated Compliance status of non-complied/partly complied /Complied subject to condition as on 17.04.2020**
Complied subject to condition – 17 (Specific condition nos. ii, vi, vii, viii, xiv, xvi, xviii, xx, xxi; General condition nos. i, viii, ix, x, xii, xiii, xvi, xviii) **Partly Complied -1**(General condition nos. xv) **Complied subject to acceptance by EC issuing authority-3** (Specific condition nos. x; General condition nos. xiv, xvii)	**Complied – 17** (Specific condition nos. ii, vi, vii, viii, xiv, xvi, xviii, xx; General condition nos. i, viii, ix, x, xii, xiii, xv, xvi, xviii) **Partly Complied** – 1 (Specific condition nos. xxi) **Complied subject to acceptance by EC issuing authority-1** (Specific condition nos. x) **Deemed Complied – 2** (General condition nos. xiv, xvii)

(Dr. H.V.C. Chary Guntupalli)
Joint Director/Scientist-D

ANNEXURE A

Regional Office : Vapi
GUJARAT POLLUTION CONTROL BOARD
Plot No. C-5/124, N. H. No. 8, G.I.D.C.,Vapi-396 195. Dist. Valsad. (Gujarat)
Tel. : (O) (0260) 2432089, 2426207 Fax : (0260) 2432826
Email: gpcb-val@gujarat.gov.in , Website : www.gpcb.gov.in

ANNEXURE-"A"

Statement showing participants present during the public hearing

As per the Ministry of Environment and Forests, Government of India, New Delhi, vide its notification no. S.O.1533 (E) dated 14/09/2006 and its subsequent amendment S.O.3067 (E) dated 1st December 2009. Public Hearing was fixed for the following project covered under CATEGORY **"A", M/s Asha Cellulose (I) Pvt. Ltd. for Proposed Expansion of Ethyl Chloride (From Ethyl Alcohol), Ethyl Chloride (From Mixed Solvent of Existing Process), Methyl Chloride (From Methyl Alcohol) & Hydroxy Propyl Methyl Cellulose (HPMC) - 96.544 TPM to 1028.544 TPM, at Survey No. 302/P, 303/2, 273/2, 275/1, Near Water Works, Abrama, Valsad-396001, Ta. & Dist. Valsad (Gujarat).**

The Statement showing Participants present during public hearing held on 20/08/2019, Time 11:30 Hrs and Venue: Shri Saurastra Kadva Patidara Sevaa Samaj, Dharampur Chokadi, N.H. 8, Valsad, Dist. Valsad.

ભારત સરકારશ્રીના વન અને પર્યાવરણ મંત્રાલય, નવી દિલ્હીના જાહેરનામા ક્રમાંક: એસ.ઓ.૧૫૩૩, તા.૧૪/૦૯/૨૦૦૬ અને તેના પછીના સુધારા ક્રમાંક: એસ.ઓ. ૩૦૬૭ (ઇ), તા. ૦૧/૧૨/૨૦૦૯ અનુસંધાને મે.આશા સેલ્યુલોઝ (I) પ્રા. લી. ની લોક સુનાવણી અન્વયેસૂચિત સર્વે નં. ૩૦૨/પી, ૩૦૩/૨, ૨૭૩/૨, ૨૭૫/૧, વોટર વર્ક્સ નજીક, અબ્રામા, વલસાડ-૩૯૬૦૦૧, તા અને જી. વલસાડ, દ્વારા ઇથાઇલ ક્લોરાઇડ (ઇથાઇલ આલ્કોહોલ માંથી), ઇથાઇલ ક્લોરાઇડ (હાલની મીક્ષ સોલ્વન્ટ પ્રોસેસ માંથી), મિથાઇલ ક્લોરાઇડ (મિથાઇલ આલ્કોહોલ માંથી) અને હાઇડ્રોક્સિ પ્રોપિલ મિથાઇલ સેલ્યુલોઝ (એચપીએમસી) – ૯૬.૫૪૪ ટીપીએમ થી ૧૦૨૮.૫૪૪ ટીપીએમના વિસ્તરણ માટેની (પ્રોજેકટ) માટે કેટેગરી "એ" પરીયોજનાની લોક સુનાવણી રાખવામાં આવેલ છે.

