

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 106/2020

(With reports dated 26.10.2020 and 23.11.2020)

News item published in the local daily "Economic Times" dated 30.06.2020 titled "Another Gas Leakage at Vizag Factory kills two, critically injures four..."

Date of hearing: 17.12.2020

Date of uploading of order: 22.12.2020

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON  
HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER  
HON'BLE DR. SATYAWAN SINGH GARBYAL, EXPERT MEMBER  
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

**ORDER**

1. The issue for consideration is the remedial action on account of the incident of Benzimidazole gas leakage at Sainor Life Sciences factory at Parawada in industrial area, on the outskirts of Visakhapatnam on 30.06.2020, resulting in damage to the environment and human beings. The Tribunal initiated proceedings in light of media reports about the incident.

2. The matter was taken up on 06.07.2020, after service of advance notices to the Central Pollution Control Board (CPCB), State Pollution Control Board (State PCB), District Magistrate, Visakhapatnam and M/s. Sainor Life Sciences Pvt. Ltd., Visakhapatnam, Andhra Pradesh. The Tribunal considered the response of the State PCB filed on 04.07.2020 to the effect that the District Collector constituted a four-members Committee on 30.06.2020, comprising Revenue Divisional Officer, General Manager, District Industries Centre, Dy Chief Inspector of Factories and Environmental Engineer, APPCB and based on inspection conducted initiated action. The Tribunal also considered the response of the

industrial unit and the District Magistrate, Visakhapatnam. It was observed:-

**“5. It is clear from the above, the unit in question is dealing with Benzimidazole and Omerprazole Sulphide gases which are mentioned as hazardous chemicals in Schedule-I to the “Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989” (1989 Rules). Once it is so, there is statutory liability to prepare and execute on-site emergency plan under Rule 13(by the occupier), and off-site emergency plan (by the statutory authorities) under Rule 14. Consistent with such plan, mock drill is required to be conducted every six months and report given to the concerned authority. This aspect has not yet been looked into. On being asked, learned counsel have not been able to give any response. The authorities have also not gone into the issue of planning remedial measures to prevent such occurrence in future and assessing the compensation to be paid to the heirs of the deceased and to the injured and for restitution of the environment. Under the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996 (The 1996 Rules), Crisis Alert Systems are required to be established and made functional. The State Chief Inspector of Factories (CIFs) is to look into the safety issues under the Factories Act, 1948 and Petroleum and Explosives Safety Organization (PESO) is the nodal agency to approve the site of the industrial installation. We are of the view that these aspects need to be looked into.**

6. Dealing with another incident of leakage of hazardous gas at VIZAG on 07.05.2020, this Tribunal, vide order dated 01.06.2020 considered various aspects including the quantification of compensation to be paid, remedial measures to prevent recurrence in future and looking into the failure of the regulatory framework. The Tribunal also referred to need for revamping of regulatory mechanism in the light of finding in various cases recorded by this Tribunal to the effect that there was need to do so. The Tribunal inter-alia directed:

- “iii. Final quantification of compensation may be assessed by a Committee comprising representatives of MoEF&CC, CPCB and NEERI. The said Committee will be at liberty to associate/co-opt any other expert institution or individual. The Secretary, MoEF&CC may ensure constitution of such Committee within two weeks from today. The Committee may give its report within two months thereafter. MoEF&CC will be the nodal agency for the purpose.
- iv. The Chief Secretary, Andhra Pradesh may identify and take appropriate action against persons responsible for failure of law in permitting the Company to operate without statutory clearances within two months and give a report to this Tribunal
- v. In view of the stand of the State PCB and the Company that it will not recommence its operation without requisite statutory clearances, we direct that if any such statutory clearances are granted and the Company proposes to recommence, this aspect must be brought to the notice of this Tribunal so that compliance of law is ensured.

- vi. *The MoEF&CC may also constitute an Expert Committee to suggest ways and means to revamp monitoring mechanism to check and prevent violation of environmental norms and preventing any such recurrence in future in any of the establishments dealing with hazardous chemicals. A special drive may be initiated in this regard. An action taken report may be furnished within three months from today.*
- vii. *This order will not prejudice any criminal or other statutory proceedings in accordance with law.”*

**7. In the first case, while it is stated that compensation of Rs. 35 lakhs each has been given in respect of two deceased, no compensation has been paid to the injured already identified and noted above. Such compensation has to be paid by the Occupier company. We fix interim compensation to be Rs. 5 lakhs for each of the four injured. An amount of Rs. 20 lakhs be deposited with the District Magistrate, Visakhapatnam within two weeks from today failing which the amount be recovered by the District Magistrate using coercive means. The District Magistrate may disburse the amount directly to the injured by transfer to their bank account. In view of the report, there is failure of safety practice in running of the unit on account of which the State PCB withdrew the consent for operation of the industry and directed closure in the interest of public health and the environment.**

**8. We further direct constitution of a Committee comprising representatives of CPCB, State PCB, District Magistrate, Visakhapatnam, Prof. Ch V. Rama Chandra Murthy, Andhra University, Vizag and Prof. Pulipati King, Head of Chemical Engineering Department, Andhra University, Vizag to assess final compensation to the victims and for restoration of the environment and suggestions for precautions in future. The Committee may give its report within three months by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in) preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image/PDF. State PCB will be the nodal agency for compliance. The Committee may visit the site, consider the view point of management, workers or any other stakeholders. The Chief Secretary, Andhra Pradesh may identify and take appropriate action against persons responsible for failure in overseeing the execution of on-site and off-site emergency plans and holding of mock drills as per statutory requirement. MoEF&CC may look into this incident also while furnishing its report in OA 73/2020, In re: Gas Leak at LG Polymers Chemicals Plant in RR Venkatapuram Village, Visakhapatnam in Andhra Pradesh.”**

3. Accordingly, the Committee has furnished its report dated 26.10.2020. The Committee held meeting by Video Conference, inspected the site, interacted with unit officials, unit personnel who were present during the night of the accident and with officials working in neighbouring industries and also with a victim. **The Committee also looked into the**

**manufacturing process of the unit, sequence of events, causes of the accidents, effects of the gas released and extent of damage.**

4. We reproduce the important extracts from the report of the Committee:-

**“V About M/s Sainor Lifesciences Pvt Ltd, Visakhapatnam**

**V.a. General information:** M/s Sainor Life Sciences located in plot No. 59-E, in J N pharmacy, Parwada, Visakhapatnam is involved in the manufacture of intermediates and Active Pharmaceutical Ingredients mainly anti-ulcerative and anti-allergic drugs. The unit is spread in an area of 12000m<sup>2</sup>. The unit was established in 2010.

**The unit is having consent and Hazardous Waste authorization from APPCB valid upto 31.05.2021** with a maximum production capacity of 1266.67 Kg/day of any 7 products out of total 102 consented products. Manufacture of products involves different stages and after every stage of reaction mother liquor/ mixed liquor is generated which cannot be further used in the process and it is High TDS (HTDS) effluent and it is sent to Effluent treatment plant. After completion of the reaction, the contents are emptied from the reactor and then the reactors are cleaned with water and wash water is sent to ETP. The effluent so generated both HTDS and low TDS is collected in separate tanks and sent to Ramky Common effluent treatment plant for further treatment and disposal. During Covid-19 pandemic the unit was in operation as it was involved in the production of essential drugs. Unit has installed flow meter and camera for LTDS and HTDS streams. Copy of CFO is enclosed as **Annexure-II**. The unit has one 3TPH coal fired boiler and two DG sets of 320 KVA and 50 KVA. The hazardous waste generated from the unit is disposed in Ramky TSDF.

