

BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

Original Application No. 448 of 2022

**In re: News item published in Hindustan Times dated 03.06.2022 titled
"178 Women workers fall ill after gas leak in Andhra's
Visakhapatnam"**

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Date: 14.12.2022
Place: Vijayawada


Chairman
AP Pollution Control Board

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

News item published in Hindustan Times dated 03.06.2022 titled “178 Women workers fall ill after gas leak in Andhra’s Visakhapatnam”



Joint Committee meeting on 01.09.2022



Field visit of Joint Committee on 02.09.2022

**2nd Interim Report
of the Joint Committee
Appointed by the National Green Tribunal
in the matter of
O.A. No.448 of 2022**

December, 2022

2nd Interim Report on the Incidents occurred on 03.06.2022 and 02.08.2022 at M/s Brandix Intimate India Pvt. Ltd., (formerly M/s Seeds Intimate Apparel India Pvt. Ltd.) located in the premises of M/s. Brandix India Apparel City Pvt., Ltd, SEZ, Atchuthapuram, Anakapalli District, Andhra Pradesh.

1.0 Preamble

The Hon'ble National Green Tribunal, Principal Bench, New Delhi initiated the proceedings suo-moto based on the News item published in Hindustan Times dated 03.06.2022 titled "178 women fall ill after gas leak in Andhra's Visakhapatnam" in O.A. No. 448/2022. The Hon'ble National Green Tribunal (NGT) vide order dated 03.08.2022 constituted a joint committee headed by the Chairman, APPCB to ascertain cause of incident and suggest measures to prevent such incidents.

2.0 Order of the Hon'ble NGT dated 03.08.2022

The Hon'ble NGT in O.A No. 448 of 2022, dated 03.08.2022 passed the following order:

"10. The statutory safety norms are laid down inter-alia in manufacture, Storage and Import of Hazardous Chemical Rules, 1989 (the 1989 Rules), Chemical Accidents (Emergency Planning, Preparedness and Response) Rules 1996 (the 1996 Rules), Factories Act 1948 and Disaster Management Act 2005. The 1989 Rules require on-site and off-site plans and holding mock drills, apart from other safety issues including siting. Chemical Accidents Rules provide for establishment of Central, State, District and Local Crisis Alert Systems. Director Industrial Safety and State Chief Inspector of Factories are to deal with the safety issues under the Factories Act. National Disaster Management Authority and other such authorities at State and District levels have been constituted under the Disaster Management Act, 2005.

11. Accordingly, we constitute a six-member Joint Committee headed by Chairman State PCB with Regional Director, CPCB, nominee of NDMA, Prof. P.

Jagannadha Rao, Department of Chemical Engineering, Andhra University, Visakhapatnam, District Magistrate, Anakapalli, Director Industrial Safety, Andhra Pradesh and Indian Institute of Chemical Technology, Hyderabad. State PCB will be the nodal agency for coordination and compliance. The Committee may hold its first meetings preferably within two weeks and all or some of the Members may undertake visit to the site and interact with the stakeholders and victims to ascertain factual position. Except for site visit, other proceedings may be physical or online. The Committee will be at liberty to co-opt any other Experts/Institution. The Committee may ascertain cause of present incident and suggest measures to prevent such incidents. It may mark areas prone to such incidents and vulnerable industries so as to detect marker pollutant in case of mishaps and take immediate crisis management measures in future, apart from fixing accountability for the incident. Report of the Committee may be furnished within three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF. If any violators are identified, copy of the report may also be furnished to them so that they may file their response, if any, before this Tribunal.

12. Though in the present matter hearing was concluded on 01.08.2022 and order was to be pronounced within two days, it has come to our notice from today's media report that a further incident of gas leak has taken place in the area from M/s Seeds Intimate Apparel India Pvt., Ltd., in Brandix SEZ in Anakapalle District of Andhra Pradesh. This has affected about 50 people. This incident may also be taken into account by the Committee and if possible, the Committee may undertake site visit within one week and give an interim report of the factual observations, preferably within two weeks. Based on the said factual observations, further course of action may be indicated in the final report."

A copy of the Hon'ble NGT order is enclosed in **Annexure - 1**

In compliance to Hon'ble NGT order, APPCB as Nodal agency constituted a Committee Comprising of following members:

1. The Chairman, APPCB.
2. Smt. H D Varalaxmi, Sc. E & Regional Director, CPCB, Chennai.
3. Dr. S.K. Ghosh, NDMA.
4. Dr. P. Jagannadha Rao, (*Retd.*) Professor, Dept. of Chemical Engg, Andhra University, Visakhapatnam.
5. Shri Ravi Pattanshetti, I.A.S., District Collector & District Magistrate, Anakapalli.
6. Shri D. Chandrasekhar Varma, Director of Factories.
7. Dr. A. Krishnaiah, IICT, Hyderabad.

3.0 Meeting and Site visit by the Committee:

In compliance of the above mentioned order, the Chairman, APPCB convened a Committee meeting on 19.08.2022 through video conference and briefed about the mandate of the Committee as well as introduction about both incidents happened at M/s Seeds Intimate Apparel India (P) Ltd., The Committee discussed in detail and concluded to visit the site and also decided to co-opt the following three experts:

1. Dr. Shaik Basha, Scientist & Head, CSIR-NEERI, Hyderabad Zonal Centre, Hyderabad.
2. Prof. S. Balaprasad, Dept. of Civil Engg, Andhra University, Visakhapatnam.
3. Prof. K.V. Rao, (*Retd.*), Dept. of Chemical Engg, Andhra University, Visakhapatnam.

Subsequently, the Committee headed by the Chairman, APPCB and co-opted experts visited the M/s Seeds Intimate Apparel India (P) Ltd., during September 01-02, 2022 and interacted with stake holders as well as affected workers and also visited the other 14 units of M/s Brandix India Apparel City (P) Ltd., In compliance of Hon'ble NGT order, the joint Committee submitted an interim report on 02.11.2022, the copy of the report is enclosed as **Annexure - 2**.

4.0 About M/s Brandix Intimate India (P) Ltd., (formerly known as M/s

Seeds Intimate Apparel India (P) Ltd.,

M/s. Seeds Intimate Apparel India (P) Ltd was recently acquired by the Brandix Apparel India Ltd and renamed as M/s. Brandix Intimate India (P) Ltd (BIIL). M/s. BIIL (formerly known as M/s. Seeds Intimate Apparel India (P) Ltd) registered as a factory under section 2m (i) of Factories Act bearing Registration No 104025. Sri Rajiv Priyan Malasekera is the occupier of the factory and Sri. Sanjeeva Abeyrathna is the manager of the factory. The maximum horse power permitted is 3715.39 HP and maximum employees permitted upto 5000. As such, this unit is categorized as non-hazardous factory.

M/s. BIIL has four building blocks namely M1, M2, L and N blocks and open space /areas. The layout of the unit is shown in Figure 1.

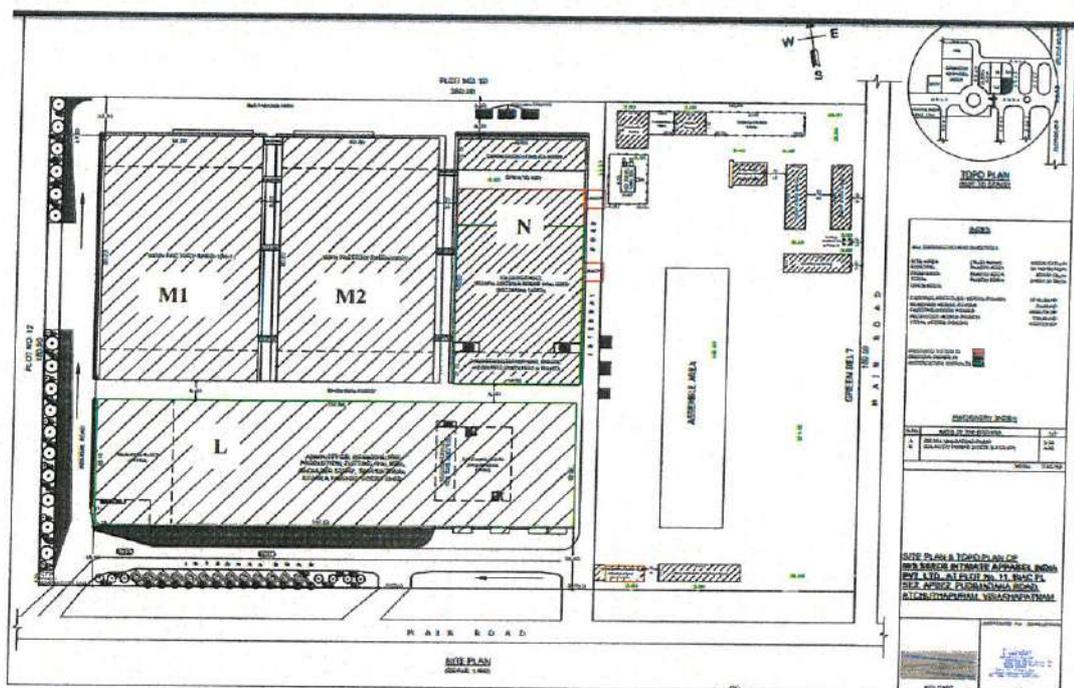


Figure 1: The layout of the M/s. Brandix Intimate India (P) Ltd., Unit in Brandix India Apparel City (P) Ltd.,

The two manufacturing blocks are designated as M1 and M2, whereas the L block houses the administration office, moulding, preproduction, cutting, and warehouse for storage of raw material and finished apparel product. The Block N is meant for utilities including a medical room and canteen. There is a separate room in N block, which is designated as

compressor and chiller room. There are three cooling towers behind the N block at a distance of 6 m from the N block as shown in Figure 1. The bus parking area is at the rear side (*north side*) of the M1 and M2 blocks. The rest rooms or washrooms were provided at the backside (north side) of M1 and M2 blocks. There is a chemical storage unit, which stores chemicals necessary for the chilling unit. A Diesel Generator set with a capacity of 1010 KVA (2 Nos) is installed and a diesel storage tank of capacity 15 KL exists.

The corridor between M1 and M2 is 6 meters wide and it is open to sky. The width of the open space on North side of M1 block is 15 m North side M1 to North compound wall) as shown in Figure 1.

M/s. Quantum Clothing India Pvt. Ltd., which is owned by Brandix India Apparel City (P) Ltd., located adjacent to the M/s. Brandix Intimate India (P) Ltd. was closed on 30.04.2022. The employees working in M/s. Quantum Clothing India Pvt. Ltd. were transferred to M/s. Brandix Intimate India (P) Ltd. on 01-06-2022. All the employees who worked earlier in Quantum are transferred now to BIIL and now majority are working in M1 block and a few of them are working in M2 block.

The Layout of M/s Brandix India Apparel City Pvt., Ltd, and the Google map indicating location of BIIL are shown in figure 2 & 3 respectively.

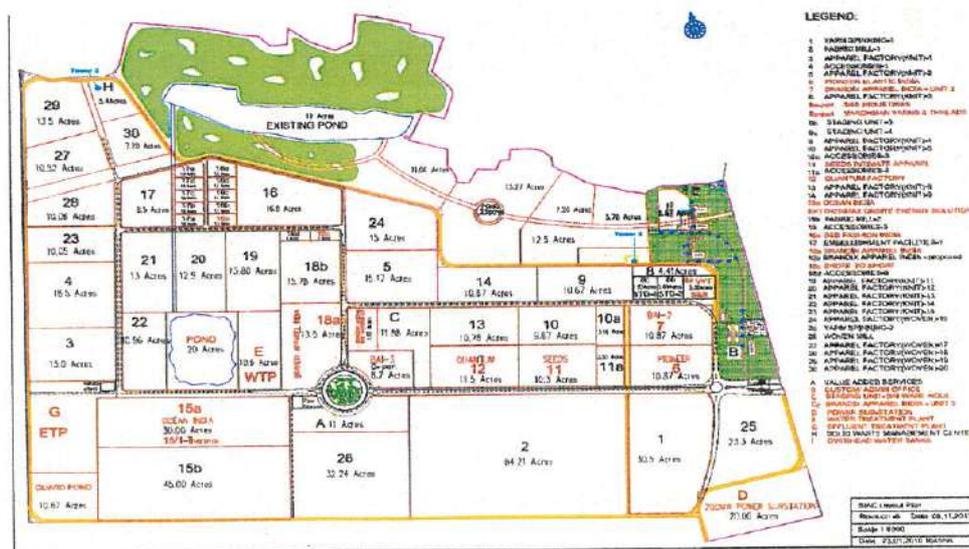


Figure - 2: Layout of Brandix India Apparel City Pvt., Ltd, SEZ,

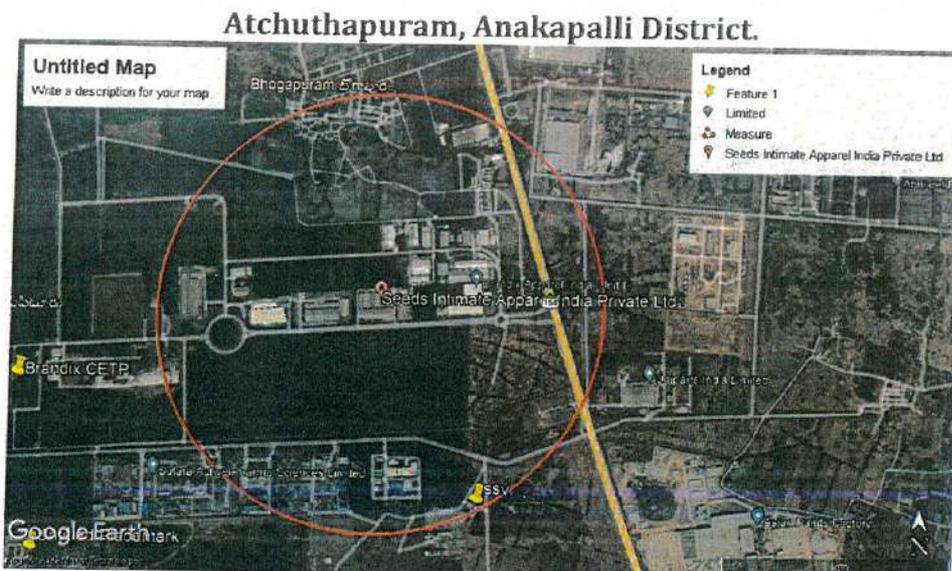


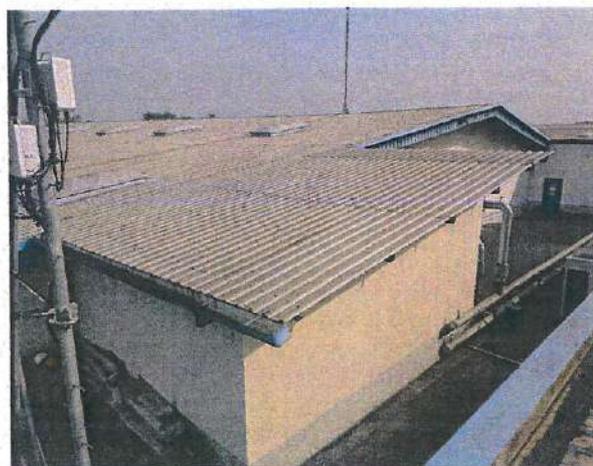
Figure – 3: Google map showing location of BIIL and surroundings.

4.1 The Air conditioning system: The working areas viz. M1, M2 and L blocks of M/s BIIL are centrally air-conditioned. The air conditioning system is described below:

The Air conditioning facility provided is chilled water HVAC system consists of a central chilling unit outside the building as shown in Figure 1. There are total eight Air Handling Units (AHU) catering the air – conditioning needs of both M1 (4 AHUs for M1) and M2 (4 AHUs for M2) blocks. The AHUs are located on the roof top of M1 and M2 buildings. The each of the AHUs provide fresh air inlet to draw outside air. The fresh air drawn through these inlets is mixed with the chilled air and circulated in the air conditioning system.

- Chilling room has one chilling plant and three No. of compressors in N block.
- 4 number of Air Handling Units (AHUs) are provided for each of the M1 and M2 blocks (two 75 TR AHUs are located at North side and the other two 80 TR AHUs are at south side of the blocks).
- Capacity of AHUs for each block is 80 TR AHUs (2 Nos.) – 34,400 CFM; 70TR AHUs (2 Nos) – 28,000 CFM.
- The lines numbered as 1,3,5,7,9,11,21,22 in the manufacturing blocks are connected to AHUs – 3 at South West side of M1.