જે અન્વયે તા.૨૦/૦૮/૨૦૧૯ ના રોજ ૧૧:૩૦ કલાકે સ્થળ: શ્રી સૌરાષ્ટ્ર કડવા પાટીદાર સેવા સમાજ, ધરમપુર ચોકડી, નેશનલ હાઇવે નં. ૮, વલસાડ, જી. વલસાડ ખાતે મે.આશા સેલ્યુલોઝ (I) પ્રા. લી ની યોજાયેલ લોક સુનાવણી દરમ્યાન હાજર રહેલાં લોકોની યાદી નીચે મુજબ છે.

Sr. No. ક્રમાંક	Name & Designation નામ અને હોદ્દો	Organization/Village સંસ્થા/ગામ	Signature સહી
1	F.A. SINDHI	Gujaratmitra Reporter	
2	P. A. Shah	D. G. Varaman	
3	Divyesh K. Pandey	Valsad Today	

ANNEXURE A

Regional Office : Vapi

GUJARAT POLLUTION CONTROL BOARD

Plot No. C-5/124, N. H. No. 8, G.I.D.C.,Vapi-396 195. Dist. Valsad. (Gujarat)
Tel. : (O) (0260) 2432089, 2426207 Fax : (0260) 2432826
Email: gpcb-val@gujarat.gov.in • Website : www.gpcb.gov.in

Sr. No. ક્રમાંક	Name & Designation નામ અને હોદ્દો	Organization/Village સંસ્થા/ગામ	Signature સહી
4	Utpal Desai	Sandesh	[signature]
5	[illegible]	[illegible]	[signature]
6	[illegible]	[illegible]	[signature] 20/8/19
7	[illegible]	[illegible]	[signature]
8	[illegible]	[illegible]	[signature]
9.	[illegible]	[illegible]	[signature]
10	[illegible]	[illegible]	[signature]
11	Keyur M. mistry	[illegible]	[signature]
12	Mitesh R. Yadav	Valsad	[signature]
13	[illegible]	[illegible]	[signature]
14	Jindat K Mehta	mumbai	[signature]
15	Harshad. C. Patel	chichwada	[signature]
16	Patel Arunbhai D.	Parnera Pardi	[signature]
17	Dipesh Narendrabhai Patel	Parnera 89809 88833	[signature]
18	Ketem Patel	Sadya Day	[signature]
19	Manish Ramani	Bhagda Valsad	[signature]
20	[illegible]	[illegible]	[signature]
21	Harishbhai Patel.	Abrama	[signature]
22	Dharmesh S Patel	Jujwa (Sarpanch)	[signature]
23	[illegible]	[illegible]	D.R.Patel
24	Mahesh Dahyabhai Solanki	Raorvada. sharpanch.	[signature]

ANNEXURE A

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25	[illegible]	[illegible]	
26	Bakul. C. Desai	Nanak wada, Valsad	
27	S. B. Parmar	Valsad-Ramwadi	
28	Bhavesh R. Patel	valsad	
29	Parvesh Shroff	Valsad	
30	Kumbi M. Patel	valsad	
31	Hiren R. Desai	Halar, Valsad	
32	Nitin J. Patel	Atak Pardi	
33	Mahesh D. Patel	Vallifeliya	
34	Samit Shah	Tithal Road, Valsad	
35	Bharat Mistry	Abrama, Valsad	
36	ARIJIT SEN	TITHAL RD, VALSAD	
37	Krunal Mistry	Halar, Valsad	
38	Hardik Modi	Halar, Valsad	
39	Satish M [illegible]	Rabdel	
40	[illegible]	[illegible]	
41	[illegible]	[illegible]	
42	Vijaya	Vashi per.	
43	[illegible]	Surat	
44	Prof. M. J. Patel.	valsad	
45	Tanmay Shah	Valsad.	