**V.b Process description:** The unit has a production block, administration block, solvent storage section and ETP. The production block has 28 reactors in first floor, driers & blender in 2<sup>nd</sup> floor and scrubber & cooling tower on terrace. The centrifuge is provided in ground floor. On the day of the accident the unit was involved in the manufacture of benzimidazole an intermediate of omeprazole. **The unit was initially procuring benzimidazole from other industries and later started manufacturing within the unit.**

**The manufacture of Benzimidazole involves four stages. In the stage-I, paraanisidine, acetic acid and water are processed. Stage-I output is taken to stage-II. Stage-I mother liquor contains acetic acid and is acidic in nature. Similarly stage-II output is taken to stage-III. During stage-III, sodium disulphide, carbon disulphide, ammonium sulphate & water are added to stage-II output and processed in the reactor. In Stage-IV, stage-III mixture is reacted with NaOH flakes and then filtered using activated carbon. After each stage of reaction, mother liquor is transferred to different reactor and the reaction mass is taken for next stage. The mother liquor (ML) so transferred is analysed and after ascertaining that recovery is not possible then ML is sent to ETP. On 29.06.2020, gas leak**

**occurred in the unit while transferring stage-III ML to reactor-107 containing stage-I ML.”**

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**“VI.b. Causes of Accident: The immediate trigger to the accident is operational negligence to transfer stage-III ML to reactor-107 which already contained stage-I ML directly by inserting a hose pipe without nipple arrangement. But the other causes responsible for the accident**

1. The normal procedure is, the ML's are stored in reactor, analysed whether recovery is possible or not, if recovery is possible then products are recovered or else ML's is sent to ETP. This entire exercise is completed within 24 hrs. But in this particular incident even after a lapse of around 50 hrs, though stage-I MLs were transferred to ETP but reactor was not fully emptied and cleaned. Shift-B chemist Sh. Simhachalam has informed ShiftC Incharge Sh. Narendra that almost all stage-I MLs is transferred to ETP and to arrange for cleaning of reactor-107. From the statement of Sh. Simhachalam, it is clear that there was only oral communication. Not complying with SOP's regarding cleaning of reactors and lack of systematic & organised communication in the unit.
2. In addition to oral communication, there needs to be system in place such as master control facility where the reactors that are empty, reactors that require cleaning, reaction taking place in reactor, whether safety norms are complied etc are all indicated. Compliance with standard operating procedures (SOP's), labelling of reactors on status of cleaning etc was absent. Through the master control facility, personnel working in process area can be instructed to carry out desired activities. This will minimize human intervention and inturn human error
3. It is a regular practice to transfer the ML's into reactors using nipple arrangement, to secure the openings and the gases whatsoever liberated during reaction will be released through the vent pipe and will be scrubbed off. When a hose pipe is directly inserted into the nozzle, gases liberated will come out through the side openings. On the day of the accident, H<sub>2</sub>S and CO released have come out through side openings and spread in first floor. If there was a nipple arrangement, the gases would have escaped through the vent pipe and then scrubbed off. This implies that either the unit is not having proper SOP's for transferring of ML's or the employees were not fully aware of the SOP's.
4. As a safety measure, all personnel working in first floor have to wear PPE's such as mask, safety glasses, boots, gloves. Cartridge masks and other PPE's are available in production department of the unit under the control of Shift Incharge which indicates that only whenever required the employees have to get the PPE issued by shift incharge. Emergencies are unexpected, hence the employees must ensure safety at all times. But Sh. Gowrishankar, Chemist and Sh. Narendra, Shift Incharge were not wearing masks and hence were exposed to high concentration of gas leading to death. The unit has to issue PPE's to all its employees and ensure that employees wearing PPE only enter process area/ production block.

5. *Gas sensors or alarm system to alert the personnel about gas leakage was not present in the first floor. It is suspected that CO and H<sub>2</sub>S were present in high concentration near the reactor vent (immediately at the time of reaction) due to which the employees fell unconscious within few minutes, but there were no gas sensors or alarm system in the unit to alert the presence of these gases.*
6. *Lack of training and poor emergency preparedness of the personnel*
7. *Recruitment of under qualified and less experienced personnel: There were total 27 persons working in the unit during the shift-C on 29.06.2020 out of which six persons were working or were near first floor when the accident occurred. Among these six persons, three were permanent employees and remaining three were contractual employees. Sh. Anand Babu and Sh. Chandra Sekar contractual helpers had joined to duty on the same day on 29.06.2020 and Sh. Janaki Ram, Chemist employed on contractual basis had completed only 12 days in the unit, these freshly employed persons were allowed by the unit to work in process area which is one of the most critical & sensitive area of the unit. This indicates the casual nature of the unit where persons without proper training and prior experience are employed & engaged for work in sensitive zones. Accidents are most unfortunate and unpredictable but as a precautionary measure it is essential to engage trained, experienced and qualified personnel in the production block.*
8. ***The accident occurred during manufacture of benzimidazole an intermediate of omeprazole. But the unit is consented to manufacture Omeprazole starting from 3,5,dimethoxy 4-Nitro Pyridine-N Oxide and from 5-methoxy-2-(5-methoxy-3,5-dimethyl-pyridine-2-ylmethylsulfanyl)-1H-Benzimidazole but the unit was involved in the manufacture of benzimidazole as against the consent.***
9. ***Operational Negligence, operator fault, Lack of standard operating procedure for transfer of material from one reactor to another and on cleaning of reactors, lack of awareness of personnel on SOP's, Non-compliance of safety practices by employees, Non-issuance of Personnel protective equipment by unit & non-usage of PPE by employees, no proper labelling on reactors regarding status of reactors, non-compliance of SOP's, absence of gas sensors & alarm system in first floor to detect gases & alert the personnel of possible leakages, engaging newly recruited contractual persons for work in process area, lack of training & emergency preparedness, lack of communication are all the causes of accident.***

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#### VI.c. Effects of gases released

Carbon monoxide (CO) is a colorless, odourless and tasteless gas and has higher affinity towards haemoglobin and myoglobin as compared to oxygen. When a person is exposed to carbon monoxide,

CO binds with haemoglobin reversibly to form carboxy-haemoglobin. At low concentrations, CO exposure may cause headache, dizziness, stomach upset, loss of consciousness. At high concentrations, it causes seizures, Coma and death. Carbon monoxide is an asphyxiant in humans. Inhalation of carbon monoxide causes tissue hypoxia by preventing the blood from carrying sufficient oxygen. CO has more affinity towards cardiac myoglobin causing myocardial depression/ myocardial pale, hypotension, serious tissue hypoxia and then death.

*Hydrogen Sulfide: Hydrogen sulfide is a colorless toxic gas and has pungent rotten egg smell. But in high concentrations > 100ppm, olfactory sense or sense of smell is lost. It is heavier than air and accumulates at lower elevation or bottom of poorly ventilated spaces.*

**In this incident, the committee suspects the presence of both hydrogen sulphide and carbon monoxide due to following reasons:**

1. Based on the chemical reactions involved, there is a possibility of a generation of both gases CO and H<sub>2</sub>S
2. During monitoring on 30.06.2020 by APPCB, H<sub>2</sub>S is detected during monitoring and also APPCB officials have smelled mild rotten egg smell in the ground floor below the staircase and in centrifuge area
3. The post-mortem examination reports of the deceased persons were compared with typical characteristics of death due to CO & H<sub>2</sub>S poisoning which confirmed that both these gases were released during the accident. One of the significant characteristics of CO poisoning that is witnessed during post-mortem examination is the blood accumulates in right side of the heart and left side of heart will be empty. The total quantity of gases released is less but since six employees were present near the point of generation of gas, it has effected them. Later the gases has spread & diluted. Since the quantity of gas released is less and it has diluted so other employees & neighbouring industries could not sense any smell or any discomfort is observed. Concentrations of H<sub>2</sub>S ≥500ppm and CO ≥600ppm causes sudden unconsciousness, coma followed by death. The committee cannot precisely confirm the concentration of the gases but opines that H<sub>2</sub>S may be present in concentration range of 150ppm to 500ppm and CO in the range of 500ppm to 1000ppm when the first operator.