- The lines bearing numbers 2,4,6,8,10,12 are connected to AHU – 4 at South East side of M1.
- The lines 13,15,17,19,23 are connected to AHU-2 at North East side of M1.
- The lines 14,16,18,20,24 are connected to AHU- 1 at North West side of M1.
- The AHU room size is 20.9ft x 16 ft.
- Fresh air damper of AHU size is 20 inch x 16 inch.
- AHU No.3 & 4 were installed on terrace slab of M1 building at South side at a distance of 5m from corridor lean to roof.



Air Handling Units (AHUs)

4.2 Statutory Permissions obtained:

The unit has obtained permissions from Factories Department, AP

State Disaster Response and Fire Services Department, Petroleum & Explosives Safety Organisation & A.P. Pollution Control Board The details of permissions granted and its validity are as below:

S. No	Permissions obtained by unit	Document/ license No.	Issue date	Valid upto	Name of the Department
1.	Factory license	44743	12.09.2011	Permanent license and no renewal involved	Factories Department
2.	Fire NOC	RC No. 8631	14.10.2022	13.10.2027	AP State Disaster Response and Fire Services Department
3.	PESO License	P/Hq/AP/15/3947 (P277636)	22.02.2021	31.12.2023	Petroleum & Explosives Safety Organisation
4.	CTO	Order No. 3829/APPC B/RO-VSP/2018-4814	27.09.2018	31.10.2028	A.P. Pollution Control Board

4.3 Process Description:

M/s. Brandix Intimate India (P) Ltd. is an apparel factory producing the apparels. It is engaged in manufacturing or knitting of Bras upto 39,800 numbers/day and Bralets upto 10,200 numbers/day. The factory receives fabric, elastic, hooks, PU cups, rings and slides, stickers, tags etc. as raw materials. Initially, as per the designs, the cutting of the fabric takes place in the L block. Then it is supplied to the M1 and M2 blocks where the workers stitch the fabric to make the final product and pack it. The packed product is sent to designated storage in L block. The major activity in the M1 and M2 blocks is tailoring. The approximate dimensions of the each of the M1 and M2 blocks are 80 m x 50 m. The ceiling is at a height of 5m at

eaves. The M1 and M2 blocks are centrally air-conditioned blocks where the temperature and humidity are maintained in the range of 25^o C – 26^o C and 55% - 60% respectively. The noise levels are measured during the field visit and the average noise level is 65 dB. The staff working in these blocks is exposed to these conditions for duration of approximately 7.5 hours in a working day. The production floor layout of the M1 and M2 blocks is shown in Figure 2.

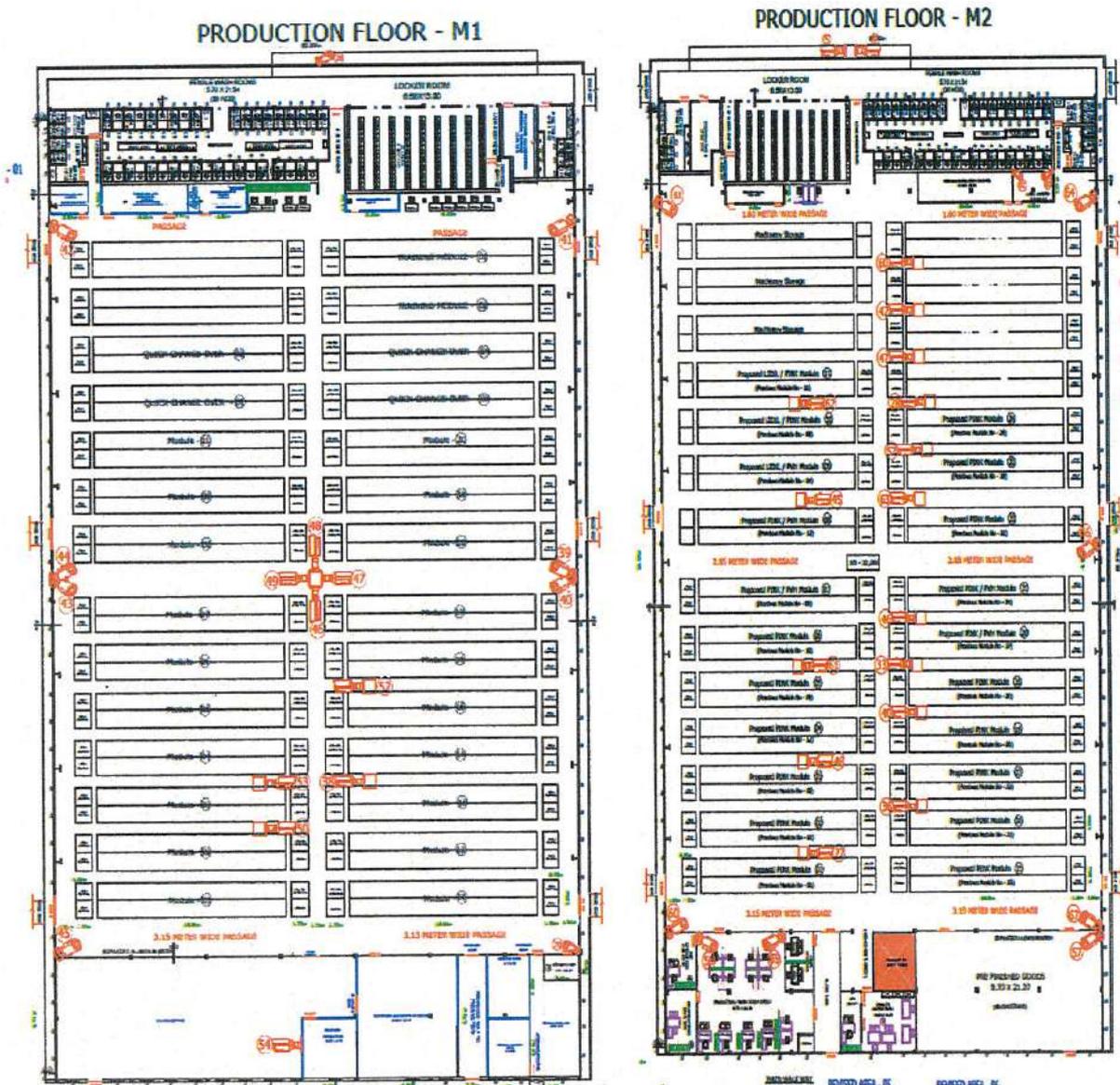


Figure 2: Production floor layout of the M1 and M2 blocks

5.0 Description of the incidents:

5.1 First Incident on 03.06.2022:

The first incident occurred on 03.06.2022 for a short duration of

about 10 minutes between 11.50 Am to 12.00 Noon. As reported by the management of the company, the employees of M/s. Brandix Intimate India (P) got affected due to inhalation of an unknown obnoxious gas and reported symptoms like vomiting, bowl irritation and breathlessness. Soon after hearing the widespread news of the incident, the District Collector, Anakapalli, the Superintendent of Police, Anakapalli, the Addl. Superintendent of Police, Narsipatnam, the Revenue Divisional Officer, Anakapalli, the Environmental Engineer & Assistant Environmental Engineer, APPCB, Visakhapatnam and I/c Inspector of Factories & Deputy Chief Inspector of Factories, Visakhapatnam rushed to the location and inspected the premises of M/s. Brandix Intimate India (P). The sequence of activities during first incident at BIIL are as below:

11:56:30 - Camera No. 45 (M1-Area 8) - Sewing line 1 towards Quantum. 2nd, 3rd, 4th, 5th and 6th employees witnessed smell.

11:56:30 - Camera -45 (M1 Area 08) - Line one, Associates 02, 03 and 04 (Yellow marked point at M1 block)

11:57:20 - Camera -43 (M1 Area 06) - Associates hurries towards exit

11:57:08 - Camera -10 (M1 - M2 corridor) - Associate had a vomiting sensation

11:57:09 - Camera -49 (M1 Area 12) - Bottom right two employees observe the smell

11:57:22 - Camera -60 (M2 Area 01) - Associate from the third line feels discomfort and few more associates in the same line

11:57:47 - Camera -41 (M1 Area 04) - Associate runs towards the exit

11:58:50 - Camera -57 (Packing) - All felt unpleasant smell

11:59:30 - Camera -27 (Cutting 02) - Female associate feeling dizzy

11:56:40 - Camera -04 (M2 backside 01) - Associate vomiting

The workers who were admitted into hospitals day wise were given in table No.1.

Table No.1: Day wise admission of workers into Hospital

Day wise Hospital details				
Date	M1	M2	L Building	Day wise admissions
03.06.2022	92	81	22	195
04.06.2022	76	60	22	158
05.06.2022	20	16	2	38
06.06.2022	7	6	4	17
07.06.2022	0	0	0	0

08.06.2022	0	0	0	0
09.06.2022	1	1	0	2
10.06.2022	0	0	0	0
12.06.2022	0	0	0	0
Total	196	164	50	410

5.2 Second Incident on 02.08.2022:

After two days of the joining of workers from M/s Quantum Clothing India Pvt. Ltd. into the M/s. Brandix Intimate India (P), the first incident occurred on 3-6-2022. After the first incident, the activity in the M1 building was closed till 15.06.2022 and the work in the M1 block of BIIL was resumed on 16.06.2022. The management of the M/s BIIL stopped chemical spraying for pest control work after the first incident (03.06.2022). After a gap of 59 days again the fumigation process was restarted on 01-08-2022. The Beta Cyfluthrin 2.45% SC (SC: Suspension Concentrate) chemical was used for fumigation of the outside the premises. Moreover, subsequent to the first incident, the management decided to spray the pest and insect control chemical during the night times after completion of the B or second shift (from 2.00 PM. to 10.00 PM). Accordingly, on 01-08-2022, Beta Cyfluthrin 2.45% SC was sprayed for pest control from 11.00 PM after the B shift. The chemical for pest control was sprayed for a total duration of approximately 3 hours. The pest control operator had sprayed the chemical at the verandah and outside the M1, M2, L and N blocks. The workers, who came to work on 02-08-2022 for the first shift from 6.00 AM to 2.00 PM, did not feel/sense any odor or smell. After their shift by 2.00 PM, they went back to their homes safely.

The other group of workers who came for the B or second shift started feeling the smell or odor from around 6:40 PM. Normally, the workers in the B shift take a break and go to the canteen in two spells. The 1st spell is from 6.00 PM to 6.30 PM and 2nd spell is from 6.40 PM to 7.10 PM. The workers who went for dinner break during the 1st spell were not affected and didn't sense any smell except a few who returned to the M1 block after completion of the first break. They completed their break for snack / dinner from 6.00 PM to 6.30 PM and returned to their duty. The workers, during the dinner

break for second spell, came out from M1 block at about 6.30 PM from north side exit for going to the rest rooms besides collecting their dinner / snack boxes from lockers on the northern side of the M1 block. During this period, these workers have sensed an unpleasant odor or smell initially at lockers area and in the verandah and open space abutting the lockers area around 6:40 PM. A little later, some of the workers, who had been exposed to the odor, experienced nausea and vomiting sensation. Immediately, these workers have been moved to a safe place towards neighboring factory on west side i.e. M/s Quantum Clothing India Pvt Ltd. From there, some of the workers were shifted to the nearby hospitals and others were shifted to their homes by buses. Some of the workers, who had uncomfortable symptoms while going home, were also joined in the nearby hospitals. A total 129 workers were admitted in different hospitals located in Anakapalli and Atchyuthapuram. The details are shown in Table 2. The sequence of activities during second incident at BIIL are as below:

18.43 PM : In the mid bay (corridor) of M1 and M2, one worker from M1 block while going to canteen area sensed an unpleasant smell.

18.47 PM : Another worker from the M1 block complained about the smell to welfare officer.

18.55 PM : Unit Engineering, safety, HR and other teams also felt the smell in the mid bay area and checked for other areas.

19.00 PM : It was observed that a smell had been felt in midway exit areas (corridors) and no smell was experienced in other areas viz. inside the M1, M2, and L blocks, the entrance security gate area of the BIIL and the open spaces at other locations.

19.20 PM : All the areas were checked continuously for detection of smell and all the AHUs and AC's were switched off as a precautionary measure.

19.20 PM : One worker was taken by wheel chair to medical room (OHC).

19.22 PM : Another worker moved from M1 and M2 path ways to medical room.

19.28 PM : Another worker reported from lockers area to medical room and another associate reported from M1 path way to medical room.

19.45 PM : One more worker started vomiting and ambulance was made ready.

19.46 PM : First patient moved from the factory to Medirise Hospital, Atchutapuram by ambulance.

20.00 PM : Few more workers started complaining about vomiting, headache and dizziness. Stated evacuation of workers and shifted sick employees to nearby hospitals and got logistic support from all other Brandix units.

21.00 PM : The shift operations were suspended in all areas of the unit and started sending all the workers to their homes.

The workers who were admitted into various hospitals were discharged within a day after medical treatment. The district administration reacted promptly and reached the incident site. They along with the factory and M/s Brandix India Apparel City personnel assessed the situation and took care of the affected persons.

Table 2: No. of Workers Admitted in Different Hospitals

S. No.	Hospital Name	No. of workers admitted
1.	NTR	43
2.	Usha Prime	46
3.	Satyadev	14
4.	Medirise	15
5.	SreeVaibhav	6
6.	Starzen	5
	Total	129

The affected people were provided medical treatment and the needy people were admitted in to different hospitals. The officials of Director of

Factories, AP Pollution Control Board, Revenue, Police and other departments at the district level looked into the incident issues and conducted studies. Apart from the above government machinery, the premier institutions involved in the study to analyze the incident scenario include NIE, NIN, etc.,

5.3 Chronology of incidents:

The Chronology of incidents is described as follows:

S.No.	Date	Event
1.	03.06.2022	An incident took place at the premises of M/s. Seeds Intimate Apparel India Pvt. Ltd., located at Plot No.11 of M/s.Brandix India Apparel City Pvt. Ltd., SEZ, Pudimadaka Road, Atchtuthapuram, Anakapalli District on 03.06.2022 between 11:50 AM to 12:00 Noon. As reported by the management of the company about 410 employees of M/s.Seeds Intimate Apparel India Pvt. Ltd., got affected due to inhalation of an unknown toxic gas and reported symptoms like vomiting, bowl irritation and breathlessness.
2.	03.06.2022	The District Collector, Anakapalli constituted District Level Committee comprising of: <ol style="list-style-type: none"> 1. Joint Collector, Anakapalli – Chairman, 2. Environmental Engineer, APPCB - Member Convener, 3. Revenue Divisional Officer, Anakapalli – Member, 4. Deputy Chief Inspector of Factories- Member, 5. Dy. Commissioner of Labour, Anakapalli –Member, 6. Addl. Superintendent of Police, Narsipatnam – Member, 7. Dr. P.J.Rao, Retd. Professor, Dept. of Chemical Engineering, AU, Visakhapatnam – Member, 8. Prof.P.Rajendra Prasad, Dept. of Chemical Engineering, AU, Visakhapatnam – Member. 9. Md. Yaswen, Managing Partner, air 'n' gas Controls – Member
3.	03.06.2022	APPCB collected air samples within the premises of M/s. Seeds Intimate Apparel India Pvt. Ltd., and dust sample from the AHU ducts and submitted to IICT, Hyderabad for analysis.

4.	03.06.2022	The unit stopped its operations.
5.	04.06.2022	APPCB constituted a Committee comprising of 1. Joint Collector, Anakapalli District, 2. Joint Chief Environmental, ZO, APPCB, Visakhapatnam, 3. Inspector of Factories Visakhapatnam, 4. Zonal Manager, APIIC, Atchutapuram, Visakhapatnam
6.	06.06.2022 & 07.06.2022	Both the Committees have visited the incident site i.e., M/s. Seeds Intimate Apparel India Pvt. Ltd, CETP of M/s. Brandix Apparel India (Pvt) Ltd (BIAC) & incinerator within the premises of BIAC and surrounding industries viz., M/s. Porus Laboratories Private Limited (Unit-VI), M/s. Atchutapuram Effluent Treatment Limited (AETL), M/s. Solara Active Pharma Sciences Limited & M/s. Toyotsu Rare Earths (India) Private Limited.
7.	08.06.2022	IICT, Hyderabad furnished analysis report. As per the report the air and dust samples contain various chemicals such as acetonitrile, dichloromethane, ethyl acetate, n-hexane, toluene, chloromethane, cyclopropane, acetaldehyde, furan, acetone, 2-methyl propanal, n-butanol, 2-methyl furan, 2-butanone, benzene, 2,3 butanedione, 2-methyl butanol, Chlorpyrifos.
8.	10.06.2022	Both the Committees jointly submitted a detailed report to the Government. The Committees concludes that the incident took place due to spraying of Chlorpyrifos 20% EC between the production blocks and the accumulated vapours underneath the roof were sucked into the inlets of 4 ducts of air handling units installed in M1 and M2 blocks, thereby leading to the incident.
9.	19.07.2022	As per the advice of the State Government, the APPCB on 19.07.2022 addressed the Director, National Institute of Epidemiology (ICMR), Chennai for willingness to enquire into the incident to identify the route cause for large number of employees affected with symptoms of vomiting, irritation, breathlessness due to the above incident took place on 03.06.2022.