ANNEXURE A

Regional Office : Vapi
GUJARAT POLLUTION CONTROL BOARD
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Sr. No. કમાંક	Name & Designation નામ અને હોદ્દો	Organization/Village સંસ્થા/ગામ	Signature સહી
46	ઉર્વશી રમેશ પટેલ	વલસાડ	
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66			

ANNEXURE A

Regional Office : Vapi
GUJARAT POLLUTION CONTROL BOARD
Plot No. C-5/124, N. H. No. 8, G.I.D.C.,Vapi-396 195. Dist. Valsad. (Gujarat)
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67	[illegible]	[illegible]	[illegible]
68	[illegible] પટેલ	[illegible]	[illegible]
69	[illegible]	[illegible]	R Patel
70	[illegible]	[illegible]	[illegible]
71	A-lal [illegible] Singh	Abrama	A B Singh
72	Sunil B- Patel	Bhagdawada, Valsad	[illegible]
73	Dilip. R. Patel	Valsad	[illegible]
74	Hemant. R. Patel	Ronvel	[illegible]
75	S. K. Nandi	Atul	[illegible]
76	Krishna Kant. S R	Abrama	[illegible]
77	Bhagubhai. R. Patel	Chichwada [illegible]	[illegible]
78	Kalpesh N. Patel	Chichwada	K. N. Patel
79	Sagar N. Desai	QVC	[illegible]
80	Paresh. G. Patel	QVC.	[illegible]
81	Ketan Patel	Abrama	[illegible]
82	Rumit Patel	Pharl	Patel R. V
83	Dahyabhai Mehta	Station Rd Valsad	DBmeata
84	Mayur. R. Bhathiwala	Bodlai.	[illegible]
85	Hemantkumar G Tandel	Valsad/Kosamba	[illegible]
86	RKN	[illegible]	RKN
87	[illegible]	[illegible]	[illegible]

ANNEXURE A

Regional Office : Vapi
GUJARAT POLLUTION CONTROL BOARD
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88	[illegible]	[illegible]	BMP
89	[illegible]	[illegible]	P.G.Patel
90	[illegible]	[illegible]	[illegible]
91	[illegible]	[illegible]	[illegible]
92	[illegible]	[illegible]	[illegible]
93	[illegible]	[illegible]	[illegible]
94	[illegible]	[illegible]	[illegible]
95	[illegible]	[illegible]	[illegible]
96	[illegible]	[illegible]	[illegible]
97	[illegible]	[illegible]	A M. Patel
98	Ashok B. Patil	GPCB - Vapi.	[illegible]
99	Bhavesh G. Hadiya	"	[illegible]
100	Sheelendra Mungalia	Soil system & Event management	[illegible]
101	Akshar Brijwasi	"	[illegible]
102	[illegible]	"	[illegible]
103	[illegible]	"	[illegible]
104	[illegible]	GPCB Vapi	[illegible]
105	Vijeshkumar I. Patel.	V.N.S.S., PWD chairman	[illegible]
106	Sumit M Patel	ECO Chem, Surat	[illegible]
107	Unnati [illegible]	"	[illegible]
108	Amrut D Patel	Abhramer	[illegible]