Typical characteristics of death due to CO	PME of Late Sh. Gowri Shankar, 26 yrs	PME of Late Sh. Narendra	Typical characteristics of death due to H <sub>2</sub> S	PME of Late Sh. Gowri Shankar	PME of Late Sh. R. Narendra-33 yrs
Cherry pink appearance of skin	No	No	Cyanosis	Yes. Bluish color of nails & lips	Yes
Left side of heart is empty	-	Yes. Left ventricle empty	Rotten egg Smell	Unpleasant chemical smell	Yes. Mild unpleasant chemical smell

Myocardial infarction	-	Yes, myocardial pale	Petichiae, congestion, oedema	-	Petichiae on surface of lungs, congestion and oedema
Foam or froth Caused due to oxygen Deprivation	Froth in nostrils. Red color froth noted in bronchi	Frothing in Nostrils and Trachea and bronchi	Foam or froth caused due to oxygen deprivation	Froth in nostrils. Red color froth noted in bronchi	Frothing in nostrils and trachea and bronchi
Congestion of Organs	Yes	Yes	Congestion of organs	Yes	Yes
Dark red color of blood/ organs	-	Yes			
Edema	-	Yes			

Symptoms of exposure to CO	Symptoms in four exposed persons	Symptoms of exposure to H <sub>2</sub> S	Symptoms in four exposed persons
Tachycardia, sweats, abdominal pain, seizures, high blood sugar, headache, vomiting, unconsciousness	Abdominal pain, excessive sweating, palpitations, Breathlessness. SOB, unconsciousness, vomiting, headache observed in four Exposed persons. High blood sugar observed in Sh. Suryanarayana.	Rapid breathing	Yes. All four taken to hospitals have complained about breathlessness

The binding of carbon monoxide with haemoglobin and myoglobin is a reversible reaction and in oxygen rich atmosphere or by artificially administering 100% oxygen, oxygenation of tissues can be restored. But however if any serious damage has occurred due to either CO or H<sub>2</sub>S poisoning restoration may be difficult or even impossible.

**VI.d. Who is responsible for accident:** It is the primary responsibility of the unit to recruit qualified and competent staff, to provide PPE's to employees and ensure that the PPE's are easily accessible, to provide safe working environment to employees, to prepare standard operating procedure for all industrial activities and ensure that employees are trained as per SOP's, to install gas sensors and alarm system to detect any gas leakage & and to alert the employees and to provide safe working conditions to its employers. Equal responsibility also lies with employees to comply with standard operating procedures stipulated by the unit, careful attitude & dedication towards work, proper communication, to wear PPE's. It is the responsibility of the unit to comply with all statutory, regulatory, safety clearances stipulated by various concerned departments. **In**



**this particular incident the committee observed that the unit M/s Sainor Life Sciences Ltd and its employees, both are responsible for the accident.**

## **VII Damage Assessment and Calculation of Compensation**

The accident of H<sub>2</sub>S and CO gas release occurred at M/s Sainor Life Sciences Ltd and it was most unfortunate but fortunately the gas was confined only to production block of the unit. The gases H<sub>2</sub>S and CO released from reactor 107 spread out and got diluted and did not cause any harm outside the unit. The damages that occurred due to accident are as follows:

**VII.a. Loss of life and status of award of compensation:** 27 persons were present in the unit at the time of accident. Six persons were exposed to gases in the first floor (production block) out of which two persons died in the accident spot and four employees survived.

**VII.a.i** Late Sh. Ravi Narendra Shift Incharge aged 33 years collapsed in the unit. Sh. K. Srinivas Rao aged 33 years collapsed in the unit on exposure to gas while trying to shift Sh. Gowrishankar. The shift incharge turned off the pump and stopped the transfer of stage-III ML's which prevented the severity of mishap. As per the post-mortem examination, edema, myocardial pale, smell in the lungs, frothing in nostrils are observed, all of which confirm the fact that the death is caused due to gas exposure in the unit and is liable to be compensated. The unit has deposited the employer share of Rs.35.00 lakhs per deceased person with the District Magistrate of Visakhapatnam same is disbursed to the dependents of the deceased.

**VII.a.ii** Late Sh. Gowri Shankar, Chemist aged 27 years- Deceased

Sh. Gowri Shankar collapsed in the unit on exposure to gas. As per the post-mortem examination report smell on incision of lungs, frothing in bronchi confirms that death is due to accident and is liable to be compensated. The unit has deposited the employer share of Rs.35.00 lakhs per deceased person with the District Magistrate of Visakhapatnam same is disbursed to the dependents of the deceased.

To ascertain the adequacy of compensation, the committee has calculated compensation by two methods: 1. As per the Judgement dated 16th August 2019 of Hon'ble Supreme Court of India in civil appeal No. 6339 of 2019 and judgement in the matter of Sunita Tokas vs New Inda Insurance Co. Ltd. & civil appeal No.3483 of 2008 and as per Employee Compensation Act, 1923 and the highest among two is taken to determine whether compensation of Rs.50.00 lacs paid to the dependents of the deceased is adequate or not and assessment of calculation is explained in table 1 and table 2. The compensation fixed by the State of A.P is Rs. 35,00,000/- by the employer and Rs. 15,00,000/- by the State Government. Based on Hon'ble Supreme Court of India in civil appeal No. 6339 of 2019 & civil appeal No.3483 of 2008 and as per Employees Compensation Act, 1923 the compensation amount of Rs.50.00 lacs/per person fixed by the **State of A.P is adequate**. The unit has deposited the employer share of Rs.35.00 lakhs per deceased person with the District Magistrate of Visakhapatnam same is disbursed to the dependents of the deceased.

**Table 1:** Assessment of compensation

Name of the deceased	<b>A*</b> Amount of compensation in INR as per Hon'ble Supreme Court Judgement in civil appeal No. 6339 of 2019 and civil appeal No.3483 of 2008	OR Whichever is more is considered by the committee to ascertain the adequacy of compensation	<b>B</b> As per Employee Compensation Act, 1923
Late Sh. Ravi Narendra Shift Incharge aged 33 years	Rs. 27,19,200/-		Compensation= fifty percent of the monthly wages of the deceased x relevant factor = Rs. 7500/- x 203.85 & = Rs. 15,28,875/-
Late Sh. Gowri Shankar, Chemist aged 27 years	Rs. 28,70,400/-		Compensation= fifty percent of the monthly wages of the deceased x relevant factor = Rs. 7500/- x 215.28 & = Rs. 16,14,600/-

\* A-) calculation is explained in table-2.

&-) As per EC Act, 1923 the Central Government has specified has specified Rs.15,000/- as monthly wages with effect from 03.01.2020. The relevant factor as per EC Act, 1923 is (the completed years of age on the last birthday of the workman immediately preceding the date on which the compensation fell due).