10.	02.08.2022	Second Incident took place in the same premises of M/s. Seeds Intimate Apparel India Pvt. Ltd., in between 6.30 PM to 07.45 PM.
11.	02.08.2022 & 03.08.2022	APPCB Officials collected air samples from the inside & outside premises of M-1 & M2 Blocks (during AHU on/off condition) and also at toilet and corridor between M1 & M2 blocks and collected the samples of air filter dust from all Air Handling Units (AHU) installed on the top of M1 & M2 blocks and also collected the samples of dust deposited on the AHU ducts in M1 & M2 blocks of M/s.Seeds Intimate Apparel India Private Limited for analysis.
12.	03.08.2022	The Hon'ble NGT constituted a six-member Joint Committee headed by Chairman State PCB with Regional Director, CPCB, nominee of NDMA, Prof. P. Jagannadha Rao, Department of Chemical Engineering, Andhra University, Visakhapatnam, District Magistrate, Anakapalli. Director Industrial Safety, Andhra Pradesh and Indian Institute of Chemical Technology, Hyderabad.
13.	03.08.2022	Government of Andhra Pradesh, Vide G.O.Rt.No.78, constituted the Expert Committee with senior experts from ICMR, Hyderabad, IICT, Hyderabad and Central Forensic Science Laboratory, Hyderabad to probe into the cause behind the gas leak and suggest measures to improve the protocol for industrial safety within the 30 days.
14.	05.08.2022 & 06.08.2022	ICMR- NIE (<i>National Institute of Epidemiology</i>), Chennai team and ICMR-National Institute of Nutrition (<i>NIN</i>), Hyderabad team conducted the visits.
15.	16.08.2022	CSIR-IICT, Hyderabad furnished analysis report. As per the analysis report, the dust and air sample indicates the presence of Chlorpyrifos in minor quantity.
16.	01.09.2022 & 02.09.2022	Committee constituted by Hon'ble NGT visited the site of M/s. BIIL and surrounding industries.
17.	02.11.2022	The Committee submitted first interim report to Hon'ble NGT.

18.	15.11.2022	M/s Brandix Intimate India Private Limited submitted an undertaking to the District Level Committee that they will comply with all the recommendations made by the District Level Committee before carrying on process work and also ensured to comply with directions of Hon'ble NGT in OA No.448 of 2022 from time to time.
19.	28.11.2022	M/s Brandix Intimate India Private Limited started the operations in M1 block.
20.	02.12.2022	ICMR – NIN, Hyderabad and ICMR – NIE, Chennai jointly submitted investigation report. As per the report, the community diagnosis is “The clinical picture and epidemic pattern are characteristic of a common source, single exposure outbreak. The acute clinical signs and symptoms were suggestive of inhalation of organophosphate insecticide. The biomarker of Imidacloprid, an Insecticide, were found in four samples among the exposed”. This is suggestive of inhalation of Imidacloprid Insecticide, but the source of exposure might be accidental or incidental”.

6.0 Factual Observations of Committee:

The NGT Committee visited the site on 1st and 2nd September 2022 to ascertain the issues related to the incident occurred on 2nd August 2022. The Committee, during its visit, has visited 14 factories in the Brandix Apparel city and interacted with workers and senior management team. The Committee has collected the additional information and secured the line department findings like Factories Department and APPCB etc., The footages of both the incidents from the strategically located cameras out of the total 70 CC camaras installed in the factory premises were also secured. The Committee has later conducted hybrid meetings on different dates and all these evidences were examined by the Committee. The following are some of the details of the investigations by Factories Department and other industries located within M/s Brandix Apparel India Pvt. Ltd.:

6.1 Investigation of Inspector of Factories about First Incident:

- i. Intoto Pest Control and Facility Services, a pest control agency which was engaged by M/s. Seeds Intimate Apparel India Pvt. Ltd. On behalf of the agency Sri M. Gangaraju. Pest Control Operator is regularly engaged in spraying pesticide in & around the plant premises.
- ii. Sri M. Gangaraju, in his written statement revealed that he comes everyday and collects 25-30 ml of chemical from the chemical storage room located in N-Block and dilutes with 3-ltrs of Water in 5 ltrs capacity spraying can. He proceeds this spraying of diluted pesticide covering all the blocks and sprays outside the blocks. The Committee (*constituted by District Collector, Anakapalli*) has collected a sheet which contains the block wise spraying details along with time completion and signatures of respective managers of the sections.
- iii. The agency is using two chemicals for pest control viz., Alpha Cypermethirin 10% SC for pest management inside the facilities and blocks and Chlorpyrifos 20% EC for use in open areas.
- iv. During the visit, the Committee (constituted by District Collector, Anakapalli) was informed that there was no stock of Alpha Cypermethirin 10% SC on the day of incident and the pest control operator has applied Chlorpyrifos 20% EC instead of Alpha Cypermethirin 10% SC in between the production blocks. The 6 m corridor between L block and M1, M2 & N blocks is covered with a lean to roof GI sheeting. The height of the roof at L block shed is 7.5 inches and the height of eaves on slab of M1, M2 & N block is 6.41 m. There is a gap of 1.5 m between the slabs of M1, M2 & N and roof sheet. There are two AHUs on the roof of M1 block and two AHUs on M2 block at south side of blocks. The fresh air inlets of all 4 AHU units are located near the opening of the lean to roof. It appears that due to suction of chlorpyrifos 20% EC sprayed in that area might have been sucked through fresh air inlet of air handling unit (AHUs) and in turn into the production

- area where the incident occurred.
- v. As per the composition, solubility of Chlorpyrifos 20% EC in water is 2 mg/l and at the time of spraying at the incident site the final concentrated residue may have settled down in the sprayer due to improper mixing and the concentrated chemical might have been sprayed at the site leading to the occurrence of the incident.
 - vi. It was reported by the pest control operator that a few days prior to the incident the stocks of Alpha cypermethrin 10% SC meant to be used inside the block was exhausted and that he had asked Sri Sekhar, Supervisor of agency for additional stock who instructed the pest control operator to use a transparent bottle filled with a light yellow coloured liquid (*Chlorpyrifos 20% EC*). The copy of written statement given by the pest control operator and job cards /service acknowledgement for M/s Seeds Intimate Apparel India Pvt. Ltd.
 - vii. The statement obtained from the pest control operator Sri M.Gangaraju stating that the pest control was done from 09:00 AM to 11:24 AM on the day of incident i.e. on 3.6.2022 at various-facilities including the semi closed corridor area between the M1, M2, N and L Blocks.
 - viii. There is a lean to roof of GI sheet found on the slabs of M1, M2 & N blocks L block there is 6 m wide corridor between M1, M2 & N blocks and L building. The pest control operator usually spraying along the walls of L Block and return along the walls of M1, M2 & N blocks, As the 6 meters corridor with the length of about 150 meters is sprayed twice and the entire gases/vapour generated from the spray is accumulated at lean to roof from there the accumulated gases passed through the gap between the roof and walls of M1, M2 & N blocks.

The investigation report of Inspector of Factories is enclosed as **Annexure - 3**

6.2 Investigation of Inspector of Factories about second Incident:

- i. On 01-08-2022 at about 10:30 PM, Sri. Koviri Mutyalu, age 29 years, who has been working as pesticide and insecticide spraying operator from the contracting agency of M/s. Pest Cure Solutions & Fumigation, sprayed Beta Cyfluthrin 2.45% SC solution prepared using 50 ml of the chemical in 05 liters of water all along bottom corner of the outside walls of L, M1, M2, and N Blocks.
- ii. At the time of incident, there were 940 workers in M1 block, 727 in M2 Block and 254 in L block and a total of 1921 workers present in the factory.
- iii. Out of the 129 female workers who were hospitalized, 122 employees were workers from M1-Block and 07 workers from M2 Block.
- iv. The Pollution Control Board authorities from Visakhapatnam office collected air and dust samples from different locations. Dust samples from air filters, ducts of air handling system at different locations in M1 block. The air inside the M1 block was sampled using air bags and sorption tubes. These samples were sent to IICT laboratory, Hyderabad for parametric analysis. After the incident PCB authorities seized the M1 block.
- v. During the course of enquiry by the officials of factories department it was observed that the covers over the soak pits and other drains (storm water pits) were opened near the chemical room. It was further observed that a soak pit (30 cm x 30 cm x 60 cm approximately) has not been cleaned for few weeks and observed foul odor. There are 117nos. of wash rooms present in the factory and the sewage generated is being conveyed through sewer lines and reach the common effluent treatment plant located on South-West corner of BIAC.

The investigation report of Inspector of Factories is enclosed as **Annexure - 4**

6.3 Internal grudge between workers:

Inspector of Factories report stated that some internal issues in the factory prior to the incident were observed. From 01.06.2022 onwards 2446 workers were taken into Brandix Intimate India Pvt. Ltd from nearby Quantum Clothing India Pvt Ltd in which operations were terminated due to financial crisis. Initially workers from Quantum Clothing India Pvt Ltd refused to work in Brandix Intimate India Pvt. Ltd., but the management of the factory persuaded them by assuring provision of required amenities to them. The associates from Quantum (operators, quality and supporting workers) were engaged in M-1 building. Staff and executives were allotted to concerned departments based on hierarchy. At the time of assigning roles, there was resistance from some departments especially from RMWH (Raw Material Ware House) department workers. By conciliating the employees from both the units, job roles were assigned accordingly. The 120 numbers of workers from RMWH department were taken to Kondakarla Ava Lake on 24.07.2022 as a part of outbound training program and a picnic like program was arranged to conciliate and alleviate the apprehensions of the workers from both the units.

6.4 Other industries located in the M/s Bradix India Apparel City:

There are several industries around the BIIL in the Atchutapuram SEZ. The factories located within 1km radius of this factory were verified. The details of the nearest factories are given below.

The factories on East side:

1. Rain CII Carbon (Vizag) Limited
2. Uniparts India Limited
3. Pioneer Elastic India Pvt Limited

The factories on North side:

1. Pilkington Automotive India Pvt. Ltd.

The factories on West side:

1. ATC Tyres AP Pvt. Ltd.
2. Brandix Apparel India (P) Ltd. Unit - I

3. Teejay India Pvt Ltd.
4. Quantum Clothing India (P) Ltd.
5. Brandix India Apparel City (P) Ltd. ETP and

The factories on South side:

1. Solara Active Pharma Sciences Limited
2. Porus Laboratories Pvt.Ltd.
3. Toyotsu Rare Earths India (P) Ltd.

Pilkington Automotive India Pvt. Ltd factory is located on north side. The factory produces windshields of cars and trucks. Black ink is used to design the wind shield glasses. The ink is black in color having a flash point is 90°C (ISO 3679). It is not explosive and do not cause hazardous reactions. However, it has irritant effect on skin and eyes. The factory is also having N.C thinner D13 – X solvent which is used to clean the wind shields. The thinner is prone to fire and explosion hazard. Between these two factories, the Brandix officers' quarters are located. The odor problem was not reported by the residents of the quarters or the officers and staff of the automotive company as stated by them.

On western side, ATC Tyres AP Pvt. Ltd., Unit – I of Brandix Apparel India (P) Ltd., Teejay India Pvt Ltd., Quantum Clothing India (P) Ltd., and ETP of Brandix India Apparel City (P) Ltd. are located. Last year, Quantum Clothing India (P) Ltd. which is a garment manufacturing unit closed its operations. Brandix 1 is also a garments manufacturing unit involved in cutting and stitching of fabric to produce apparels. Teejay India (P) Ltd., whose manufacturing activities are knitting and dyeing of fabric, is located within a radial distance of 1 Km. The main chemicals used are Hydrogen Peroxide of 30% concentration which is a strong oxidizer with a health hazard rating of 3 as per the NFPA 704 and Acetic acid which is also stored in the premises, its NFPA hazard rank being 3-2-0 besides corrosion. Both are stored up to a maximum of 2 MT only at ambient conditions.

On Eastern side, there are 4 units as stated earlier. M/s Uniparts India Ltd. located within a radial distance of 1 Km which produces precision machined parts. M/s Uniparts India Ltd. uses hazardous material such as Propane (*up to 32 MT storage*). The NFPA for Propane is 2-4-0. Pioneer Elastic India Pvt Ltd is located within a radial distance of 0.3 Km. The factory is manufacturing elastic ware for use in bras and bralets. Rain CII Carbon Vizag Ltd. is located within a radial distance of 1 Km and it produces Calcinated Carbon. Aqueous Ammonia of 24% concentration is stored up to a storage capacity of 630 KL with the NFPA classification of 3-1-0. Emissions of ammonia gas, very toxic in nature, may be from the storage vent at ambient conditions. As per the preliminary report, no smell was sensed in this factory on 02-08-2022.

The industries located in the south side of the incident area are already listed earlier. M/s. Porus Laboratories Private Limited (*Unit – VI*) is situated toward southern side from the site of incident at a radial distance of approximately about 550 m. The industry is manufacturing Agrochemicals and Specialty chemicals. M/s. Atchutapuram Effluent Treatment Limited (AETL) unit is situated towards South – East side from the site of incident and it is at a radial distance of about 2.0 Km. It is a common effluent treatment plant run by APIIC to treat the effluents generated and collected from members industries of APSEZ, Atchuthapuram. Often some VOC emissions within the premises of AETL are used to be observed in and around the AETL premises. M/s. Solara Active Pharma Sciences Limited is an industry situated towards South – West side from the site of incident at a radial distance of about 600 meters. It is manufacturing API and Bulk Drugs. M/s. Toyotsu Rare Earths (*India*) Private Limited is situated towards South side from the site of incident at a radial distance of about 600 m. The industry is manufacturing the oxides & carbonates of Rare earth elements.

The main Hazardous chemical factories are located on South side of the factory. The BIIL management has installed 6 gas detectors for detecting Carbon Monoxide, Formaldehyde, Total VOC, Ammonia, Chlorine, Methyl

Mercaptan gases near the factory main gate which is at South West corner of the factory. The unpleasant odor/smell was sensed by the workers on north side of the factory. But, the detectors have not detected any gas present in the ambient air near security gate.

6.5 Status of Onsite & Offsite Emergency Plans and Mock Drills conducted:

The Rule 13 of the Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 (*MSIHC Rules 1989*) prescribes the requirement of preparation of Onsite Emergency Plan by the occupier of an industrial activity and Rule 14 of MSIHC Rules 1989 prescribes the requirement of off-site emergency plan by the District Administration for dealing with emergencies in connection with the industrial activities having the hazardous chemicals with more inventory than that prescribed in column 3 of Schedule 3 of the said rules.

But the present factory M/s Brandix Intimate India Pvt Ltd (*formerly known as M/s Seeds Intimate Apparels India Pvt Ltd*) is carrying a non-hazardous process without any hazardous chemicals, thereby does not qualify under the rules for the above requirement of Onsite and Offsite emergency plans for this industry.

6.6 Investigation conducted by various Departments:

- i. **District Administration:** The District Collector, Anakapalli constituted a Committee comprising of Joint Collector, Environmental Engineer, APPCB, Revenue Divisional Officer, Anakapalli, Deputy Chief Inspector of Factories, Dy. Commissioner of Labour, Anakapalli, Addl. Superintendent of Police, Narsipatnam, Prof. P.J. Rao, Dept. of Chemical Engineering, Andhra University, Visakhapatnam, Prof. P. Rajendra Prasad, Dept. of Chemical Engineering, Andhra University, Visakhapatnam and Md. Yeswen, Managing Partner, Air 'n' Gas Controls to investigate the incident happened. The detailed report is annexed

as **Annexure - 5**. The Committee concluded that the source of toxic gas was from the premises of M/s Brandix Apparel India (P) Ltd., due to spraying of Chlorphyriifos 20% EC between the production blocks and the accumulated vaporous underneath the roof were sucked into the inlets of 4 ducts of Air Handling units installed in M1 & M2 Blocks, thereby leading to the incident. And also reported that except in the premises of M/s. Brandix Intimate India (P) Ltd (BIIL) (*formerly known as M/s. Seeds Intimate Apparel India (P) Ltd*) no other persons of the companies in the vicinity felt any symptoms / smell which was noticed by the employees of BIIL.