ANNEXURE A

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GUJARAT POLLUTION CONTROL BOARD
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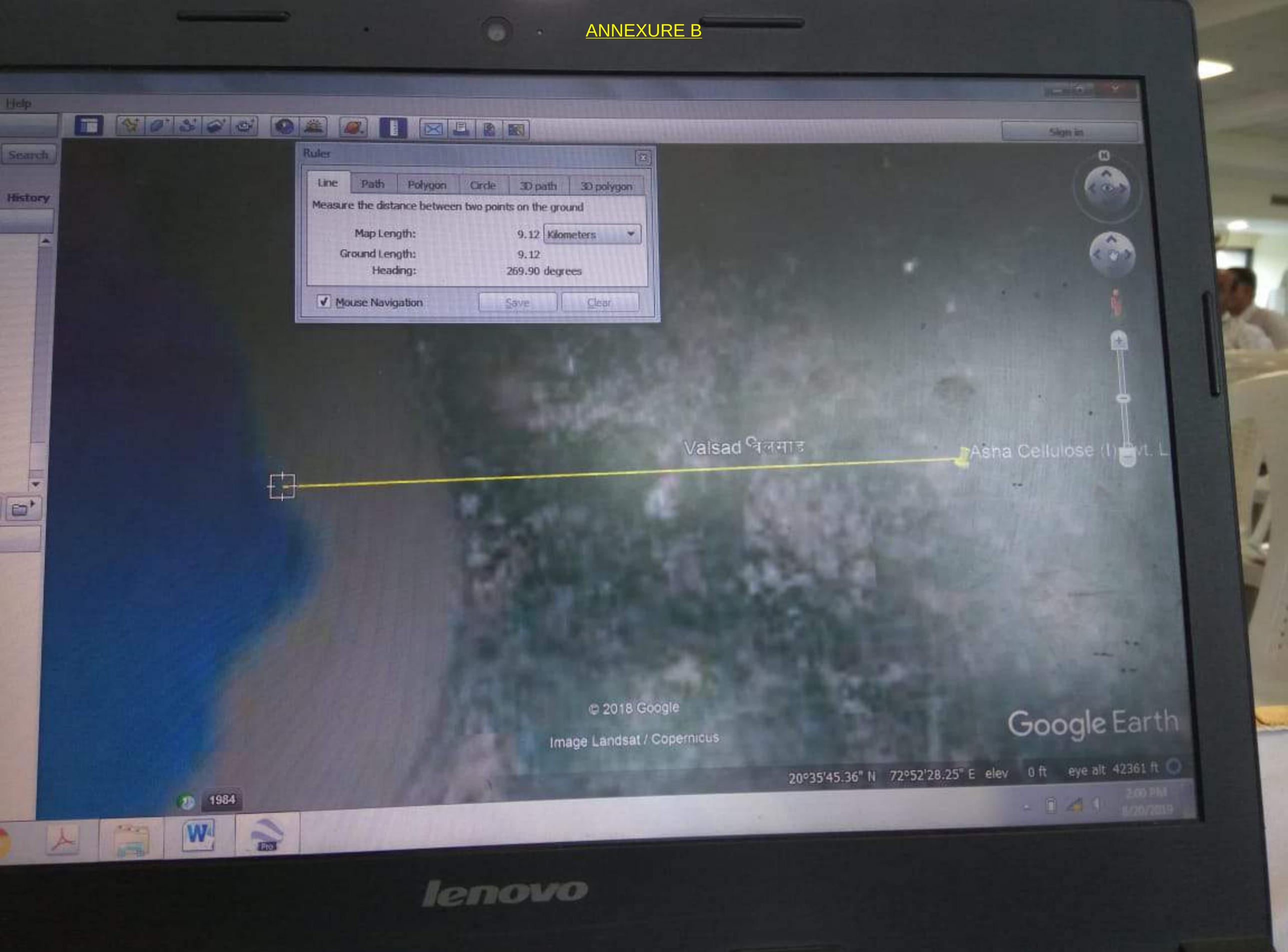