**Table 2:** A- Amount of compensation in INR as per Hon'ble Supreme Court Judgment in civil appeal No. 6339 of 2019 and civil appeal No.3483 of 2008

Name	DOB & Age at the time of death	Qualification & Designation	Salary per month for permanent employee	Future prospects (40% of the income)	less tax if any as per the prevailing tax slabs	Salary after deducting tax	Deduction towards personal expenses	Loss of monthly income to the dependents	Annual income	loss of future income	Expenses for shifting mortal remains and Loss of estate & funeral expenses(a pp. cost)	Loss of Love and affection	Hon'ble Supreme Court Judgement in civil appeal No. 6339 of 2019 and civil appeal No.3483 of 2008 Compensation	As per Employee compensation Act
			A	B	C	D	E <sup>T</sup> =50 % of D	F=D- E	G=F *12	H <sup>#</sup> = G* M	I	J&	L=(F*G*H)+ I+J	
Late Sh. Ravi Narendra Shift Incharge	33	M.Sc Chemistry	18000	7200		25200	12600	12600	151200	241920	100000	200000	2719200	1528875
Late Sh. Gowri Shankar, Chemist	27	B.Sc Chemistry	18000	7200		25200	12600	12600	151200	257040	100000	200000	2870400	1614600

T Deduction towards personal expenses varies @50% for age of the deceased 20yrs to 50yrs

# Depending on the age, the factor is fixed. 16 for age group 31-35 years and 17 for age group 26 to 30 years

& The committee fixed the amount as Rs.2,00,000/- for loss of love and affection

@ The committee fixed the amount as Rs.1,00,000/- for loss of estate, funeral expenses and for shifting mortal remains

***VII.a.iii Sh. Meesala Appala Suryanarayana, Sh. Duggu Janakiram, Sh. Pothala Anand Babu and Sh. Lingudu Veera Chandra Sekar These four employees were exposed to gas and fell unconscious. The unit has taken responsibility towards treatment of the injured employees. During the hospital stay, the injured people have developed symptoms like breathlessness, abdominal pain, vomiting, sob (mild seizures), headache, rapid breathing and tachycardia. Three injured employees namely Sh. Appala Suryanarayana, Sh. Duggu Janakiram and Sh. Pothala Anand Babu were discharged from RK hospital on July 3, 2020 and Sh. Chandra Sekar on July 6, 2020 from Care hospital in stable condition. Though no external physical injury or damage was seen but exposure to high concentration of gas has caused short-term effects and may also cause long-term impacts. There may be permanent damage to certain tissues which may manifest at later stages but however the committee can't comment with certainty on the likely future impacts on the employees exposed to gas. The committee interacted with Sh. Anand Babu personally on 14.08.2020. Remaining three were interacted over telephone on 11.09.2020 and during the telephonic conversation, all four have informed that they have not yet completely recovered and they feel tired, weak and breathlessness while climbing stairs and performing heavy work. The unit has borne their medical expenditure and granted them paid leave till July 30, 2020 for recovery. The unit has not informed the committee on status of salary for the months of August & September. If the employees are in stable condition and if they are willing to continue their work in the unit, then unit may consider their willingness and may re-instate them. As per Employers Compensation Act, 1923, the injured employers are liable to be compensated if the accident causes partial disablement (temporary/ permanent) and this partial disablement reduces the earning capacity of an employee in any employment in which he was engaged at the time of accident. Loss of earning capacity in relation to injuries suffered and disablement caused by the accident has to be assessed by qualified medical practitioner. Hence, the health condition of the injured employees and assessment of temporary or permanent disablement or no damage in accordance with Employers Compensation Act, 1923 shall be done by a qualified medical practitioner and the expenditure incurred towards this assessment shall be borne by the unit. Based on the assessment and recommendations of qualified medical practitioner (preferable appointed by the District Collector), whether the employers are liable for compensation and the amount of compensation can be decided by District Magistrate.***

***In addition to above, the unit shall tie-up with a hospital (identified by APPCB) and the health profile of employees exposed to gas shall be monitored for a minimum period of two years (once in six months health check-up). During the period***

**of the monitoring, if the hospitals observe variations in the health profile and if the doctors are able to establish that it is due to accident then the unit shall undertake responsibility for their treatment in accordance with Employers Compensation act, 1923. The expenditure incurred towards testing and monitoring shall be completely borne by the unit. The employees must also support for the health check-up but if the employees fully deny for health check-up then such employees may be left out from check-up. The six-monthly health reports of employees shall be submitted to district administration and APPCB. Further the health profile of the employees may be reviewed annually by a qualified medical practitioner. In addition, the unit shall carry out annual health-check-up of all its employees to assess for any diseases due to occupational exposure. The unit shall practice job rotation in accordance with Occupational Safety and Health Administration's guidelines to minimise employee exposure. It was brought to the notice of the committee that the unit has not deposited Rs. 20.0 Lakhs with District Magistrate, Visakhapatnam towards interim compensation to the 4 injured as directed by Hon'ble NGT.**

**VII.b. Contribution of Emissions into the atmosphere:** Though the gases CO & H<sub>2</sub>S released during accident are confined to the production block but later spread into atmosphere.

Total quantity of H <sub>2</sub> S & CO likely released	=	0.053Kg present in dissolved form in 30 L	+	1.088Kg of H <sub>2</sub> S from reaction+ 0.4892 Kg of CO	
	=	<b>1.141 Kgs of H<sub>2</sub>S gas is released</b>			
	=	<b>0.4892 Kg of CO gas is released</b>			

European Union has published Handbook of Environmental Prices EU28 version where in prices are expressed in Euros per kilogram pollutant emitted into the environment. The committee has used the document as reference to calculate the prices of the pollutants emitted into environment. The document indicates three types of pricing lower, central and upper depending quantity of emissions. **The committee has used higher limit because though the total quantity of gases emitted is less but acute exposure resulted in two casualties. In the document, environmental prices for H<sub>2</sub>S is not assigned, when released into the environment, hydrogen sulfide dissipates into the air and it may form sulfur dioxide and sulfuric acid. Hence the committee has used the environmental prices assigned to SO<sub>2</sub> for calculating damage due to H<sub>2</sub>S. H<sub>2</sub>S gas is having rotten egg smell and is respiratory and throat irritant. The environmental price of CO is 0.152 €2015/Kg emission and H<sub>2</sub>S/ SO<sub>2</sub> is 38.7 €2015/Kg emission (which is used by committee for pricing of H<sub>2</sub>S).**

Environmental	=	1.141 Kg of H <sub>2</sub> S	x	+	0.4892 Kgs of CO	x
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Compensation for emissions contributed		Environmental price of H <sub>2</sub> S		Environmental price of CO
	=	1.141Kg of H <sub>2</sub> S x 38.7 €/Kg (1€= 71.2 in 2015)+(3.34*71.2/100)		0.4892Kgs *0.152 €/kg * (1€= 71.2 in 2015)+(3.34*71.2/100)
	=	3146	+	8INR
	=	Rs. 3154		

\* 1€ conversion = Euro to INR conversion during 2015 + inflation rate from 2015 to 2020  
= (1€= 71.2 in 2015)+(3.34\*71.2/100)

Officials from APPCB, regional office Visakhapatnam tirelessly worked in the accident site on from early hours of 30.06.2020 till conditions were normal. APPCB have monitored H<sub>2</sub>S in the unit premises and monitoring results are as follows:

**Monitoring conducted by : Zonal Laboratory, APPCB, Visakhapatnam**

Sl. No.	Location		H <sub>2</sub> S (ppm)				
			TIME				
			07:00 AM	08:00 AM	09:00 AM	10:00 AM	11:00 AM
1	Production Block	Near centrifuge in ground floor	16.9	13.0	12.2	5.5	3.5
		Near reactor in first floor	6.9	5.1	2.7	0.8	1.0
2	Outside the production block		0.2	0.3	0.2	BDL	0.1
3	Industry main gate		BDL	BDL	BDL	BDL	BDL
4	Outside the industry premises		BDL	BDL	BDL	BDL	BDL

S. No.	Location		TVOC (ppm)				
			TIME				
			07.00 AM	08.00 AM	09.00 AM	10.00 AM	11.00 AM
1.	Production Block	Near centrifuge in ground floor	10.2	8.4	7.3	3.8	2.4
		Near reactor in first floor	4.3	2.9	1.8	0.4	0.6
2.	Outside the production block		0.1	0.1	0.1	BLD	0.1
3	Industry Main Gate		BLD	BLD	BLD	BLD	BLD
4.	Outside the Industry premises		BLD	BLD	BLD	BLD	BLD

**VII.c. Environmental Compensation on account of non-compliances:**  
 From the available records, it is observed that the unit has manufactured Benzimidazole an intermediate of omeprazole since April, 2020. **The unit is not consented to manufacture benzimidazole hence the committee has calculated EC as per CPCB formula:**

$$EC=PI \times N \times R \times S \times LF$$

Where,

EC = Environmental Compensation in INR

PI = Pollution Index of industrial sector (red-80)

N = Number of days of violation took place (start of unit operation to date of accident)

R = A factor in Rupees for EC (Rs. 250/- may be assumed)

S = Factor for scale of operation (medium-1)

LF = Location factor (present in vizag population is more than 10 lakh=2)

i. Pollution Index of industrial sector (PI): Andhra Pradesh Pollution Control Board has categorized this industry into red category of industries and accordingly the Combined consent & Authorisation have been granted. For red category of industries, average pollution index is 80.

ii. Number of days of violation (N): The number of days for which violation took place is considered as the period between the day of violation observed and day of compliance verified by the CPCB/ APPCB. From the available records, it is observed that unit has violated consent conditions and manufactured benzimidazole from 01.01.2020. Based on the criteria, 180 days (from 01-01-2020 to 29-06-2020 including both the days) is considered for calculation of period of violation for estimating EC.

iii. Scale of operation (S): The industry is considered as medium as per the capital investment by the industry is around Rupees Seven crores. Thus, scale of operation (S) for EC estimation is considered as 1.

iv. Location factor (LF): The industry is located in Ramky pharmancity and the total population within municipal boundary and up to 10 km distance from the municipal boundary of the city is 10 million and above. Thus location factor (LF) is considered as 2 for EC estimation

v. Factor in Rupees (R) (Rs):As per the environmental compensation estimation guidelines, factor of rupees may be minimum of Rs 100/- and maximum of Rs 500/-. The factor of rupees is considered as Rs. 250/- for estimating environmental compensation for this industry, considering its pollution potential.

S.N	Period of non-compliance	PI	S	LF	R (Rs)	N (days)	Environmental compensation (Rs)

1	01.05.2020 to 29.06.2020	80	1	2	250/-	60	24,00,000/-
	Total EC for violating					60	24,00,000/-
Rupees Twenty four lakhs only							

**VII.d. Total Compensation M/s Sainor Life Sciences Ltd is liable to Pay**

- Compensation to the deceased persons-) Rs.70,00,000/-
- Environmental Compensation on account of contribution of emissions into environment-)Rs. Rs. 3154/-
- Environmental Compensation for operating the unit violating SOP's-) Rs 24,00,000/-

**The unit has paid the compensation of Rs.35.00 lakhs each to the dependents of the deceased and disbursed through the District Magistrate. M/s Sainor LifeSciences Ltd shall pay the Environmental compensation of. 24,03,155/- (Rupees Twenty four lakhs three thousand one hundred and fifty four only) and same shall be deposited with APPCB.**

**VII.e. Action Taken by APPCB:** After the accident, APPCB issued "Closure order" to the unit, copy placed as **Annexure-III** and Deputy Chief Inspector of Factories, Visakhapatnam issued prohibitory orders and copy placed as **Annexure-IV** The unit had 28 reactors and at the time of accident, reactions were taking place in 10 reactors. The industry requested APPCB for allowing to process the held up batches in the reactors to bring them to safe mode. The Deputy Chief Inspector of Factories vide order dt.13.07.2020 accorded permission to the industry for safe shutdown. APPCB also issued temporary revocation of closure order vide order dt. 31.07.2020 for a period of 48 hours to process the held up batches in the reactors for safe shutdown. The power supply was restored to the unit on 03.08.2020 for carrying out operations for two days and the power supply was disconnected to the unit on 05.08.2020 after safe shutdown. **The industry is under closure only.** On the day of inspection, the committee observed electricity connection was not given to unit. The unit was granted permission for safe shutdown during which period, few reactions were completed and reactors were cleaned but few reactions were brought to a safe mode and reaction mixture was still present in the reactors. The effluent so generated was sent to Ramky CETP. Reactor 107 from the gas leakage occurred is not cleaned. The committee was informed that the unit was instructed not to perform any actions, clean-up in reactor 107. Hence, the hosepipe inserted into nozzle of reactor is also not removed. During the committee visit, VOC's were monitored and values ranged from 11ppm to 1182ppm at the mouth of the reactor. Though the committee gave oral instructions to the unit to clean the reactor but since there was no electricity connection, they could not perform any action.



**The committee suggests that APPCB and Chief Inspector of Factories shall verify the compliance of the unit, safety of installations and after ensuring compliance by the regulatory authorities, electricity connection may be resumed to the unit and unit may be permitted for operation. Reactor 107 shall be cleaned by the unit under the supervision of APPCB, Inspector of Factories and representatives of District Magistrate. The contents of the reactor-107 shall be safely disposed to Ramky CETP (HTDS effluent) after which the reactor will be cleaned and wash water will also be sent to CETP. The personnel involved in clean-up shall wear PPE's. The unit shall take all safety measures during cleaning of reactor. The unit shall submit a report to District Magistrate, Vizag, APPCB and committee on the quantity of contents transferred to CETP and nature of the contents by analysing the same. The reactors containing reaction mixtures shall be processed and further storage in reactor is not suggested by the committee.**

*There is no other physical damage or damage to properties / vegetation. Hence other than cleaning of reactor, the committee does not suggest any restoration measure but however from safety point of view the committee recommends the unit to increase the vegetation cover in the unit.*

#### **VIII View Points of Stakeholders and neighbouring industries**

*The committee interacted with industry personnel, injured employees and representatives from the surrounding industries who were present in their respective industry at the time of accident at M/s Sainor Life Sciences Ltd.*

##### **VIII.a. Sh. S.V. Srinivasa Rao, Managing Director, M/s Sainor Life Sciences Ltd.,**

*The MD of the unit informed to the committee that the accident occurred due to negligence of the Shift Incharge Late Sh. Narendra and Chemist Late Sh. Gowri Shankar. The committee was informed that Late Sh. Narendra, Shift Incharge was given three trainings on benzimidazole product process but he failed to guide his subordinates during the time. The MD informed that the three main causes for accident are:*

- i. Shift Incharge Late Sh. Narendra failed to arrange for cleaning of reactor-107 inspite of receiving information from previous shift chemist that the reactor is not cleaned.*
- ii. Chemist Late Sh. Gowrishankar failed to comply with SOP's and inserted the hose pipe directly into reactor without nipple arrangement which caused the gases to leak.*
- iii. PPE's are given to all employees but the employees are not wearing it.*

##### **VIII.b Employees present during the accident**

The committee interacted with around 15 employees (excluding injured persons) present in shift-C on 29.06.2020. But these employees are not aware of how accident happened but they helped in shifting the injured persons to hospital. They have not witnessed smell or any other symptoms.