- ii. **AP Pollution Control Board:** Officials of APPCB collected residual air and residue samples on the day of incident i.e., on 03.06.2022 from inside the shed near line - 1, inside the shed near line - 7, outside the shed near fresh air inlet and dust samples collected from AHU ducts inside the sheds and from fresh air inlet filter of Air Handling System (AHU) in M1 block in the premises of M/s Brandix Apparel India (P) Ltd., and are submitted to IICT, Hyderabad for analysis and also APPCB monitored Ambient Air Quality within the industry premises using Mobile CAAQM station on 24 Hrly basis for five days period i.e., from 08.06.2022 to 13.06.2022. As per the data generated, the ambient air quality parameters (*CO, O₃, NO, NO₂, NH₃, SO₂, PM_{2.5}, PM₁₀*) were within the NAAQS norms. As per the analysis report of IICT the air and dust samples contain various chemicals such as acetonitrile, dichloromethane, ethyl acetate, n-hexane, toluene, chloromethane, cyclopropane, acetaldehyde, furan, acetone, 2-methyl propanal, n-butanol, 2-methyl furan, 2-butanone, benzene, 2,3 butanedione, 2-methyl butanol, Chlorphyrifos.

Upon second incident on 02.08.2022 collected air samples from the inside & outside premises of M1 & M2 blocks (*during AHU on / off condition*) and also at toilet and corridor between M1 & M2 blocks and collected the samples of air filter dust from all Air Handling

Units (AHU) installed on the top of M1 & M2 blocks during the period from 02.08.2022 to 03.08.2022. And also collected the samples of dust deposited on the AHU ducts in M1 & M2 blocks of M/s Brandix Apparel India (P) Ltd., for analysis. The samples were submitted to IICT, Hyderabad on 03.08.2022 for detailed analysis of VOCs, Methane, Monomeththylamine, Propadine, Ammonia, Mercaptans and pesticides residues viz., Chloriphyrifos, Cypermethrin, Deltamethrin, Beta-Cyfluthrin. However as per the analysis report, pesticide residues of Chloriphyrifos were present in dust samples collected in AHU ducts of M1 & M2 blocks. Action taken report of Environmental Engineer, APPCB, Regional Office, Visakhapatnam dt.06.12.2022 on First incident and Second incident along with Air Quality reports of APPCB and IICT is enclosed as **Annexure - 6**.

- iii. **ICMR, NIN & NIE:** The APPCB requested ICMR-NIN on behalf of Govt. of Andhra Pradesh to investigate into the sudden unknown illness of employees of M/s. Seeds Intimate Apparel Pvt. Ltd wherein women employees were admitted in Govt. & Pvt. Hospitals of Anakapalli District. The Director NIN constituted a multi disciplinary team to conduct outbreak investigation. Another team was also constituted by Dr. Manoj Murekar, Director, ICMR-National Institute of Epidemiology as per the request of APPCB. The teams visited the factory, observed CC TV footage, visited hospital and collected blood and urine samples and also conducted in depth interviews with patients and treating doctors etc., ICMR - NIN, Hyderabad and ICMR - NIE, Chennai jointly submitted investigation report. As per the report, the community diagnosis is

“The clinical picture and epidemic pattern are characteristic of a common source, single exposure outbreak. The acute clinical signs and symptoms were suggestive of inhalation of

organophosphate insecticide. The biomarker of Imidacloprid, an insecticide, were found in four samples among the exposed”.

This is suggestive of inhalation of Imidacloprid Insecticide, but the source of exposure might be accidental or incidental”. The detailed report is enclosed as **Annexure – 7**.

- iv. **Police Department:** Upon receiving information that some unknown gas was leaked from the Seeds Company of Brandix, Atchuthapuram and some of the workers of that company are effected with vomiting and irritative smell and complaint lodged by Sri Lalam Ravi, S/o Somu Naidu, the Superintendent of Police, Anakapalli instructed Inspector of Police, Yalamanchili Circle to investigate the incident. Accordingly, investigation has taken on 03.08.2022 and the detailed report is enclosed as **Annexure – 8**. In the Police investigation report, it was stated that “On verification of CC footages, it is clear that no person is found on suspicious manner in the premises of M/s Brandix Apparel India (P) Ltd., on the day of incident”. The Investigation Officer (IO) asked APPCB, Visakhapatnam and Inspector of Factories to visit the company and to furnish the information. And also given instruction to Medical Officer of various Hospitals to treat the victims and to furnish the information on type of gas of their treatment. IO also collected sample of food material from the Seeds Company and canteen which food was eaten by the workers and send the same to the Asst. director, RFSL, Visakhapatnam with request to analyze the food material. IO also addressed a letter to Joint Director, Agriculture Department, Anakapalli for their report on above chemical used for pest control.

7.0 Recommended remedial measures to prevent such incidents:

Based on the field observations about prevailing working condition, involvement of huge manpower, the Committee suggests following remedial measures to prevent such accidents;

- i. The unit should have proper ventilation system as per the guidelines of Industry and Factories Act
- ii. Any pest/insecticide control fumigation should be taken when no workers in the working place. On application of pesticide/insecticide proper time has to give for dilution and should not impact on any workers.
- iii. The unit should ensure the certified pesticides/insecticides application in inside of the building to avoid any unforeseen circumstances in future.
- iv. The pest/insecticide control fumigation should be taken under the guidance of qualified/trained person who has knowledge about proper ratio of mixing rate of application etc.,
- v. The accessibility of air handling unit to be restricted to only maintenance personals and no other persons are allowed in the area.
- vi. The unit should give proper and periodical mock drill training to all workers to enable them to safeguard their health & life in case of any unforeseen situations.
- vii. Periodical medical examination of workers shall be conducted

8.0 Concluding Remarks of Committee:

The Committee visited the site / location of incidents, the surrounding areas, factories in the Brandix apparel park. The Committee examined the information collected, various reports submitted on the incident and the CC camera footages and the interactions with victims etc.,. Based on these, there are multiple external and internal sources that could have lead to the incident. Some of these are given below:

- a. In the first incident (*occurred on 03.06.2022*), the IICT chemical analysis of various air and dust samples collected from the area inside the shed and the air handling system of M1 and M2 buildings of

M/s.Brandix Intimate India (P) Ltd (*BILL*) (*formerly known as M/s.Seeds Intimate Apparel India (P) Ltd*), shows the presence of several chemicals like acetonitrile, dichloromethane, ethyl acetate, n-hexane, toluene, chloromethane, cyclopropane, acetaldehyde, furan, acetone, 2-methyl propanal, n-butanol, 2-methyl furan, 2-butanone, benzene, 2, 3 butanedione, 2-methyl butanol, Chlorpyrifos. On the other hand, The ICMR-NIN & ICMR-NIE, as mentioned in their report, observed that the clinical picture and the epidemic pattern are characteristic of a single exposure outbreak. The acute clinical signs and symptoms were suggestive of inhalation of organophosphate insecticide. The bio marker of Imidacloprid, an Insecticide, were found in four samples among the exposed samples taken from 52 people. This is suggestive of inhalation of Imidacloprid. But as per the statement recorded from Sri K. Muthyalu, the pest control contract worker during investigation by Factories Department, it was found that the insecticide used on 01.08.2022 night was "Beta Cyfluthrin" but not Imidacloprid. This requires a more detailed probe and analysis.

- b. The CC camera footage shows the execution of pest control activity by the concerned person across the outdoor and indoor areas like M1 block, M2 block, L block etc., at the corners of walls and floor on 03.06.2022 between 9 am to 11 am when all the workers were present at their respective work places. None of them have been found depicting any sign of sensing the smell or feeling inconvenience etc., due to application of insecticides very close to them during the application of the pesticide. The statement recorded by the Factories Department from Sri M. Gangaraju who applied the insecticide on 02.06.2022, it is clear that there was no stock of the pesticide "Alpha Cypermethrin 10%EC" which was intended for indoor spraying since 01.06.2022. It is further clear that the pesticide "Chlorpyrifos 20% EC" was used for inside and outside spraying also. In this background, it needs to be ascertained as to whether pesticides being used and their concentrations and dilution with water can create any

impact on the workers that too in a scenario, as could be seen from CC footage, where the person applying spray was continuously walking with the sprayer gun thereby not facilitating the accumulation of concentration of pesticide at any given spot. This has to be juxtaposed with the deposition of the Welfare Officer Mrs Lavanya, who was around the incident scene. She was found to be comfortable in CC footages on 02.08.2022. The Committee interacted with her and she stated to the Committee that the number of workers who were affected at the incident area were few. After a while, she went to her place of work i.e., M1 block and found all the workers have gone to neighboring factory premises called M/s Quantum Clothing India Private Limited. She also went to the said neighboring factory. When she reached there, she was shocked that several workers had started exhibiting symptoms of toxic exposure in a premises where hardly smell was reported and everything seemed normal.

- c. The sequential connectivity has to be established in the behavior of the workers as to how the incident can trigger and spread in the way it was shown in CC footages.
- d. As per the investigation conducted by the Committee constituted by the District Collector, Anakapalli concluded that spraying of Chlorpyrifos 20% EC between the production blocks and the accumulated vapors underneath the lean to roof were sucked into the fresh air inlet ducts of 4 air handling units installed on slab of M1 & M2 blocks there by leading to the incident. Thus, it has to be confirmed if the concerned air emissions released from the solution in liquid form (*consisting of 1ml pesticide chemical in 100 ml of water*) and the dispersion characteristics of the emissions led to the incident.

In view of the above observations, the Committee unanimously felt the need for conducting a separate and in-depth study of all the industrial activities of the factories around up to 1 km from M/s.Brandix Intimate India (P) Ltd (BILL) (formerly known as M/s.Seeds Intimate Apparel India (P) Ltd),. This study will help the Committee in understanding and assessing possible scenarios, which can result into such incidents, which have happened, in Brandix Intimate India Pvt. Ltd.,. This study will also help in ruling out certain probabilities for these incidents, which in turn helps the Committee to move closure to the conclusion at the earliest. The Committee has also expressed that the Andhra University at Visakhapatnam, being one of oldest and one of the best-rated Universities in the Country, may be requested for carrying out this study with a time line of 3 months. Therefore, it is humbly prayed that an additional time of 4 more months may be granted to the Committee for submission of final report in this matter.


Smt. H D Varalaxmi, Sc. E
& Regional Director,
CPCB, Chennai


Dr. S.K. Ghosh,
NDMA


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Dr. A. Krishnaiah,
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Shri D. Chandrasekhar Varma,
Director of Factories.


Shri Ravi Pattanshetti, I.A.S.,
District Collector & District
Magistrate, Anakapalli


Dr. Shaik Basha,
Scientist & Head,
CSIR-NEERI,
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Andhra University,
Visakhapatnam


Prof. K.V. Rao, (Retd.),
Dept. of Chemical Engg,
Andhra University,
Visakhapatnam.


Chairman, APPCB

Item No. 01

Court No. 1

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

(By Video Conferencing)

Original Application No. 448/2022

In re: News item published in Hindustan Times dated 03.06.2022 titled
**“178 women workers fall ill after gas leak in Andhra’s
Visakhapatnam”**

Date of completion of hearing and reserving of order: 01.08.2022

Date of uploading of order on the website: 03.08.2022

**CORAM: HON’BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON’BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON’BLE PROF. A. SENTHIL VEL, EXPERT MEMBER**

ORDER

1. Proceedings have been initiated *suo-moto* in view of captioned report to the effect that there was gas leak affecting the health of 178 women workers at Visakhapatnam.
2. In pursuance of advance notice dated 06.06.2022, issued by the Registry, response has been filed by CPCB, State PCB and Porus Laboratories Private Limited. Submissions have also been filed by an NGO – “Scientists for People”.
3. The NGO has submitted that the gas released in the present case is from Seeds Intimate Apparel Factory and Porus Lab in APIIC SEZ, exposing 369 women workers to ammonia. There is also probability of incident on account of handling of viscose fabric for innerwear. NGO has accordingly, suggested a scientific study.

4. Stand of CPCB is that according to version of State PCB, gas leak is from M/s Brandix Apparel India Ltd. and not from Porus Lab Private Limited. CPCB has prepared Guidelines titled "**Integrated Guidance Framework for Chemicals Safety in Respect of the Isolated Storages and Industries Covered Under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989**" in pursuance of orders of this Tribunal dated 11.06.2021 in O.A. No. 60/2021 which has been forwarded to all State PCBs/PCCs on 24.12.2021.

5. The State PCB has stated that the incident took place at M/s Seeds Intimate Apparel India Pvt. Ltd. in Special Economic Zone (SEZ) of M/s Brandix India Apparel City (Pvt.) Ltd., (BIAC) Pudimadaka Road, Atchuthapuram, Anakapalli District. The State PCB constituted a Committee to enquire into the incident which has given its report. The report has been examined by the State Government and the matter has been referred to ICMR. The State PCB has sought willingness for further investigation from ICMR, Bhopal, Chennai and Bengaluru.

6. Stand of Porus Laboratories Private Limited is that no leakage has taken place from its premises.

7. From the above, it is seen that large number of workers and inhabitants are adversely affected by gas leakage. According to media report, the leakage took place from Porus Laboratories Pvt. Ltd. but the said unit has denied leakage was from its unit. The State PCB has conducted some investigation but copy of the report has not been filed. According to State PCB, incident has taken place at M/s Seeds Intimate Apparel India Pvt. Ltd. in the premises of M/s Brandix India Apparel City.

Learned Counsel for Brandix India Apparel City has put in appearance and submitted that the source of leakage is not from its unit.

8. While in view of precautionary principle, scientific proof of source is not a condition precedent for action, which can be on probabilities also, burden of proof then being on the unit to rule out its involvement, further inquiry in the matter may be appropriate to fix liability and to prevent recurrence of such incidents in future.

9. This Tribunal has come across violations of safety norms resulting in loss of human lives in the said area even earlier. Reference may *inter-alia* be made to fatal accidents in Nellore District on 29.07.2020 and 11.05.2021 considered by this Tribunal in O.A. 144/2020 vide order dated 07.12.2021 and to incident of gas leak at Vizag on 07.05.2020 resulting in death of 12 persons which was dealt with by this Tribunal vide order dated 01.06.2020 in O.A. No. 73/2020. There have been such industrial accidents adversely affecting humans and environment in Andhra Pradesh.¹

10. The statutory safety norms are laid down *inter-alia* in Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 ("the 1989 Rules"), Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996 (The 1996 Rules), Factories Act, 1948 and Disaster Management Act, 2005. The 1989 Rules require on-site and off-

¹ 1. 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...", OA No. 106/2020 decided on 22.12.2020.

2. 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", OA No. 134/2020 decided on 22.12.2020.

3. In re: News item in NDTV dated 14.04.2022 titled "6 killed, 12 injured after fire breaks out at Andhra Pradesh Pharma Unit", OA No. 284/2022 decided on 20.04.2022.

site plans and holding of mock drills, apart from other safety issues including siting. Chemical Accidents Rules provide for establishment of Central, State District and Local Level Crisis Alert Systems. Director Industrial Safety and State Chief Inspector of factories are to deal with the safety issues under the Factories Act. National Disaster Management Authority and other such authorities at State and District levels have been constituted under the Disaster Management Act, 2005.

11. Accordingly, we constitute a six member joint Committee headed by Chairman State PCB with Regional Director, CPCB, nominee of NDMA, Prof. P. Jagannadha Rao, Department of Chemical Engineering, Andhra University, Visakhapatnam, District Magistrate, Anakapalli, Director Industrial Safety, Andhra Pradesh and Indian Institute of Chemical Technology, Hyderabad. State PCB will be the nodal agency for coordination and compliance. The Committee may hold its first meetings preferably within two weeks and all or some of the Members may undertake visit to the site and interact with the stakeholders and victims to ascertain factual position. Except for site visit, other proceedings may be physical or online. The Committee will be at liberty to co-opt any other Experts/Institution. The Committee may ascertain cause of present incident and suggest measures to prevent such incidents. It may mark areas prone to such incidents and vulnerable industries so as to detect marker pollutant in case of mishaps and take immediate crisis management measures in future, apart from fixing accountability for the incident. Report of the Committee may be furnished within three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF. If any violators are identified, copy of the report may also be furnished to them so that they may file their response, if any, before this Tribunal.