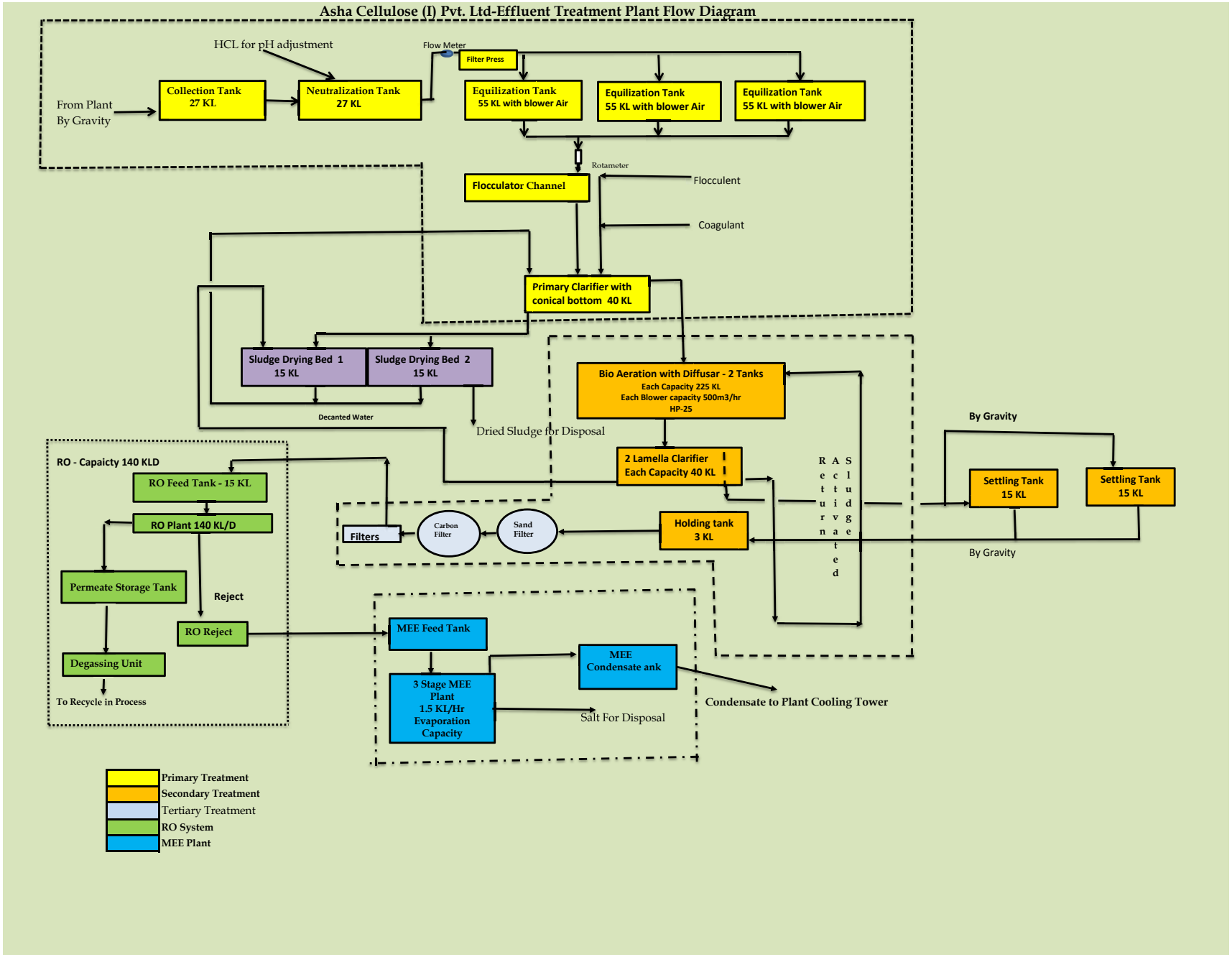
109	Tulsi Sambhedha	Atakpad	
110	Devang C. Patel	JUJva	
111	Vimal V. Patel	Gheradi	Patel VV
112	Dinesh .N. Ahiz	Kanjanhari	