VIII.c M/s Synergene Active Ingredients Pvt. Ltd.,

M/s Synergene industry is located adjacent to M/s Sainor life sciences on west direction and on early hours of 30.06.2020 the security guard of M/s Synergene informed to Asst. Manager Production that gas leakage took place in Sainor. Immediately, all persons working in night shift in Synergene were alerted. The employees from Synergene have informed that they have not sensed any pungent smell or uncomfort breathing.

VIII.d. M/s Metrochem API Pvt. Ltd.,

M/s Metrochem is located adjacent to Sainor. The security guard from Metrochem on 30.06.2020 around 4:00 AM informed to the Safety division about gas leakage. Then the Safety division has alerted all its employees and also went to M/s Sainor and asked them whether they need any help for which M/s Sainor management has informed that Government officials have visited the spot and have taken complete control over the premises. The employees of Metrochem during their visit to the unit or while working have not observed any pungent smell or breathing discomfort.

VIII.e. M/s Jahanavi Life Sciences Pvt. Ltd.,

The employees of M/s Jahnavi Life Sciences came to know about accident on 30.06.2020 around 3:30 AM and they became alert but they have not observed any smell or breathing issues.

**IX Suggested remedies to avert such accidents in future:**

The committee suggests following remedial measures

- 1. The units shall manufacture only those products specified in the Consent. If the unit intends to manufacture any additional products or intermediates, then same shall be submitted to SPCB's for including in the consent. The SPCB's after inspection, verification and assessment of pollution load shall take a decision for including in consent.**
2. To prepare standard operating procedure for all consented products and to impart training to all employees on SOP's, production process, safety aspects. The employees shall be given hands on experience with the production process under the supervision of senior 30 employees. The units only after ensuring that adequate training is imparted to its employees will engage the employees for independent works. Overall the industries should be prepared for emergency response readiness & effectiveness in terms of major accidents.

3. **To conduct mockdrills to the employees in controlled environment on actions to be taken during failures, gas leakage etc.**
4. **To install suitable gas sensors and alarm system in the unit at appropriate locations where emission of gas is suspected so that any gas leaked is detected and the employees are immediately alerted. In sensitive areas of the unit where gas leakages are suspected, the unit shall work out an emergency prepared plan to vent out the gases safely.**
5. The flow meters, sensors, measuring devices have to be regularly calibrated.
6. The unit shall issue essential Personnel protective equipment like nose mask, Helmets, Safety Shoes, Safety Glasses, Acid-Alkali Proof Gloves to all its employees and make it mandatory that the employees have to wear PPE's during working hours.
7. The unit shall ensure that the pipes, nipples, pumps, nozzles, screws, nuts, bolts, safety devices etc required for transferring of reagents, raw materials, mother liquors, reaction mixture or during emergency shall be easily assessable.
8. **The unit shall recruit qualified and experienced staff especially for working in sensitive areas like production block**
9. MSDS of raw materials, intermediates, products, suspected gases shall be made available in the unit at easily accessible points.
10. In addition to oral communication, the unit shall establish written communication or system through which the process details, reactor details and other essential details are communicated. The reactors shall be properly labelled indicating the crucial details such as status of reaction, product being manufactured etc. Since the unit is operating in different shifts, proper labelling and written communication will avoid confusion. During shift change, the shift incharges of closing shift shall record the essential details in a register or on reactor labels etc and upcoming shift incharge will read it and acknowledge it by signing to avoid confusion during shift change.
11. The unit shall practice job-rotation in accordance with Occupational Safety and Health Administration's guidelines to minimise employee exposure
12. The unit will carry out health checkup of all employees once in a period of 6 months, to ascertain the health status of all the employees in respect of occupational health hazards to which they are exposed.

**X Concluding remarks:**

1. The immediate trigger to the accident is transfer of stage-III ML to reactor-107 which already contained stage-I ML directly by inserting a hose pipe without nipple arrangement.
2. **Operational Negligence, Operator fault, Lack of standard operating procedure for transfer of material from one reactor to another and on cleaning of reactors, lack of awareness of personnel on SOP's, non-compliance of SOP's by employees, Non-compliance of**

**safety practices by employees, Non-issuance of Personnel protective equipment by unit & non-usage of PPE by employees, no proper labelling on reactors regarding status of reactors, absence of gas sensors & alarm system in process area to detect gases & alert the personnel of possible leakages, engaging newly recruited contractual persons for work in process area, lack of training & emergency preparedness, lack of systematic and organised mode of communication in the unit are all the causes of accident.**

3. Both the unit M/s Sainor Life Sciences Ltd and its employees are responsible for the accident.
4. The compensation amount of Rs. 50.00 lacs per deceased (Rs. 35.00 lacs to be paid by unit and Rs.15.00 lacs by State of A.P) fixed by state of A.P is found adequate as per Hon'ble Supreme Court of India in civil appeal No. 6339 of 2019 & civil appeal No.3483 of 2008 and as per Employees Compensation Act, 1923. The unit has paid the employer share of compensation of Rs.35.00 lakhs each to the dependents of the deceased and disbursed through the District Magistrate.
5. **M/s Sainor Life Sciences Ltd., shall pay the Environmental compensation towards environmental damages and for violation of Consent conditions issued by APPCB of Rs.24,03,154/- (Rupees Twenty four lakhs three thousand one hundred and fifty four only) and same shall be paid to APPCB.**
6. The health condition of the four employees who were exposed to gas shall be assessed by a qualified medical practitioner identified by District Magistrate and the expenditure incurred towards this assessment shall be borne by the unit. **Based on the assessment and recommendations of qualified medical practitioner, whether the employers are liable for compensation and the amount of compensation can be decided by District Magistrate.**
7. **In addition to above, the unit shall tie-up with a hospital (identified by APPCB) and the health profile of four employees exposed to gas shall be monitored for a minimum period of two years (once in six months health check-up). During the period of the monitoring, if the hospitals observe variations in the health profile and if the doctors are able to establish that it is due to accident then the unit shall compensate the employees in accordance with Employees Compensation Act, 1923. The expenditure incurred towards health profile monitoring shall be completely borne by the unit. The employees must also co-operate for the health check-up but if the employees fully deny for health check-up then such employees may be left out from health profile monitoring and compensation.**
8. **The committee suggests that APPCB and Chief Inspector of Factories shall verify the compliance of the unit, safety of installations and after ensuring compliance by the regulatory authorities, electricity connection may be resumed to the unit and unit may be permitted for operation. Reactor 107 shall be cleaned by the unit under the supervision of APPCB, Inspector of Factories**

**and representatives of District Magistrate. The contents of the reactor-107 shall be safely disposed to Ramky CETP (HTDS effluent) after which the reactor will be cleaned and wash water will also be sent to CETP. The personnel involved in clean-up shall wear PPE's. The unit shall take all safety measures during cleaning of reactor. The unit shall submit a report to District Magistrate, Vizag and APPCB on the quantity of contents transferred to CETP and nature of the contents by analysing the same. The reactors containing reaction mixtures shall be processed. Long-term storage in reactor is not suggested by the committee. After ensuring compliance and safety of installations, APPCB and Chief Inspector of Factories may permit the unit for normal operation.**