12. Though in the present matter hearing was concluded on 01.08.2022 and order was to be pronounced within two days, it has come to our notice from today's media report² that a further incident of gas leak has taken place in the area from M/s Seeds Intimate Apparel India Pvt. Ltd. in Brandix SEZ in Anakapalle District of Andhra Pradesh. This has affected about 50 people. This incident may also be taken into account by the Committee and if possible, the Committee may undertake site visit within one week and give an interim report of the factual observations, preferably within two weeks. Based on the said factual observations, further course of action may be indicated in the final report.

List for further consideration on 16.12.2022.

A copy of this order be forwarded to Chairman State PCB, Regional Director, CPCB, nominee of NDMA, Prof. P. Jagannadha Rao, Department of Chemical Engineering, Andhra University, Visakhapatnam, Director Industrial Safety, Andhra Pradesh, District Magistrate, Anakapalli and Indian Institute of Chemical Technology, Hyderabad by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Prof. A. Senthil Vel, EM

August 3, 2022
Original Application No. 448/2022
SN

² Gas Leak In Industrial Area Near Visakhapatnam, 50 Hospitalised: https://www.ndtv.com/india-news/gas-leak-in-industrial-area-near-visakhapatnam-50-fall-ill-hospitalised-3218582?utm_source=newsshowcase&utm_medium=gnews&utm_campaign=CDAQ8oW5wamYwMZzGK_59fnG1gmQrwEqEAqAKgcICjCPvfBKMIMit-QI&utm_content=rundown

**Interim Report on the
Incident on 02.08.2022 at Brandix Intimate India Pvt. Ltd., located in the
premises of M/s. Brandix India Apparel City Pvt., Ltd, SEZ, Atchuthapuram,
Anakapalli District, Andhra Pradesh.**

1.0 Preamble

1.1 The Hon'ble National Green Tribunal (NGT) in O.A. No. 448/2022 Dated, 03.08.2022 passed the following orders.

“Accordingly, we constitute a six-member joint Committee headed by Chairman, State PCB with Regional Director, CPCB, nominee of NDMA, Prof. P. Jagannadha Rao, Department of Chemical Engineering Andhra University, Visakhapatnam, District Magistrate, Anakapalli. Director Industrial Safety, Andhra Pradesh and Indian Institute of Chemical Technology, Hyderabad. State PCB will be the nodal agency for coordination and compliance. The committee may hold its first meetings preferably within two weeks and all or some of the Members may undertake visit to the site and interact with the stake holders and victims to ascertain factual position. Except for the site visit, other proceedings may be physical or online. The Committee will be at liberty to co-opt any other Experts/Institution. The committee may ascertain cause of present incident and suggest measures to prevent such incidents. It may mark areas prone to such incidents and vulnerable industries so as to detect marker pollutant in case of mishaps and take immediate crisis management measures in future, apart from fixing accountability for the incident. Report of the Committee may be furnished within three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR support PDF and not in the form of image PDF. If any violators are identified, copy of the report may also be furnished to them so that they may file their response, if any, before this Tribunal. Though in the present mater hearing was concluded on 01.08.2022 and order was to be pronounced within two days, it has come to our notice from today's media report that a further incident of gas leak has taken place in the area from M/s Seeds Intimate Apparel India Pvt. Ltd. in Brandix SEZ in Anakapalli District of Andhra Pradesh. This has affected about 50 people. This incident may also be taken into account by the Committee and if possible, the Committee may undertake site visit within one week and give an interim report of the factual observations, preferably within two weeks. Based on the said factual observations, further course of action may be indicated in the final report. List for further consideration on 16.12.2022 “.



2.0 Constitution of the Committee

2.1 In compliance to the Hon'ble NGT order, APPCB as the nodal agency has constituted the committee with the following members:

1. Shri A. K. Parida, IAS (Retd.), Chairman, APPCB - Chairman
2. Smt. H D Varalaxmi, Regional Director, CPCB, Chennai - Member
3. Dr. S.K. Ghosh, NDMA - Member
4. Prof.P. Jagannadha Rao,
Department of Chemical Engineering,
Andhra University, Visakhapatnam - Member
5. Shri R. Pattansetti, IAS,
Collector and District Magistrate, Anakapalli District - Member
6. Dr. D C Varma, Director, Industrial Safety, AP - Member
7. Dr. A. Krishnaiah, IICT, Hyderabad - Member

3.0 Meeting and Site Visit by the Committee:

3.1 The meeting of the Committee was convened on 19.08.2022 through video conference and the Chairman briefed about the mandate of the Committee. The Committee was also briefed about the two incidents which took place on 03.06.2022 and 02.08.2022 at M/s Seeds Intimate Apparel India (P) Ltd., The Committee after a detailed discussion decided to make a site inspection on 01.09.2022 & 02.09.2022. The Committee also decided to coopt the following members.

- i. Dr. Shaik Basha, CSIR - NEERI.
- ii. Prof. S. Balaprasad, Andhra University.
- iii. Prof. K.V. Rao, Andhra University.

3.2 The Committee consisting of the above 10 members with Shri A.K. Parida, IAS (Retd.) as Chairman inspected M/s. Seeds Intimate Apparel India (P) Ltd., and interacted with all the stakeholders as well as the affected workers on 1st and 2nd September, 2022. The Committee also inspected all the nearby other 14 units of M/s. Brandix India Apparel City (P) Ltd., and interacted with the workers and the Senior Management Team of each unit.



4.0 Factual Report on the 1st incident (03.06.2022)

4.1 The Collector and District Magistrate, Anakapalle has submitted a detailed report to the Government on the 1st incident which took place on 03.06.2022. The findings of the Committee on the 1st incident will be submitted in the final report.

5.0 Factual Report on the 2nd incident (02.08.2022)

5.1 Some of the employees of M/s. Brandix Intimate India (P) Ltd. (M/s. BIIL) (formerly known as M/s. Seeds Intimate Apparel India (P) Ltd) working in M1 and M2 blocks were affected due to inhalation of an unknown unpleasant odour in the open space at the rear (north) side of M1 and M2 blocks. The incident had happened from around 6:40 pm on 2nd August 2022 and lasted for an hour. M/s BIIL is located in Plot No.11 in the premises of M/s. Brandix India Apparel City (P) Ltd., SEZ, Pudimadaka Road, Atchuthapuram, Anakapalli District (which was part of the erstwhile Visakhapatnam District). The management of M/s. BIIL informed the visiting team that the employees of the unit experienced unusual unpleasant smell at around 6.40 pm in the region of the lunch boxes stored racks area (called as locker area), the female washroom area which are at north side of the M1 & M2 blocks, part of the open bay between the M1 and M2 blocks, and part of the west side open area (along the west side road).

5.2 Soon after knowing about the incident, the Collector and District Magistrate, Anakapalli; RDO Anakapalli, Regional Officer and Asst. E.E., APPCB, Visakhapatnam, Deputy Chief Inspector of Factories, Visakhapatnam and I/c. Inspector of Factories, Visakhapatnam-II have reached the area where the incident had taken place. The above officials visited the factory operational area and other facilities of M/s. BIIL. Later, the Deputy Chief Inspector of Factories, Visakhapatnam and the I/c. Inspector of Factories, Visakhapatnam –II, have visited the factory again on 03-08-2022 at 10.00 AM and enquired about the incident. The Director of Factories along with the Deputy Chief Inspector of Factories, Visakhapatnam and the I/c. Inspector of Factories, Visakhapatnam–II visited the factory on 04-08-2022 at 10.00 AM, and conducted further enquiry. Some of employees working in the M1 and M2 blocks, who were exposed to the unpleasant odor, suffered from the symptoms like dizziness, vomiting, headache, uneasiness and breathlessness. The management identified such workers / employees and admitted them in nearby hospitals located in Anakapalli and Atchuthapuram.

6.0 Operation details of M/s Brandix Intimate India (P) Ltd., (formerly known as M/s Seeds Intimate Apparel India (P) Ltd.

6.1 M/s. Brandix Intimate India (P) Ltd. (M/s. BIIL) (formerly known as M/s. Seeds Intimate Apparel India (P) Ltd), is registered as 2m(i)factory bearing R. No. 104025. Sri Rajiv Priyan Malasekera is the occupier of the factory (designation in the factory) and Sri. Sanjeewa Abeyrathna is the manager of the factory. The license limits are 3715.39 HP and maximum employees up to 5000. As such, this unit is categorized as non-hazardous factory.

6.2 M/s. BIIL has four building blocks namely M1, M2, L and N blocks and open space /areas. The two manufacturing blocks are designated as M1 and M2, whereas the L4 block

houses the administration office, moulding, preproduction, cutting, and warehouse for storage of raw material and finished apparel product. The Block N is meant for utilities including a medical room and canteen. There is a separate room in N block, which is designated as compressor and chiller room. There are three cooling towers behind the N block at a distance of 6 m from the N block. The bus parking area is at the rear side (north side) of the M1 and M2 blocks. The rest rooms or washrooms were provided at the backside (north side) of M1 and M2 blocks. There is a chemical storage unit, which stores chemicals necessary for the chilling unit. A Diesel Generator set with a capacity of 1010 KVA (2 Nos) is installed and a diesel storage tank of capacity 15 KL exists.

6.3 The corridor between M1 and M2 is 6 meters wide and it is open to sky. The width of the open space on North side of M1 block is 15 meters (North side M1 to North compound wall) as shown in Figure 1. There is a drain with around 7 soak pits out of which 3 soak pits of M2 are situated on back (North) side of M2 block, one soak pit of M2 is adjacent to corridor between M1 & M2 blocks. There are 3 soak pits of M1 located on back side of clock/locker room and washroom area.

The working areas viz. M1, M2 and L blocks are centrally air-conditioned. The air conditioning system is described below.

6.4 The Air Conditioning System

The air conditioning facility provided is chilled water HVAC system consists of a central chilling unit outside the building as shown in Figure 1. There are total eight Air Handling Units (AHU) catering the air-conditioning needs of both M1 (4 AHUs for M1) and M2 (4 AHUs for M2) blocks. The AHUs are located at the roof top of M1 and M2 buildings. The each of the AHUs provide fresh air inlet to draw outside air. The fresh air drawn through these inlets is mixed with the chilled air and circulated in the air conditioning system.

- Chilling room has one chilling plant and three no. of compressors in N block.
- 4 number of Air Handling Units (AHU) are provided for each of the M1 & M2 Blocks (Two 75TR AHUs are located at North side and the other two 80TR AHUs are at South side of the blocks.
- Capacity of AHUs for each block is 80 TR AHUs (2 No.s)-34,400 CFM; 70TR AHUs (2 No.s) - 28000CFM.
- The lines numbered as 1,3,5,7,9,11,21,22 in the manufacturing blocks are connected to AHUs-3 at South West side of M1
- The lines bearing numbers 2,4,6,8,10,12 are connected to AHU-4 at South East side of M1
- The lines 13,15,17,19,23 are connected to AHU-2 at North East side of M1
- The lines 14,16,18,20,24 are connected to AHU -1 at North west side of M1
- The AHU Room size 20.9ftx16inch.
- Fresh air damper of AHU size 20-inch 7 x 16 inch.
- AHUs No. 3 & 4 are installed on terrace slab of M1 building at South side at a distance of 5 m from corridor lean to roof.

6.5 Statutory Permissions

The industry has the following statutory clearances from the concerned authorities

- License from Factories Department
- Permission from PESO
- Consent from AP Pollution Control Board.
- NOC of Fire Service Department

6.6 Process Description

M/s. Brandix Intimate India (P) Ltd. is an apparel factory producing the apparels. It is engaged in manufacturing or knitting of Bras up to 39,800 numbers/day and Bralets up to 10,200 numbers/day. The factory receives fabric, elastic, hooks, PU cups, rings and slides, stickers, tags etc. as raw materials. Initially, as per the designs, the cutting of the fabric takes place in the L block. Then it is supplied to the M1 and M2 blocks where the workers stitch the fabric to make the final product and pack it. The packed product is sent to designated storage in L block. The major activity in the M1 and M2 blocks is tailoring. The approximate dimensions of the each of the M1 and M2 blocks are 80 m x 50 m. The ceiling is at a height of 5m at eaves. The M1 and M2 blocks are centrally air-conditioned blocks where the temperature and humidity are maintained in the range of 25° C - 26° C and 55% - 60% respectively. The noise levels are measured during the field visit and the average noise level is 65 dB. The staff working in these blocks is exposed to these conditions for duration of approximately 7.5 hours in a working day. The production floor layout of the M1 and M2 blocks is shown in Figure 2.

6.7 RECENT DEVELOPMENTS

M/s. Quantum Clothing India Pvt. Ltd., which is owned by Brandix India Apparel City (P) Ltd., located adjacent to the M/s. Brandix Intimate India (P) Ltd. was closed on 30.04.2022. M/s. SEEDS Intimate Apparel India (P) Ltd was recently acquired by the Brandix Apparel India Ltd and renamed as M/s. Brandix Intimate India (P) Ltd.

The employees working in M/s. Quantum Clothing India Pvt. Ltd. were transferred to M/s. Brandix Intimate India (P) Ltd. on 01-06-2022. All the employees who worked earlier in Quantum are transferred now to BIIL and are now majority are working in M1 block and a few of them are working in M2 block.

7.0 FACTUAL OBSERVATIONS OF THE COMMITTEE

The NGT Committee visited the site on 1st and 2nd September 2022 to ascertain the issues related to the incident occurred on 2nd August 2022. The following are some of the observations made during the visit of the Committee.

7.1 After two days of the joining of workers from M/s Quantum Clothing India Pvt. Ltd. into the M/s. Brandix Intimate India (P), the first incident occurred on 3-6-2022. After the first incident, the activity in the M1 building was closed till 15.06.2022 and the work in the M1 block of BIIL was resumed on 16.06.2022. The management of the M/s BIIL stopped chemical spraying/fumigation for pest control work after the first incident (3-6-2022). After a gap of

about 15 days again the fumigation process was restarted on 01-08-2022. The β -Cyfluthrin 2.45% SC (SC: Suspension Concentrate) chemical was used for fumigation of the outside the premises. Moreover, subsequent to the first incident, the management decided to spray the pest and insect control chemical during the night times after completion of the B or second shift (from 2.00 PM. to 10.00 PM). Accordingly, on 01-08-2022, β -Cyfluthrin 2.45% SC was sprayed for pest control from 11.00 PM after the B shift. The chemical for pest control was sprayed for a total duration of approximately 3 hours. The pest control operator had sprayed the chemical at the verandah and outside the M1, M2, L and N blocks. The workers, who came to work on 02-08-2022 for the first shift from 6.00 AM to 2.00 PM, did not feel/sense any odor or smell. After their shift by 2.00 PM, they went back to their homes safely.

7.2 The other group of workers who came for the B or second shift started sensing the smell or odor from around 6:40 pm. Normally, the workers in the B shift take a break and go to the canteen in two spells. The 1st spell is from 6.00 PM to 6.30 PM and 2nd spell is from 6.40 PM to 7.10 PM. The workers who went for dinner break during the 1st spell were not affected and didn't sense any smell except a few who returned to the M1 block after completion of the first break. They completed their break for snack / dinner from 6.00 pm to 6.30 pm and returned to their duty. The workers, during the dinner break for second spell, came out from M1 block at about 6.30 pm from north side exit for going to the rest rooms besides collecting their dinner / snack boxes from lockers on the northern side of the M1 block. During this period, these workers have sensed an unpleasant odor or smell initially at lockers area and in the verandah and open space abutting the lockers area around 6:40 pm. A little later, some of the workers, who had been exposed to the odor, experienced nausea and vomiting sensation. Immediately, these workers have been moved to a safe place towards neighboring factory on west side i.e., M/s Quantum Clothing India Pvt Ltd. From there, some of the workers were shifted to the nearby hospitals and others were shifted to their homes by buses. Some of the workers, who had uncomfortable symptoms while going home, were also joined in the nearby hospitals. A total 129 workers were admitted in different hospitals located in Anakapalli and Atchyuthapuram. The chronology of occurrences in the incident in the BIIL is as follows:

18.43: In the mid bay (corridor) of M1 and M2, one worker from M1 block while going to canteen area sensed an unpleasant smell.

18.47: Another worker from the M1 block complained about the smell to welfare officer.

18.55: Unit Engineering, safety, HR and other teams also felt the smell in the mid bay area and checked for other areas.