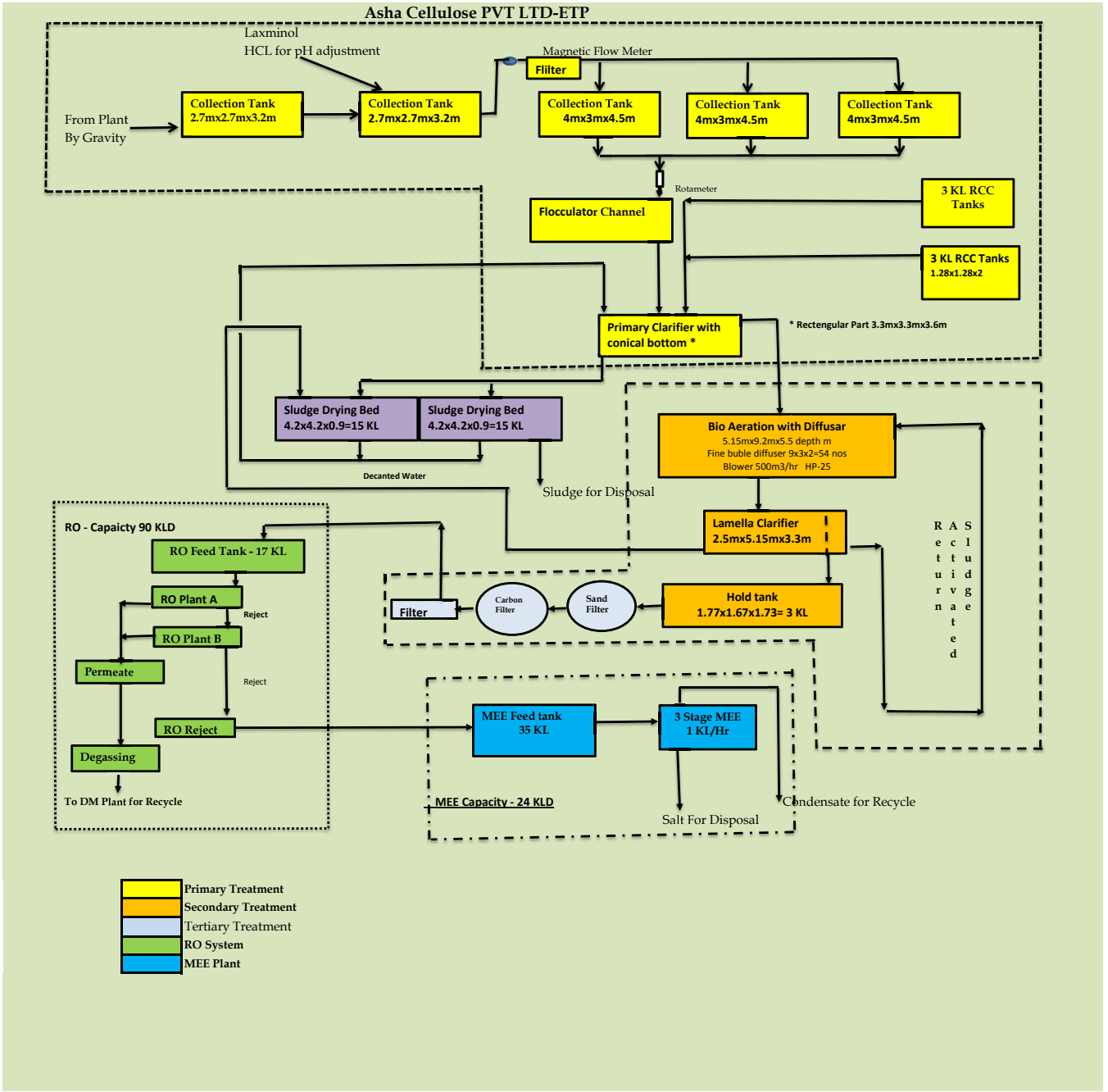
ANNEXURE B


Help
Search
History
Sign in
Ruler
Line
Path
Polygon
Circle
3D path
3D polygon
Measure the distance between two points on the ground
Map Length:
9.12
Kilometers
Ground Length:
9.12
Heading:
269.90 degrees
Mouse Navigation
Save
Clear
Valsad
Asha Cellulose
© 2018 Google
Image Landsat / Copernicus
Google Earth
20°35'45.36" N 72°52'28.25" E elev 0 ft eye alt 42361 ft
1984
lenovo