9. *The total quantity of gases released is less but since six employees were present close to the point of generation of gas, it has affected them. Later the gases has spread & diluted. Since the quantity of gas released is less and it has diluted so other employees & neighbouring industries could not sense any smell or face health effects. The effects of emissions was confined to first floor of production block only. There is no other physical damage or damage to properties / vegetation. Hence other than cleaning of reactor, the committee does not suggest any restoration measure but however from safety point of view the committee recommends the unit to increase the vegetation cover in the unit.*
10. *The committee humbly submits that the action taken against the industry and levying of EC from the unit will strengthen "Polluter Pay Principle" and will also be a lesson to other industries that they have to ensure self-monitoring, self-compliance and comply with statutory guidelines, safety measures, and directions issued by MOEFCC, CPCB, APPCB, Directorate of Factories and other Regulatory Authorities.*
11. *The Regulatory Authorities shall take immediate action against erring industries as per prevailing Rules. In addition the Regulatory Authorities shall sensitize the industries about safety norms, industrial best practices, industry specific emission & effluent standards etc.*
12. *The committee humbly submits that the industries have to ensure self-compliance and the industry and its personnel are solely responsible for this negligent act which resulted in the accident. The committee humbly submits that the regulatory authorities can not involve & check on the day to day activities of the industries. It shall be the primary responsibility of the industries to ensure compliance. Self-monitoring and Self Compliance shall be enforced by all the industries. The Regulatory Authorities shall exercise periodic check & review of the industries as per the mandate. The sole responsibility of recruiting competent staff, imparting Industrial, Environmental and Safety training to the staff, obtaining necessary clearances, NOC's from various departments lies with the industry. The committee humble submits to Hon'ble NGT that it should uphold the principle of "Polluter Pay Principle". This will lay the foundation for the industries to exercise "Self-Compliance".*

5. An affidavit has been filed on behalf of the MoEF&CC on 23.11.2020 covering eight matters of incidents arising out of the leakage of hazardous gases, relating to different such incidents in the last six months<sup>1</sup>. The affidavit refers to the regulatory framework for enforcement of Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 [MSIHC Rules, 1989] and Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996 [CAEPPR Rules, 1996]. Under MSIHC Rules, 1989, Petroleum and Explosives Safety Organization (PESO) is the nodal agency to approve the sites of industrial installation and isolated storage. The PESO and CIFs while giving site-specific approvals to industrial units and isolated storage are expected to ensure preparation of

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- <sup>1</sup>
- i. Present matter and
  - ii. Order dated 01.06.2020, relating to incident of gas leak dated 07.05.2020 in **LG Polymers India Pvt. Limited** at Vishakhapatnam, resulting in death of 11 persons and injuries to more than 100, apart from other damage (OA No. 73/2020, In re: Gas Leak at LG Polymers Chemical Plant in RR Venkatapuram Village Visakhapatnam in Andhra Pradesh);
  - iii. Order dated 08.06.2020, relating to incident dated 03.06.2020 in a chemical factory, **Yashyashvi Rasayan Pvt. Ltd.** at Dahej, District Bharuch, Gujarat resulting in deaths and injuries and other damage (OA No. 22/2020(WZ) (Earlier OA 22/2020)(WZ), Aryavart Foundation through its President vs. Yashyashvi Rasayan Pvt. Ltd. & Anr.);
  - iv. Order dated 02.07.2020, in relation to incident of **oil well blow out on 27.05.2020 at Baghjan in the Tinsukia District of Assam** resulting in deaths, injuries and damage to the environment (OA No. 43/2020(EZ), Bonani Kakkar vs. Oil India Limited & Ors.).
  - v. Order dated 06.07.2020, relating to accident of **Ammonia gas leakage at Nandyal in Kurnool District, Andhra Pradesh in Spy Agro Industry on 26.06.2020** resulting in death of one person and injury to three workers. (OA No. 107/2020, In Re: News item published in the local daily “Indian Express Sunday Express” dated 28.06.2020 titled “Gas Leak in Agro Company Claims life of one”)
  - vi. Order dated 08.07.2020, dealing with the incident dated 01.07.2020 resulting in death of 6 person and injury to 17 due to blast of boiler in **M/s Neyveli Thermal Power Station (NLCIL)**, Cuddalore (OA No. 108/2020, News item published in the “Indian Express” dated 01.07.2020 titled “Tamil Nadu Neyveli boiler blast: 6 dead, 17 injured”) and;
  - vii. Order dated 23.07.2020, in relation to incident of **fire engulfed the chemical plant of Visakha Solvents Ltd**, Vizag on 13.07.2020 at Ramky CETP Solvents building in Pharma City resulting in injuries (OA No. 134/2020, News item published on 13.07.2020 in the local daily named “India Today” titled “Massive fire engulf Vizag chemical plant, explosions heard, injuries reported”).
  - viii. Order **dated 18.12.2020**, in relation to incident of **explosion in a plastic recycling factory at Sujapur in Malda on 1.12.2020** resulting in death of six persons, including two minors and serious injuries to four persons (OA No. 272/2020, News item published in the “Times of India” dated 20.11.2020 entitled “Six killed as blast tears through Malda Plastic recycling factory”).
  - ix. Order dated **18.12.2020**, in relation to incident of **methane gas leak in a sugar factory** called Lokenete Bapurao Patil Agro Industries Ltd. in Mohol Taluka of Solapur District, Maharashtra on 21.11.2020 resulting in deaths and injuries and other damage (OA No. 274/2020, News item published in the “Indian Express” dated 23.11.2020 entitled “Maharashtra: Two Killed, eight injured in methane gas leak in sugar factory”).

onsite emergency plans and safety reports by units, review the details of mock-drills conducted and implementation of Standard Operating Procedures (SOPs) of industrial operation by the unit from industrial safety point of view. The MoEF&CC is undertaking the following actions, in compliance with the Tribunal's directions on the matter in M/s LG Polymers case, OA 73/2020 and other connected matters:

- Committees have been constituted for 'Preparation of Restoration Plan' through CPCB and District Administration, and 'Finalization of Compensation'.
- Action is being taken for revamping of industrial monitoring mechanism, in line with the previous directions of Hon'ble NGT O.A. No. 73/2020, Gas Leak at LG Polymers Chemical Plant in RR Venkatapuram Village, Visakhapatnam in Andhra Pradesh.
- Consideration of the Technical and Administrative / Regulatory Framework Recommendations given by the High-Power Committee (HPC), which also include general recommendations on operation of hazardous industries/industries handling hazardous chemicals as well as industries operating in residential areas is under examination.

6. From the report, it is seen that the cause of incident is operational negligence of the management and its employees. The State PCB passed an order of closure. The Deputy Chief Inspector of Factories accorded permission for shut down. The Committee has suggested measures to avoid such accidents in future. With regard to compensation, the Committee has found that the amount already paid i.e. Rs. 50 Lakhs per deceased is adequate. For damage to the environment, compensation assessed is Rs. 24,03,154/- (Rupees Twenty four lakhs three thousand

one hundred and fifty four only). Further recommendations are to take care of the health of the injured workers and to give them compensation.