19.00: It was observed that a smell had been felt in midway exit areas (corridors) and no smell was experienced in other areas viz. inside the M1, M2, and L blocks, the entrance security gate area of the BIIL and the open spaces at other locations.

19.20: All the areas were checked continuously for detection of smell and all the AHUs and AC's were switched off as a precautionary measure.

19.20: One worker was taken by wheel chair to medical room (OHC).

19.22: One worker moved from M1 and M2 path ways to medical room.

19.28: One worker reported from lockers area to medical room and another associate reported from M1 path way to medical room.

19.45: One worker started vomiting and ambulance was made ready.

19.46: First patient moved from the factory to Medirise Hospital, Atchutapuram by ambulance.

20.00: Few more workers started complaining about vomiting, headache and dizziness. Stated evacuation of workers and shifted sick employees to nearby hospitals and got logistic support from all other Brandix units.

21.00: The shift operations were suspended in all areas of the unit and started sending all the workers to their homes.

7.3 The workers who were admitted into various hospitals were discharged within a day after medical treatment. The district administration reacted promptly and reached the incident site. They along with the factory and park personnel assessed the situation and took care of the affected persons.

Number of Workers admitted in different Hospitals

Sl. No.	Hospital Name	No. of workers admitted
1.	NTR	43
2.	Usha Prime	46
3.	Satyadev	14
4.	Medirise	15
5.	Sree Vaibhav	6
6.	Starzen	5
Total		129

7.4 The affected people were provided medical treatment and the needy people were admitted in to different hospitals. The officials of Director of Factories, AP Pollution Control Board, Revenue, Police and other departments at the district level looked into the accident issues and conducted studies. Apart from the above government machinery, the premier institutions involved in the study to analyse the accident scenario include NIE, NIN, etc. The preliminary reports of studies conducted by NIE, NIN were collected during the NGT committee visit. Some of the observations made by the committee are as follows.

- On 01-08-2022 at about 10:30 pm, Sri. Koviri Mutyalu, age 29 years, who has been working as pesticide and insecticide spraying operator from the contracting agency of M/s. Pest Cure Solutions & Fumigation, sprayed β -Cyfluthrin 2.45% SC solution prepared using 50 ml of the chemical in 05 liters of water all along bottom corner of the outside walls of L, M1, M2, and N Blocks.
- At the time of incident there were 940 workers in M1 block, 727 in M2 Block and 254 in L block and a total of 1921 workers present in the factory.
- Out of the 129 female workers who were hospitalized, 122 employees were workers from M1-Block and 07 workers from M2 Block.

- The Pollution Control Board authorities from Visakhapatnam office collected air and dust samples from different locations. Dust samples from air filters, ducts of air handling system at different locations in M1 block. The air inside the M1 block was sampled using air bags and sorption tubes. These samples were sent to IICT laboratory, Hyderabad for parametric analysis. After the incident PCB authorities seized the M1 block.
- The wind direction, as stated by the officials of the APPCB and the Industry department, is predominantly from South-West to North-East. It needs to be further factually ascertained.
- During the course of enquiry by the officials of factories department it was observed that the covers over the soak pits and other drains (storm water pits) were opened near the chemical room. It was further observed that a soak pit (30cmx30cmx60cm approximately) has not been cleaned for few weeks and observed foul odor. There are 117nos. of wash rooms and 27nos. of sewer man holes present in the factory. Through these manholes, every day, 225 KL of water will reach the centralized effluent treatment plant located on South-West corner of BIAC.

7.5 Committee came to know about some internal issues in the factory prior to the incident were observed. From 01.06.2022 onwards 2446 workers were taken into Brandix Intimate India Pvt. Ltd from nearby Quantum Clothing India Pvt Ltd in which operations were terminated due to financial crisis. Initially workers from Quantum Clothing India Pvt Ltd refused to work in Brandix Intimate India Pvt. Ltd., but the management of the factory persuaded them by assuring provision of required amenities to them. The associates from Quantum (operators, quality and supporting workers) were engaged in M-1 building. Staff and executives were allotted to concerned departments based on hierarchy. At the time of assigning roles, there was resistance from some departments especially from RMWH (Raw Material Ware House) department workers. By conciliating the employees from both the units, job roles were assigned accordingly. The 120 numbers of workers from RMWH department were taken to Kondakarla Ava Lake on 24.07.2022 as a part of outbound training program and a picnic like program was arranged to conciliate and alleviate the apprehensions of the workers from both the units.

7.6 There are several industries around the BIIL in the Atchutapuram SEZ. The factories located within 1km radius of this factory were verified. The details of the nearest factories are given below.

The factories on East side:

1. Rain CII Carbon (Vizag) Limited
2. Uniparts India Limited
3. Pioneer Elastic India Pvt Limited

The factories on North side:

1. Pilkington Automotive India Pvt Ltd.

The factories on West side:

1. ATC Tires AP Pvt. Ltd.

2. Brandix Apparel India (P) Ltd. Unit - I
3. Teejay India Pvt Ltd.
4. Quantum Clothing India (P) Ltd.
5. Brandix India Apparel City (P) Ltd. ETP

The factories on South side:

1. Solara Active Pharma Sciences Limited
2. Porus Laboratories Pvt. Ltd.
3. Toyotsu Rare Earths India (P) Ltd.

7.7 Pilkington Automotive India Pvt Ltd factory is located on north side. The factory produces windshields of cars and trucks. Black ink is used to design the wind shield glasses. The ink is black in color having a flash point is 90°C (ISO 3679). It is not explosive and do not cause hazardous reactions. However, it has irritant effect on skin and eyes. The factory is also having N.C thinner D13 – X solvent which is used to clean the wind shields. The thinner is prone to fire and explosion hazard. Between these two factories, the Brandix officers' quarters are located. The odor problem was not reported by the residents of the quarters or the officers and staff of the automotive company as stated by them.

7.8 On western side, ATC Tires AP Pvt. Ltd., Unit – I of Brandix Apparel India (P) Ltd., Teejay India Pvt Ltd., Quantum Clothing India (P) Ltd., and ETP of Brandix India Apparel City (P) Ltd. are located. Last year, Quantum Clothing India (P) Ltd. which is a garment manufacturing unit closed its operations. Brandix 1 is also a garments manufacturing unit involved in cutting and stitching of fabric to produce apparels. Teejay India (P) Ltd is located within a radial distance of 1Km. Its manufacturing activity is "Knitting and Dyeing of Fabric". The main chemicals used are Hydrogen Peroxide of 30% concentration which is a strong oxidizer with a health hazard rating of 3 as per the NFPA 704 and Acetic acid which is also stored in the premises, its NFPA hazard rank being 3-2-0 besides corrosion. Both are stored up to a maximum of 2 MT only at ambient conditions.

7.9 On Eastern side, there are 4 units as stated earlier. M/s Uniparts India Ltd. located within a radial distance of 1Km which produces precision machined parts. M/s Uniparts India Ltd. uses hazardous material such as propane (up to 32 MT storage). The NFPA 704 for propane is 2-4-0. Pioneer Elastic India Pvt Ltd is located within a radial distance of 0.3 Km. The factory is manufacturing elastic ware for use in bras and bralets. Rain CII Carbon Vizag Ltd. is located within a radial distance of 1 Km and it produces Calcinated Carbon. Aqueous Ammonia of 24% concentration is stored up to a storage capacity of 630 KL with the NFPA 704 classification of 3-1-0. Emissions of ammonia gas, very toxic in nature, may be from the storage vent at ambient conditions. As per the preliminary report no smell was sensed in this factory on 2-8-2022.

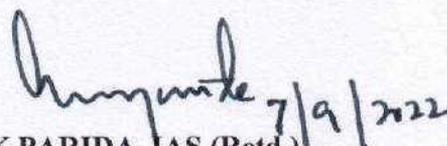
7.10 The industries located in the south side of the incident area are already listed earlier. M/s. Porus Laboratories Private Limited (Unit – VI) is situated toward Southern side from the site of incident at a radial distance of approximately about 550 m. The industry is manufacturing Agrochemicals and Specialty chemicals. M/s. Atchutapuram Effluent Treatment Limited (AETL) unit is situated towards South – East side from the site of incident

and it is at a radial distance of about 2.0 Km. It is a common effluent treatment plant run by APIIC to treat the effluents generated and collected from members—industries of APSEZ, Atchuthapuram. Often some VOC emissions within the premises of AETL are used to be observed in and around the AETL premises. M/s. Solara Active Pharma Sciences Limited is an industry is situated towards South – West side from the site of incident at a radial distance of about 600 meters. It is manufacturing of API and Bulk Drugs. M/s. Toyotsu Rare Earths (India) Private Limited is situated towards South side from the site of incident at a radial distance of about 600 m. The industry is manufacturing the oxides & carbonates of rare earth elements.

7.11 The main Hazardous chemical factories are located on South side of the factory. The BIIL management has installed 6 gas detectors for detecting Carbon Monoxide, Formaldehyde, T VOC, Ammonia, Chlorine, Methyl Mercaptan gases near the factory main gate which is at South West corner of the factory. The unpleasant odor/smell was sensed by the workers on north side of the factory. But, the detectors have not detected any gas present in the ambient air near security gate. There are lot of vegetation grown in and around the factory and some well-maintained lawn. Some temporary workers were working in this area did not complain about any unusual smell. There is a good natural air flow in the surroundings with adequate dilution factor. It was inferred that in each row, there are designated supervisors, but no workers reported him/her about the foul smell outside. It was informed that in this factory internal safety committee exists, but its investigation report could not be obtained.

8.0 Conclusion

8.1 It is most respectfully submitted, that the Committee has completed the first round of visit and had discussion with the stakeholders including affected workers of second incident. The Committee has asked the management to provide the CCTV footages of both the incidents and has also asked to provide the medical reports of all affected workers. The Committee is also planning to visit one more time to verify the safety aspects in place in other vulnerable units to prevent such incidents. The Committee proposes to build a database on all the nearby industries and develop a Safety Warning Model to issue warning to the vulnerable industries concerned to take preventive steps much in advance to avoid any such incident in future, which will be the first of its kind in the country. The compilation and interpretation based on the information provided by the subject units and line departments have to be prepared by the Committee. The Committee will abide by the directions, if any, of the Hon'ble Tribunal and complete the investigations and submit the final report on or before 16.12.2022.


 SHRI A.K PARIDA, IAS (Retd.)
 CHAIRMAN, APPCB &
 CHAIRMAN OF THE NGT COMMITTEE

**GOVERNMENT OF ANDHRA PRADESH
FACTORIES DEPARTMENT**

-:-

From:
Sri V. Suresh
B.E, M.B.A,
Deputy Chief Inspector of Factories,
Visakhapatnam.

To,
The Chairman of Committee appointed
by National Green Tribunal on
Brandix Intimate India (P) Ltd,
Plot No.11, BIAC, APSEZ,
Atchutapuram.

Lr. A.No. 316641/2022, Dated: 05-12-2022

Sir,

Sub:- Submission of copies of enquiry reports and other evidences – Incidents occurred on 03-06-2022 & ~~02-08-2022~~ in Brandix Intimate India (P) Ltd, Plot No.11, BIAC, APSEZ, Atchutapuram submitted - regarding.

With reference to the above subject cited, It is herewith submitted ~~that~~ the enquiry reports and evidences pertaining to the incidents occurred on 03-06-2022 & 02-08-2022 in Brandix Intimate India (P) Ltd, Plot No.11, BIAC, APSEZ, Atchutapuram as instructed.

Yours faithfully,


Deputy Chief Inspector of Factories,
Visakhapatnam

**Enquiry report on the incident that occurred on
03.06.2022 at M/s. Seeds Intimate Apparel India Pvt. Ltd.,
located in the premises of M/s. Brandix India Apparel City
Pvt., Ltd, SEZ, Atchuthapuram, Anakapalli District**

Introduction:

On 03.06.2022 an incident took place in between 11:50 AM to 12:00 Noon in M/s. Seeds Intimate Apparel India Pvt. Ltd., Plot No. 11 located in the premises of M/s. Brandix India Apparel City Pvt Ltd, SEZ, Pudimadaka Road, Atchuthapuram, Visakhapatnam District(Presently Anakapalli District) and employees of M/s.Seeds Intimate Apparel India Pvt. Ltd were affected due to inhalation of unknown toxic gas. The management of M/s. Seeds Intimate Apparel India Pvt., Ltd informed that the employees felt smell around 11:50 AM within the block and few people vomited. Employees with symptoms like vomiting, bowl irritation and breathlessness, were admitted to NTR Government Hospital, Anakapalli, Atchuthapuram PHC & other Private Hospitals viz., Medirise, Stargen and the entire premises was vacated by 01:00 PM. Soon after knowing about the incident, the Addl. Superintendent of Police, Narsipatnam, District Collector, Anakapalli, Revenue Divisional Officer, Anakapalli, Environment Engineer & Assistant Environmental Engineer, APPCB, Visakhapatnam and I/c Inspector of Factories & I/c Deputy Chief Inspector of Factories, Visakhapatnam have reached the area where the incident was occurred. The above officials have visited operational area and other facilities of M/s.Seeds Intimate Apparel India Pvt. Ltd and also conducted meeting with Hon'ble Minister for Industries, infrastructure, Investment & Information Technology along with the related department officials. I/c Deputy Chief Inspector of Factories ,Visakhapatnam has visited the unit on 04.06.2022 at 4.30 pm and enquired about the incident .

The District Collector, Anakapalli has constituted a committee with the following Officers vide order RC.No.290/2022/D/, dt:04.06.2022 to conduct an inquiry and submit report.

- | | |
|--|------------------|
| 1. Joint Collector, Anakapalli | -Chairman |
| 2. Environmental Engineer, APPCB | -Member Convenor |
| 3. Revenue Divisional Officer, Anakapalli | -Member |
| 4. Deputy Chief Inspector of Factories, | -Member |
| 5. Dy.Commissioner of Labour, Anakapalli | -Member |
| 6. Addl. Superintendent of Police, Narsipatnam | -Member |
| 7. Prof. P. J Rao, Dept. of Chemical Engineering, Andhra University, Visakhapatnam | -Member |

8. Prof. P. Rajendra Prasad, Dept. of Chemical Engineering, Andhra University, Visakhapatnam -Member
9. Md. Yaswen, Managing Director, Air & Gas Solutions -Member

A.P. Pollution Control Board also constituted the Committee with following members vide proceedings dt: 04.06.2022 for inquiry of Gas leak incident at M/s.Brandix India Apparel City Ltd,(BIAC), Brandix SEZ, Atchutapuram, Anakapalli District.

1. Joint Collector, Anakapalli District
2. Joint Chief Environmental Engineer, Zonal Office, APPCB, Visakhapatnam.
3. Inspector of Factories Visakhapatnam
4. Zonal Manager, APIIC, Atchutapuram

I have also visited the area of the incident site along with the above Committees and surrounding industries on 06.06.2022 & 07.06.2022 to investigate the possible cause of the incident and also to explore the type and source of the unknown gas experienced on the day of incident .

Description of the site of incident:

M/s.Seeds Intimate Apparel India Pvt. Ltd is a garment manufacturing unit existing in M/s.Brandix India Apparel City Pvt., Ltd, SEZ, Pudimadaka Road, Atchuthapuram, Visakhapatnam District(Presently Anakapalli District). M/s.Seeds Intimate Apparel India Pvt Ltd is engaged in manufacturing of Knitting of Bras - 39,800 Nos/day & Knitting of Bralet - 10,200 Nos/day.

The unit is a registered Zm (i) factory bearing Registered number: 104025. Sri Rajiv Priyan Malasekara is the occupier of the factory and Sri Sanjeewa Abeyrathna is the manager of the factory . the licence limits are 3715.39 HP and 4000 workers . The unit comes under non-hazardous category .

Facilities & Utilities:

- The facility consists of four blocks namely Manufacturing Block - M1, Manufacturing Block - M2, Administration and Warehouse - L and Utilities & canteen - N.
- Chilling plant (1 No.) with three no. of compressors in N block.
- DG Set capacity of 1010 KVA(2 nos).