ANNEXURE V

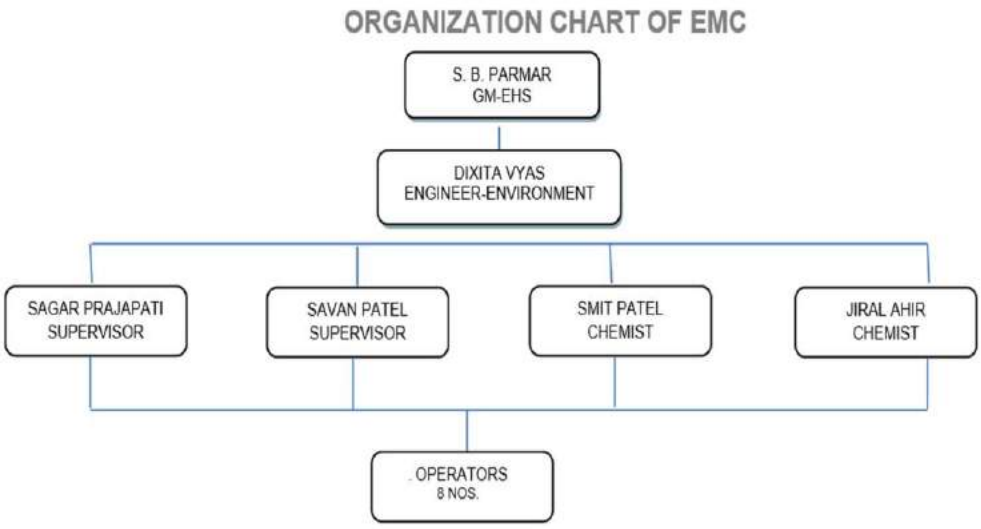

Asha Cellulose (I) Pvt. Ltd-Effluent Treatment Plant Flow Diagram
HCL for pH adjustment
Flow Meter
Filter Press
From Plant
By Gravity
Collection Tank
27 KL
Neutralization Tank
27 KL
Equilization Tank
55 KL with blower Air
Equilization Tank
55 KL with blower Air
Equilization Tank
55 KL with blower Air
Rotameter
Flocculator Channel
Flocculent
Coagulant
Primary Clarifier with
conical bottom 40 KL
Sludge Drying Bed 1
15 KL
Sludge Drying Bed 2
15 KL
Decanted Water
Dried Sludge for Disposal
Bio Aeration with Diffusar - 2 Tanks
Each Capacity 225 KL
Each Blower capacity 500m3/hr
HP-25
2 Lamella Clarifier
Each Capacity 40 KL
Return Activated Sludge
By Gravity
Settling Tank
15 KL
Settling Tank
15 KL
By Gravity
RO - Capaicty 140 KLD
RO Feed Tank - 15 KL
RO Plant 140 KL/D
Filters
Carbon
Filter
Sand
Filter
Holding tank
3 KL
Permeate Storage Tank
Reject
RO Reject
Degassing Unit
To Recycle in Process
MEE Feed Tank
MEE
Condensate ank
3 Stage MEE
Plant
1.5 KL/Hr
Evaporation
Capacity
Salt For Disposal
Condensate to Plant Cooling Tower
Primary Treatment
Secondary Treatment
Tertiary Treatment
RO System
MEE Plant