7. There is no objection to acceptance of recommendations of the Committee from any other party except following two objections on behalf of the industrial unit:-

1. Liability to pay compensation for death or injury to the workmen covered by the Workmen's (now Employees) Compensation Act, 1923 is not to be gone into by the Tribunal but under the said special Act in view of Section 17 of the NGT Act, 2010. There is no substantial question of environment warranting invocation of jurisdiction of the NGT under sections 14 and 15 of the NGT Act.
2. Even if the NGT jurisdiction is attracted, there is no violation of consent conditions or any other environmental norm under Schedule I to the NGT Act. There is a Consent to manufacture *Omeprazole*. The unit was manufacturing *Benzimidazole* to manufacture *Omeprazole* for which Consent had been granted.

8. We have heard learned Counsel for the parties and considered the report. On conclusion of hearing on 17.12.2020, we gave liberty to file written submissions which have been filed. We have gone through the same. Apart from the two objections already noted in para 7 above, it is stated that this Tribunal has no suo motu jurisdiction which aspect has been already been gone into vide order dated 1.6.2020 in LG Polymer case, OA 73/2020. The judgement in TN PCB vs Sterlite, (2019) 19 SCC 479 is distinguishable as the issue therein was with regard to appellate jurisdiction. The judgement does not hold that jurisdiction under sections 14 and 15 to decide substantial question of environment and to direct restoration of environment and following of statutory safety norms, as per



mandate of the NGT Act, 2010, cannot be exercised. As will be discussed in later part of this order, there are substantial questions of environment relating to compliance with statutory safeguards and lack of consent for the manufacture of **Benzimidazole** and award of compensation for damage to the environment in the light of findings of the expert Committee.

9. Even if we accept the contention that workmen covered under the Workmen Compensation Act, 1923 are not being covered under Section 17 of the NGT, the compensation having already been paid to the concerned workmen, (except the injured which matter is being left to be gone into under the Workmen Compensation Act), this contention loses significance. We may note that object of compensation is to put a victim or his heir in same position as he would have been but for the wrong. In Sarla Verma case, (2009) 6 SCC 121, the Hon'ble Supreme Court laid down principles for quantification of just compensation in accident cases. In Pranav Sethi, (2017) 16 SCC 680, the principles were reiterated with further clarification, particularly with regard to future prospects. Quantum of compensation under Employees (Workmen) Compensation Act is different but does not exclude claim for higher compensation by approaching Civil Court<sup>2</sup>. In (2020) 4 SCC 594, scheme of Employees (Workmen) Compensation Act was considered and it was held that right to compensation is on the date of the incident and if immediately compensation is not paid, penalty is required to be paid. However, with regard to four injured workers, no compensation has been paid except that medical expenses are said to have been met. This aspect may now be gone into under the Workmen's Compensation Act, 1923. We request the District Magistrate and the District Legal Services Authority, Vishakhapatnam to provide necessary legal assistance to them to access

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<sup>2</sup> See AIR 1938 Nagpur 91 and AIR 39 Rangoon 369 to the effect that the Act is in the nature of insurance and not a remedy for negligence.

appropriate remedy in this regard. **Thus, mere fact that the said party has chosen to move the High Court during pendency of these proceedings, the Tribunal is not deprived of its jurisdiction to deal with the matter.**

10. We do not find any merit in the objection that there is no substantial question of environment or that there is no separate requirement of consent for manufacturing *Benzimidazole*. Vide order dated 6.7.2020, the Tribunal observed substantial questions of environment being failure to comply 1989 and 1996 Rules under the Environment (Protection) Act, 1986. There were serious lapses in not following standard safety norms under the said rules requiring onsite and offsite emergency plans, conducting mock drills every six months and undertaking manufacture of *Benzimidazole* without consent. The plea that *Benzimidazole* was not final product but for use in manufacture of Omeprazole did not justify doing so without consent. **We agree with the State PCB and the Committee of experts that separate consent is required for manufacturing Benzimidazole, being an independent compound.** This is borne out from the order of consent in the present case, annexed to the report filed by the State PCB on 04.07.2020. The relevant part of the order is quoted below:

*“Andhra Pradesh Pollution Control Board  
D.No.33-26-14D/2, Near Sunrise Hospital, Pushpa Hotel Centre,  
Chalamavari Street, Kasturibaipet, Vijayawada – 520 008  
Phone. No.0866-2436217, Website : [www.appcb.ap.nic.in](http://www.appcb.ap.nic.in)*

*RED CATEGORY  
CONSENT & AUTHORIZATION ORDER  
BY REGISTERED POST WITH ACKNOWLEDGMENT DUE*

*Consent Order No:APPCB/VSP/VSP/12927  
/HO/CFO/2018*

*Date: 10.04.2018*

*CONSENT is hereby granted for Operation under section 25/26 of  
the Water (Prevention & Control of Pollution) Act, 1974 and under*

section 21 of Air (Prevention & Control of Pollution) Act 1981 and amendments thereof and Authorisation under Rule 6 of the Hazardous & Other Wastes (Management and Transboundary, Movement) Rules, 2016 and the rules and orders made there under (hereinafter referred to as 'the Acts', 'the Rules') to:

xxx                      xxx                      xxx

This consent order is valid for manufacturing of the following products with quantities indicated only:

Sl. No.	Name of the product	Quantity in Kg/Day	No. of Stages	Name of the starting raw material	Quantity in Kg/Day
	<i>Permitted products</i>				
1 to 18	xxx	xxx	xxx	Xxx	xxx
19.	Olmесartan	66.67	5	2-propyl-1-H-imidazole-4, 5-dicarboxylic acid diethyl ester	45.3
20.	Omeprazole (starting from 3, 5 dimethoxy 4- Nitro Pyridine-N oxide)	100.00	4	3, 5-Dimethoxy-4 nitropyridine N-Oxide	47.3
21	Omeprazole (starting from 5 - Methoxy-2- (5-methoxy-3-5 - dimmethyle-Pyridine-2-ylmethylsufanyl) - 1H-Benzimidazole	166.77	1	5-methoxy-2-(5-methoxy-, 5- dimethyl-pyridin-2ylmethyl sulfanyl)-1-h-benzimidazole	200.0
22	Omeprazole Sodium	33.33	1	5-methoxy-2-(4-methoxy-, 3, 5-dimethyl-pyridin-2yl) methyl sulfanyl)-1-H-benzimidazole	31.3
23	Omeprazole Magnesium	33.33	1	5-methoxy-2-(4-methoxy- 3, 5-dimethyl-pyridin-2yl) methyl sulfanyl)-1-H-benzimidazole	31.3

11. Accordingly, the substantial questions of law stand answered against the Industrial unit. We accept the report of the Committee and dispose of these proceedings with a direction to comply with the recommendations, including the recommendations with regard to payment of environmental compensation, to be overseen by the statutory regulators, as per law. We also direct the Director of Industries, Andhra Pradesh to conduct safety audit of entire pharma city in Vishakhapatnam where such units are located and also at all other locations in the State at the earliest.

12. We place on record our appreciation for the task executed by the Committee. This observation may be conveyed to the members of the Committee by the CPCB. A copy of this report may be kept on the websites of CPCB as well as the State PCB for the purposes of reference for atleast six months.

A copy of this order be forwarded to the MoEF&CC, the Chief Secretary Andhra Pradesh, the State PCB, the District Magistrate and the District Legal Services Authority, Vishakhapatnam by mail for compliance.

The application is disposed of.

Adarsh Kumar Goel, CP

S.K. Singh, JM

Dr. S.S. Garbyal, EM

Dr. Nagin Nanda, EM

December 22, 2020  
Original Application No. 106/2020  
SN