- Diesel storage tank of capacity 15 KL.
 - The sizes of M1 block and M2 blocks are 60mx50mx 5m height at eaves
 - 4AHUs are provided for each M1 and M2 buildings, two(75TR AHUs-1,2) at north side and two(80 TR AHUs-3,4) at south sides of buildings.
 - Capacity of AHUs for each building : 80TR AHUs (2No) -34,400CFM
70 TR AHUs(2no) -28,000CFM
- Lines 1,3,5,7,9,11 connected to AHU-3 at South west side of M1
Lines 2,4,6,8,10,12 connected to AHU- 4 at south east side of M1
Lines 13,15,17,19,23 connected to AHU-2at north east side of M1
Lines 14,16,18,20,24 connected to AHU-1at north west side of M1
- AHU room size :20.9ftx16.9ft
Fresh air damper of AHU size:20x16 inch
AHUs No 3& 4 are installed on slab of M1 building at south side at a distance of 5m from corridor lean to roof

Statutory Permissions:

- License from Factories Department.
- Permission from PESO.
- Consent from A.P Pollution Control Board.
- NOC of Fire Service Department.

Joint Inspection of the Committee:

Followed by the proceedings of Hon'ble Collector & District Magistrate, Anakapalli District, the Committee under chairmanship of Joint Collector, Anakapalli District has conducted systematic investigation into the incident by physical visits to the site of incident and as well as the surrounding industries.

Due to the incident a total of 420 personnel got affected and were admitted in various hospitals over a span of one week of which 401 were discharged till 10.6.2022. As per local enquiry conducted by the Tahsildar the affected employees experienced pungent smell after which they started feeling nausea, reeling sensation, chest pain, abdominal pain, cramps, breathlessness etc.. No serious cases were found and all are recovered later. Only female workers were got affected in this incident. Initially the workers working at lines 1,7 and 8 in M1 shed were affected and further the others in the M1 shed and M2 shed were got affected. The lines 1,7,8 are connected to AHU-3 and 4 of M1 at southside of M1 building. To find out the reasons of the alleged leak and keeping in mind the above series of events, various possible scenarios were considered for the study and a typical fishbone analysis was taken up to find out the causal factors responsible for the incident. As a part of conducting investigation, lot of technical information was collected from all the surrounding industries and feedback was taken by interacting with the employees of the surrounding industries. The committee has gone through various manufacturing process & operations of the surrounding Pharma industries and critically studied the possibility of release of any toxic gases in to the atmosphere in case of worst scenario.

In order to consider all possibilities, the committee has visited the following surrounding industries from the site of the incident as per the prevailing wind direction as on the day of incident. The predominant wind direction during the time of incident is from South-South West to North-North East. The following units are situated towards south- south west direction of M/S Seeds Intimate apparel India Pvt. Ltd

1. M/s.Porus Laboratories Private Limited(Unit-VI)
2. M/s.Atchutapuram Effluent Treatment Limited(AETL):
3. M/s.Solara Active Pharma Sciences Limited:
4. M/s. Toyotsu Rare Earths (India) Private Limited:

The observations of the joint committee made are enumerated below :

➤ **M/s.Porus Laboratories Private Limited(Unit-VI):**

- The industry is situated towards southern side from the site of incident at a radial distance of about 550 mts.
 - The industry is manufacturing Agro & Specialty Chemicals.
 - The management of *M/s.Porus Laboratories Private Limited(Unit-VI)* has informed to the committee that "the scrubber at HCL storage area got tripped at 09:45 AM on 03.06.2022 and the same was rectified within 5 minutes". The Committee has visited that spot and opined that there will be no adverse impact due to the short term process disturbance of 5 minutes.
 - The committee has visited all the manufacturing blocks and available DCS to find out any process interruptions and operability of scrubbers. From the information provided by the Plant Authorities it was found that no accidental release of process emissions in to the atmosphere.
 - The synthesis of the process at various phases was critically studied and found that chlorination is being done at Stage-I & Stage -III of the product(M324). As the industry has provided 3-stage scrubbers to control the chlorine and HCL emissions and the scrubbers were in continuous operation as per the data collected from the DCS ,there is no possibility of escape of chlorine /HCL gas .
 - About 68 Kgs of Chlorine is available in the process whereas, there is no scope of escape of Chlorine as the scrubbers are in continuous operation.
 - After collecting the information about the utilities, no interruptions were found. **Hence, there is no possibility of release of Chlorine from M/s.Porus Laboratories Private Limited(Unit-VI) in to the atmosphere.**
- **M/s.Atchutapuram Effluent Treatment Limited(AETL):**
- The facility is situated towards South-East side from the site of incident at a radial distance of about 2.0 Km.
 - The facility is a common effluent treatment plant run by APIIC to treat the effluents generated & collected from member industries of APSEZ, Atchuthapuram.

- The committee has visited the facility and observed that the operations are in place.
- During the visit, the committee has observed some VOC emissions within the premises of AETL and the committee opined that there is no possibility of these emissions to reach the site of incident as the prevailing wind direction towards from South-West to North-East.
- **M/s.Solara Active Pharma Sciences Limited:**
 - The industry is situated towards South-West side from the site of incident at a radial distance of about 600 meters.
 - The industry is manufacturing API & Bulk drugs.
 - During inspection, the industry was found to be not in operation. The management has informed that the unit has not in operation for the last two months. Hence, no emissions can be expected from this industry.
- **M/s. Toyotsu Rare Earths (India) Private Limited:**
 - The industry is situated towards South side from the site of incident at a radial distance of about 600 meters.
 - The industry is manufacturing the oxides & carbonates of rare earth elements.
 - The process consists separation of rare earth oxides & carbonates from the raw material from supplied by India Rare Earths Limited based on long term agreement.
 - After careful examination of the process steps the committee found that there were no gaseous emissions from this industry.

keeping in view of the above observations during physical visits of all the surroundings industries, the committee opined that there is no chance of any toxic emissions reaching the site of incident at M/S.Seeds Intimate Apparel India Pvt. Ltd.

After elimination of all possible scenarios to establish the exact cause of the incident the committee has focused on possible causes within the premises of M/S.Seeds Intimate Apparel India Pvt. Ltd. The incident was reported from two production units of the company namely M1 and M2 .The officials of APPCB collected air samples on the day of incident i.e.03.06.2022 from inside the shed

near line-1, inside the shed near line-7, outside the shed near fresh air inlet and dust samples collected from AHU ducts inside the sheds and from fresh air inlet filter of air handling system (AHU) in M1 block for residual gases and residual solids are submitted to IICT Hyderabad for analysis.

As per the analysis reports of IICT Hyderabad The sample collected from outside the shed near fresh air inlet of air handling unit was reported traces of Acetonitrile and Hexane and report of dust samples shows the traces of hydrocarbons like Cyclopropane, Chloromethane, Acetaldehyde, Furan, Acetone, Di-Chloromethane, 2-methyl propanal, etc which may be due to the operation of incinerator and a common effluent treatment plant situated in the complex.

It was observed that there was no system in place for cleaning of filters in the air handling units (AHUs) of either of the two production units namely M1 and M2 where the incident took place. However, despite being asked to not tamper with evidence by making any modifications in the affected site, it was observed that the company has cleaned one filter in AHU -II at south side of M1 building in hurry way on the next day of the incident. The copy of the IICT Analysis reports are produced at annexure-IV.

During investigation, on enquiry about the incinerator operations the management has informed the committee that the incinerator was not operated on the day of incident. However on verifying with the CC Footage of the incinerator area, it was observed that the incinerator was in operation on the day of incident also. The management has deliberately given false information and mislead the committee. They have removed the log book register pages corresponding to operation held on 03.06.2022.

The committee while visiting the incinerator area and found that the 30 meters height stack was attached to the incinerator which is meant for burning cloth and waste material consisting some rubber / elastic items. The stack is situated at a radial distance of 1.5 Km in the upwind direction of the site of incident. The officials of APPCB directed the management to start the incinerator for monitoring on 07.06.2022. The management started the incinerator and the officials of APPCB conducted stack monitoring on 7.6.2022. It was observed that the incinerator is not attaining the required temperatures in the primary and secondary chambers. The scrubbers attached to the stack of incinerator was also not properly functioning as

per the stack monitoring report, the concentrations of PM,HCl,HF,and CO are exceeding the stipulated standards .The stack monitoring report is shown at annexure-V . In case any emission from the stack travels all the distance, some people should have experienced the same feeling what exactly happened in the production blocks in M1 & M2. But there was no such information of any impact on the people surrounding the site of incident.

The department of police found that except in the premises of M/S seeds Intimate apparel India Pvt Ltd ,no other companies in the vicinity or any other persons felt any smell which was noticed by the employees of M/S Seeds Intimate Apparel India Pvt Ltd .Other industries adjacent to the area of the incident PORUS, Teejay, Toyotsu, Solara active Pharma, Vasanta chemicals did not observe any odour or any incidents in their premises .

Followed by the above observations the committee focused on the possibilities of any toxic emissions from the pest control activity which is usually taken up in the premises and also at the production blocks M1 and M2 . The procedure and schedules of pest control are critically studied to bring all the information about the chemicals used, supplier and the person who has done the pest control on the day of incident. The MSDS of the chemicals were obtained from the supplier and found that the symptoms mentioned there in are exactly matching with the same occurred in M1 & M2 blocks on the day of incident. The Committee interacted with the contractor as well as the officers of the company to explore the chances of toxic fumes during pest control process.

Findings :

In the process of investigation, the committee has noted the following observations:

1. **Intoto Pest Control and Facility Services**, a pest control agency which was engaged by M/s.Seeds Intimate Apparel India Pvt. Ltd. On behalf of the agency Sri M. Gangaraju, Pest Control Operator is regularly engaged in spraying of pesticide in & around the plant premises.
2. Sri M. Gangaraju, in his written statement, revealed that he comes everyday he collects 25-30 ml of chemical from the chemical storage room located in N-Block and dilutes with 3 ltrs of water in 5 ltrs capacity spraying can. He proceeds this spraying of diluted pesticide covering all the blocks and sprays outside the blocks. The committee has collected a log sheet which contains the block wise

spraying details along with time completion and signatures of respective managers of the sections.

3. The agency is using two chemicals for pest control viz., Alpha Cypermethirin 10% SC for pest management inside the facilities and blocks and Chlorpyrifos 20% EC for use in open areas.
4. During the visit, the committee was informed that there was no stock of Alpha Cypermethirin 10% SC on the day of incident and the pest control operator has applied Chlorpyrifos 20% EC instead of Alpha Cypermethirin 10% SC in between the production blocks. The 6m corridor between L block and M1,M2&N blocks is covered with a lean to roof GI sheeting. The height of the roof at L block shed is 7.5 m and the height of eaves on slab of M1 ,M2& N block is 6.41 m. There is a gap of 1.5 m between the slabs of M1,M2 &N and roof sheet. There are two AHUs on the roof of M1 block and two AHUs on M2 block at south side of blocks. The fresh air inlets of all 4 AHU units are located near the opening of the lean to roof. It appears that due to suction of chlorpyrifos 20%EC sprayed in that area might have been sucked through fresh air inlet of air handling unit(AHUs) and in turn into the production area where the incident occurred.
5. As per the composition solubility of chlorpyrifos 20% EC in water is 2mg/L and at the time of spraying at the incident site the final concentrated residue may have settle down in the sprayer due to improper mixing and the concentrated chemical might have been sprayed at the site leading to the occurrence of the incident.
6. It was reported by the pest control operator that a few days prior to the incident the stocks of Alpha cypermethrin 10%SC meant to be used inside the block was exhausted and that he had asked Sri Sekhar supervisor of agency for additional stock who instructed the pest control operaor to use a transparent bottle filled with a light yellow coloured liquid (Chlorpyrifos 20%EC). The copy of written statement given by the pest control operator and job cards /service acknowledgement for M/S Seeds Intimate Apparel India Pvt Ltd and photographs of pest control chemicals used in the premises and are produced at annexure-VI
7. The statement obtained from the pest control operator Sri M Gangaraju stating that the pest control was done from 09:00 AM to 11:24 AM on the day of

incident i.e., on 3.6.2022 at various facilities including the semi closed corridor area between the M1, M2, N and L Blocks. The copy of statement is produced at annexure -VII

8. There is a lean to roof of GI Sheet found on the the slabs of M1, M2 & N blocks L block .there is 6m wide corridor between M1, M2 & N blocks and L building .The pest control operator usually spraying along the walls of L Block and return along the walls of M1, M2 & N blocks. As the 6 meters corridor with the length of about 150 meters is sprayed twice and the entire gases/vapour generated from the spray is accumulated at lean to roof. from there the accumulated gases passed through the gap between the roof and walls of M1, M2 & N blocks.
9. The report received from the HCT Hyderabad on 13.6.2022 shows the chlorpyrifos concentration in dust sample from AHU ducts inside the sheds and fresh air inlet filter of AHU as 3.7micro grams/kg and 278.6 micro grams /kg respectively .
10. No leakages of R134a refrigerant gas are found in the Chiller plant.
11. Four AHU's Rooms are provided for each manufacturing block and three chillers in the utility block.
12. Among the 8 AHU's rooms one of the AHU room(i.e., South East Croner of M1 Block was found cleaned after this incident.

Conclusion :

In view of the above material facts, the committee hereby concludes that the source of toxic gas is from the premises of M/s seeds intimate apparel india Pvt Ltd for the following reasons :

- 1.The inquiry commenced from the day of incident on 03.06.2022.However the company has suspiciously cleaned one of the air filters in a hurried manner after the incident ,despite being instructed by the District Collector ,Anakapalli to cooperate with the investigation and not to tamper with any of the evidence .
- 2.The industry has 6meter wide corridor between l. block and M1,M2& N block which is covered with lean to roof (galvalume sheet) .The height of the roof at L block side is 7.5 meter and the height of eaves on slab of M1,M2 & N block is 6.41 meter and there is a gap of 1.5 meter in between the slabs of M1,M2 & N block and roof sheet at south side of M1,M2 and N blocks . The construction of lean to roof on entire length of the corridor is

not approved under Factories Act ,1948 and was not shown in plans approved vide Lr no R Dis A/119472/2018 dt 10.10.2018 and LAE 05-11021(35)/24/2022-A-SEC-DOF-DOF dt 17.03.2022 of Chief Inspector of Factories .

3.The industry has engaged a pest control contractor who is not having valid licence for commercial pest control operations which is mandatory requirement under sub rule 3(A) of rule 10 of the Insecticides Rules ,1971 to be obtained from the Agricultural department ,Government of AP .

4.The pest control operator has given statement that he sprayed chlorpyrifos 20%EC instead of alpha cypermethrin 10%SC between the production blocks

5.chlorpyrifos 20% EC is an organophosphate and is toxic in nature . The symptoms due to exposure to chlorpyrifos are muscle spasms, weakness ,shortness of breath ,vomiting, difficulty in breathing, loss of consciousness etc., which are similar to the symptoms of the affected employees of the company .They also experienced the mercapatan like smell which is associated with the chemical .

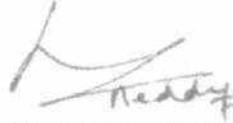
The report received from the IICT Hyderabad on 13.6.2022 shows the chlorpyrifos concentration in dust sample from AHU ducts inside the sheds and fresh air inlet filter of AHU as 3.7micro grams/kg and 278.6 micro grams /kg respectively .

6. Except in the premises of M/S Seeds Intimate Apparel India Pvt Ltd no other company in the vicinity or persons felt any symptoms /smell which was noticed by the employees of M/S Seeds Intimate Apparel India Pvt Ltd .

Hence the committee concluded that the incident took place due to sparying of chlorpyrifos 20%EC between the production blocks and the accumulated vapours underneath the lean to roof were sucked into the fresh air inlet ducts of 4 air handling units installed on slab of M1 &M2 blocks ,there by leading to the incident .

The activity of pest control operations does not connected with the manufacturing process of the unit.

A show cause notice is being issued to the management for constructing the lean to roof galvalume sheet covering the corridor of 6 m wide and 150 m length between L block and M1,M2 and N block without obtaining a previous permission in writing approving the plans from DOF, AP.



Joint Chief Inspector of Factories,

Visakhapatnam

Copy submitted to the Director of Factories, A.P. Vijayawada along with the copies of witness statements, photographs etc.,

Copy to the Deputy Chief Inspector of Factories, Visakhapatnam

Copy to the Inspector of Factories, Visakhapatnam-II Circle.

Date 07 Jan 2022

Srinivas Chiravalli
INTON Pest Control & Facility Services.
Secunderabad 500015
ph: 9246569090

I hereby state that, I am the owner of above pest control services.

As part of my business, I am in contract with SCS intimate company with below mentioned details:

1) one operator (w/o 6/22 Mr. Ganga Dey) is employed, with supervision of Mr. Chandra Sekh.