ANNEXURE V


Asha Cellulose PVT LTD-ETP
Laxminol
HCL for pH adjustment
Magnetic Flow Meter
Flilter
From Plant
By Gravity
Collection Tank
2.7mx2.7mx3.2m
Collection Tank
2.7mx2.7mx3.2m
Collection Tank
4mx3mx4.5m
Collection Tank
4mx3mx4.5m
Collection Tank
4mx3mx4.5m
Rotameter
Flocculator Channel
3 KL RCC
Tanks
3 KL RCC Tanks
1.28x1.28x2
Primary Clarifier with
conical bottom *
* Rectengular Part 3.3mx3.3mx3.6m
Sludge Drying Bed
4.2x4.2x0.9=15 KL
Sludge Drying Bed
4.2x4.2x0.9=15 KL
Decanted Water
Sludge for Disposal
Bio Aeration with Diffusar
5.15mx9.2mx5.5 depth m
Fine buble diffuser 9x3x2=54 nos
Blower 500m3/hr HP-25
Lamella Clarifier
2.5mx5.15mx3.3m
Return Activated Sludge
RO - Capaicty 90 KLD
RO Feed Tank - 17 KL
RO Plant A
Reject
RO Plant B
Permeate
Reject
RO Reject
Degassing
To DM Plant for Recycle
Filter
Carbon
Filter
Sand
Filter
Hold tank
1.77x1.67x1.73= 3 KL
MEE Feed tank
35 KL
3 Stage MEE
1 KL/Hr
MEE Capacity - 24 KLD
Salt For Disposal
Condensate for Recycle
Primary Treatment
Secondary Treatment
Tertiary Treatment
RO System
MEE Plant

ANNEXURE VI

ORGANIZATION CHART OF EMC



Educational qualification & experience details:

Name of Employees	Qualification	Experience
Mr. Suresh B. Parmar	Diploma Chemical & PDIS	40 Years
Mrs. Dixita Vyas	M.E Environmental	2 Years
Mr. Sagar Prajapati	B. E. Chemical	3 Years
Mr. Savan Patel	B. E. Chemical	5 Years
Mr. Smit Patel	B.Sc (Chemistry)	4 years
Mr. Jiral Ahir	B.Sc (Chemistry)	2 Years
Operators	SSC	More than 10 Years

ANNEXURE VI

We Chancellor, Vice Chancellor and Members of Board of Governors of

Gujarat Technological University

certify that

VYAS DIXITA KAUSHIKBHAI

enrollment No. 120190113008 *of*

GOVERNMENT ENGINEERING COLLEGE, VALSAD

has been examined for the degree of Bachelor of Engineering
and adjudged to have passed with
Cumulative Grade Point Average (C.G.P.A.) of 8.83
The degree of
Bachelor of Engineering

ENVIRONMENTAL ENGINEERING

has been conferred on him/her at Ahmedabad,
in the Republic of India
on nineteenth day of January two thousand seventeen
In testimony where of are set the seal of the University
and signature of the Chancellor.

5UN4J6WRDYXJ

1715656

Chancellor

ANNEXURE VI

The Chancellor, Vice Chancellor and Members of Board of Governors of

Gujarat Technological University

Certify that

VYAS DIXITA KAUSHIKBHAI

enrollment No. 160420717019 *of*

SARVAJANIK COLLEGE OF ENGINEERING & TECHNOLOGY, SURAT

has been examined for the degree of Master of Engineering

and adjudged to have passed in the

FIRST CLASS WITH DISTINCTION

Cumulative Performance Index (C.P.I.) of 9.52.

The degree of

Master of Engineering

ENVIRONMENTAL ENGINEERING

has been conferred on him / her at Ahmedabad,

in the Republic of India

on thirty first day of January two thousand nineteen

In testimony where of are set the seal of the University

and signature of the Chancellor.

3Fn0IFRg70Ah

Sr.No. 2019ME42459

42459

Chancellor