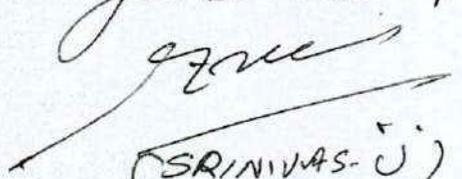
Monthly, we provide chemical to ops with close recognition of colour/smell

1. chlorophos 20 EC (yellow colour, smells) for general zone around woods of site)
- 2 liter for water, Ratio (1:20, water)
2. Alphacypermethrin 10 SC (white, smellless) for interior wall areas with Ratio of 1:50 (water) 1 liter per site.

All ops conduct spot check. He recognizes colour and intimate chemical, esp colour/smell.

The same has been taught and trained to him.

The Schedules and work are ~~in~~ as indicated by SCS Company, he also signs by some Akhayan, drop spray over leaf.

Jaya Srinivas

(SRINIVAS. J.)
9246569090

* Note: The chemical in white bottle is Alphacypermethrin 1ltr.

② Chemical in transparent bottle is chlorophos 2 ltr.

ದಿನ 03/06/2022 ರ ಸೆಡ್ಲಿ ಇಂಟಿಮಾಲ್ ಸ್ಟಾಪ್ ಟೈಮ್ 11:00 AM, 11:00 AM
 Brandix in India Apparel City, (ಆಂತರಿಕ) ಸಂಪನ್ಮೂಲ ಸಂರಕ್ಷಣೆ, ಸ್ವಚ್ಛತೆ ಹಾಗೂ 63
 200 ಮಂದಿ ಸ್ವಚ್ಛತೆ ಕಾರ್ಯದ ನಿರ್ವಹಣೆ ಸಂದರ್ಭದಲ್ಲಿ, ಶ್ರೀ Minnakurthi Ganga
 roju, contract - pest control worker ದ್ವಾರಾ ಹೇಳಿಕೆ:

ನಾನು, Minnakurthi Ganga roju, 90 ಸ್ಟಾರ್, 40 years, ನಿಜ ನೆಲೆ 06/05/2022
 ಸೂಚನೆ, Entoto pest control & facility services ಉಪ ಕಂಪನಿಯಲ್ಲಿ, pest control
 ನಲ್ಲಿ ನಿಯೋಜಿಸಿದ್ದೇನೆ. ನಾನು 10 ದಿನಗಳಿಂದ ಈ ಕೆಲಸ ಮಾಡುತ್ತಿದ್ದೇನೆ. ನಾನು ನು ಕೆಲಸ ಮಾಡುತ್ತಿರುವುದು
 Anubupalem (vill), Munagayaka (ಮನಗಾಯಕಾ) ವಲಯದಲ್ಲಿದೆ. ನಾನು ಪ್ರತಿ ದಿನ 6 ಗಂಟೆಗಳ
 8 AM & duty ಕೆಲಸ ಮಾಡುತ್ತಿದ್ದೇನೆ 5 PM ವರೆಗೆ ನಾನು ದುರ್ಬಲತೆ ಮತ್ತು ಮೂಲಕ
 ನು chemical room ಕೆಲಸ ಮಾಡುತ್ತೇನೆ, ಅಲ್ಲಿನ pesticides chemicals store ಕೆಲಸ ಮಾಡುತ್ತಿದ್ದೇನೆ
 ಸುಮಾರು 5 liters spray can ಕೆಲಸ ಮಾಡುತ್ತೇನೆ, ಅಲ್ಲಿನ ಪ್ರತಿ ದಿನ ಈ ಕೆಲಸ bath room ಉಪ
 ಕೆಲಸ ಮಾಡುತ್ತೇನೆ clean ಮಾಡುತ್ತೇನೆ, ಅಲ್ಲಿನ ಪ್ರತಿ ದಿನ ಈ ಕೆಲಸ ಮಾಡುತ್ತೇನೆ ಮತ್ತು ಅಲ್ಲಿನ
 ಸುಮಾರು bath room ಉಪ ಕೆಲಸ ಮಾಡುತ್ತೇನೆ. ಅಲ್ಲಿನ chemical room ಕೆಲಸ ಮಾಡುತ್ತೇನೆ
 ಅಲ್ಲಿನ 25 ml measuring jar and 25ml chemical spray can (spray) ಉಪ, 3 liters
 ಅಲ್ಲಿನ ಪ್ರತಿ ದಿನ ಮಾಡುತ್ತೇನೆ. ಅಲ್ಲಿನ chemical room ಸೂಚನೆ ಮಾಡುತ್ತೇನೆ, M1 manufacturing shed,
 M2 manufacturing shed, L- Administration shed, & utility blocks ಅಲ್ಲಿನ ಸುಮಾರು
 ಅಲ್ಲಿನ edge ಅಲ್ಲಿನ spray ಮಾಡುತ್ತೇನೆ; ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ 500, ಅಲ್ಲಿನ
 ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ; ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ
 factory ಉಪ, ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ
 hostel ಅಲ್ಲಿನ spray ಮಾಡುತ್ತೇನೆ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ aedys factory ಉಪ chemical room
 ಅಲ್ಲಿನ ಅಲ್ಲಿನ spray can ಕೆಲಸ ಮಾಡುತ್ತೇನೆ ಅಲ್ಲಿನ 5 PM, company building
 ಅಲ್ಲಿನ ಅಲ್ಲಿನ. ಈ chemical room ಉಪ 25 liter white colour plastic bottle
 ಉಪ liquid chemical ಅಲ್ಲಿನ ಅಲ್ಲಿನ; ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ yellow colour ನೀರಿನ
 2 liter bottle ಅಲ್ಲಿನ water bottle ಉಪ liquid ಉಪ; ದಿನ 01/06/2022 ರ 5, ಅಲ್ಲಿನ
 ಅಲ್ಲಿನ white plastic bottle ಉಪ ಅಲ್ಲಿನ material ಅಲ್ಲಿನ ಅಲ್ಲಿನ, ಅಲ್ಲಿನ ಅಲ್ಲಿನ
 ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ
 type bottle ಉಪ light colour (yellow) ನೀರಿನ bottle ಉಪ ಅಲ್ಲಿನ ಅಲ್ಲಿನ. ದಿನ 01/06/
 ಸೂಚನೆ ಈ ಅಲ್ಲಿನ bottle ಉಪ material ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ ಅಲ್ಲಿನ

ದಿನ 03/06/2022 ರ ನಾನು ಅಲ್ಲಿನ ಅಲ್ಲಿನ General Staff ಅಲ್ಲಿನ duty ಕೆಲಸ ಮಾಡುತ್ತೇನೆ,
 ನಾನು chemical room ಕೆಲಸ ಮಾಡುತ್ತೇನೆ ಅಲ್ಲಿನ ಅಲ್ಲಿನ spray can ಕೆಲಸ ಮಾಡುತ್ತೇನೆ bath room ಉಪ
 clean ಮಾಡುತ್ತೇನೆ, ಅಲ್ಲಿನ chemical room ಕೆಲಸ ಮಾಡುತ್ತೇನೆ 25ml chemical spray can ಉಪ
 ಅಲ್ಲಿನ, ಅಲ್ಲಿನ ಅಲ್ಲಿನ 9 AM & locker room, ladies toilet - inside ಅಲ್ಲಿನ ladies
 toilets out side spray ಮಾಡುತ್ತೇನೆ; 9:10 AM & medical room, 9:20 AM & F.G. wear trou
 9:29 AM & Engineering room; 9:40 AM & child care, store department, & surplus
 room spray ಮಾಡುತ್ತೇನೆ; 9:42 AM & open space spray ಮಾಡುತ್ತೇನೆ; 9:53 AM & meeting
 office & writing floor, 9:55 & molding room ಕೆಲಸ ಮಾಡುತ್ತೇನೆ; 10:00 AM & Ingali a unit
 room, 10:15 AM & out gate security room; 10:20 AM & car parking area, 10:34 AM
 production department, production floor, 10:36 AM & packing department; 10:51 AM & Electri
 room, 10:55 AM & HR department; 11 AM & generator room spray ಮಾಡುತ್ತೇನೆ; 11:24 AM
 & canteen Area, ಅಲ್ಲಿನ spray ಉಪ ಅಲ್ಲಿನ material complete ಅಲ್ಲಿನ ಅಲ್ಲಿನ

M. Ganga Raju

Chemical room 3 లో, 3 liters నోటి అనుమతి, దానికి 25ml Chemical pickler
 వేసి, వదిలి AC operating room కి వెళ్ళి సుమారు 12 PM కి spray చేయటం జరిగింది.
 సుమారు 12:06 PM Dumping ground లో spray చేస్తుంటే, ప్రవేశం వీలైనప్పుడు పరిశీలించారు,
 వేరు వేరు M1 Block వచ్చి చూడారు. వీరికి కంటికి కంపాని వారు కి. అంటే female
 workers వచ్చి కంటికి వేసి, Block నుండి వచ్చిన అనుమతి అంది; వీరికి కింద Ambulance
 రులు పైకి ఎక్కించడం జరిగింది. తరువాత నేను సుమారు 2:30 - 3 PM వరకు computer
 లోనున్న నాను ఇంటికి వెళ్ళి వచ్చాను.

నేను తిరిగి వచ్చి chemicals యింటి పట్టు నాకు తెలియదు. నేను ఎంతవరకు
 Supervisorగా వెళ్ళినా దూర ప్రాంతం నాకు ఏం నోటివ్వలేదు.

ఇది నేను వచ్చిన, Inspector of factories, Visakhapatnam - B (FAC) అని,
 statement నమోదు చేసి, చదివిన అనుమతి. ఇది మళ్ళీ మళ్ళీ అని కృతజ్ఞత వ్యక్తం చేస్తున్నాను.

M. Gangaiah
 07/06/2022

M. Gangaiah

Inspector of factories,
 Visakhapatnam - B. E.

* Statement recorded in my presence.

SRINUBABU
 07/6/2022



SRINUBABU T
 Manager - Facilities

INTOTO

Pest Control & Facility Services
JOB CARDS/SERVICE ACKNOWLEDGEMENT FOR
SEEDS INDIA PVT. LTD, VISAKHAPATNAM Date : **3-6-22**

S.NO.	Area	Timing	Signatures	Remarks
1.	Manager (Project)			
2.	CEO (Room)			
3.	DEV Sir (Room)			
4.	HR (Dept)	10:55		
5.	<u>Sample Room</u>			
6.	Cutting Office	9:53AM	A. Gowth	
7.	Molding Room	9:55AM	K. Ch	
8.	Cutting (Floor)	9:53AM	A. Gowth	
9.	Board Meeting (Room)			
10.	Production (Dept)	10:54	G. Jothi	
11.	Production (Floor)	10:54	G. Jothi	
12.	(Finance Dept)			
13.	Store (Dept)	09:40	K. Veni	
14.	IT Room			
15.	Procurement			
16.	MOA (Dept)	9:50	V. Taul	
17.	Medical (Room)	9:10	Jothi	
18.	Children Core	9:40	hwa	
19.	Open Space	9:42	hwa	
20.	Quality (Dept)			
21.	Locker (Room)	9:00	S. abga man	
22.	Generator (Rator)	11:00		
23.	AC Operating (Room)	12:00		
24.	Electrical (Room)	10:51		
25.	Canteen Area	11:24	M. Man	
26.	Ladies & Ladies Toilets - outside	9:00	S. abga man	
27.	Ladies & Ladies Toilets - inside	9:00	S. abga man	
28.	In Gate - Security Room	10:00	K. Ch	
29.	Out Gate - Security Room	10:15	K. Ch	
30.	Packing Department	10:55	G. Jothi	
31.	Planning			
32.	F.G.W.	9:26		
33.	Car Parking Area	10:20	K. Ch	

34. Engineer 09:29

35. surplus Room 9:40

damping shed 12:06

INTOTO PEST CONTROL FACILITY SERVICES SEEDS INDIA PVT.LTD.,

Handwritten signature/initials



INTOTO

Pest Control & Facility Services

JOB CARDS/SERVICE ACKNOWLEDGEMENT FOR

SEEDS INDIA PVT. LTD, VISAKHAPATNAM

Date: 2-6-22

S.NO.	Area	Timing	Signatures	Remarks
1.	Manager (Project)			
2.	CEO (Room)			
3.	DEV Sir (Room)			
4.	HR (Dept)	10:20	V. [Signature]	
5.	Sample Room			
6.	Cutting Office	10:44	A. Gowda	
7.	Molding Room	10:42	V. [Signature]	
8.	Cutting (Floor)	10:44	A. Gowda	
9.	Board Meeting (Room)			
10.	Production (Dept)	09:56	B. Jethu	
11.	Production (Floor)	09:56	B. Jethu	
12.	(Finance Dept)			
13.	Store (Dept)	10:49	K. Veni	
14.	IT Room			
15.	Procurement			
16.	MOA (Dept)	10:43	M. [Signature]	
17.	Medical (Room)	10:30	R. Padma	
18.	Children Core	10:11	anxi	
19.	Open Space	10:10	anxi	
20.	Quality (Dept)			
21.	Locker (Room)	9:00	S. [Signature]	
22.	Generator (Rator)	11:00	[Signature]	
23.	AC Operating (Room)	9:00	A. [Signature]	
24.	Electrical (Room)	11:00	[Signature]	
25.	Canteen Area	11:35	M. [Signature]	
26.	Ladies & Ladies Toilets - outside	9:00	S. [Signature]	
27.	Ladies & Ladies Toilets - inside	9:00	S. [Signature]	
28.	In Gate - Security Room	9:30	K. [Signature]	
29.	Out Gate - Security Room	9:30	K. [Signature]	
30.	Packing Department	09:59	B. Jethu	
31.	Planning			
32.	F.G.W.	11:37	R. [Signature]	
33.	Car Parking Area	9:50	K. [Signature]	

34 Engineering
35 Hostel

9:19 a.m.

14:30

INTOTO PEST CONTROL FACILITY SERVICES

SEEDS INDIA PVT.LTD.,



INTOTO

Pest Control & Facility Services

JOB CARDS/SERVICE ACKNOWLEDGEMENT FOR

SEEDS INDIA PVT. LTD, VISAKHAPATNAM

Date 1-6-22

S.NO.	Area	Timing	Signatures	Remarks
1.	Manager (Project)			
2.	CEO (Room)			
3.	DEV Sir (Room)			
4.	HR (Dept)	10:34		
5.	Sample Room			
6.	Cutting Office	11:55	A. Govil	
7.	Molding Room	11:58		
8.	Cutting (Floor)	11:55	A. Govil	
9.	Board Meeting (Room)			
10.	Production (Dept)	10:36	K. Prasad	
11.	Production (Floor)	10:36	K. Prasad	
12.	(Finance Dept)			
13.	Store (Dept)	10:40	K. Veni	
14.	IT Room			
15.	Procurement			
16.	MOA (Dept)	01:21:52	R. Aravind	
17.	Medical (Room)	8:35	K. Prasad	
18.	Children Core	11:27	hwa	
19.	Open Space	11:27	11:27	
20.	Quality (Dept)			
21.	Locker (Room)	8:56	S. Subramanian	
22.	Generator (Rator)			
23.	AC Operating (Room)	9:00	A. Chalapathi	
24.	Electrical (Room)			
25.	Canteen Area			
26.	Ladies & Ladies Toilets - outside	8:58	S. Subramanian	
27.	Ladies & Ladies Toilets - inside	8:56	S. Subramanian	
28.	In Gate - Security Room	9:34		
29.	Out Gate - Security Room	9:37		
30.	Packing Department	10:45	K. Prasad	
31.	Planning			
32.	F.G.W.	11:47		
33.	Car Parking Area	9:40		

34. surplus Room

35. Engineering Hostel

INTOTO PEST CONTROL FACILITY SERVICES

11:28

11:35

14:35

SEEDS INDIA PVT.LTD.,



GOVERNMENT OF ANDHRA PRADESH
 FACTORIES DEPARTMENT

From:
 Sri. G. V. V. S. Narayana,
 M.E.,
 I/c. Deputy Chief Inspector of Factories,
 Visakhapatnam

To:
 Sri Rajiv Priyan Malasekera
 Occupier,
 Sri Sanjeewa Abeyrathna,
 Manager
 M/s. Seeds Intimate Apparel India Pvt Ltd,
 Plot No. 11, Brandix India Apparel City,
 APSEZ, Atchutapuram,
 Visakhapatnam – District.

Lr. A. No. 316341/2022, Dated. 30-06-2022

Sir,

Sub:- Factories Act - 1948 and A. P. Factories Rules - M/s. Seeds Intimate Apparel India Pvt Ltd, Plot No : 11, Brandix India Apparel City, APSEZ, Atchutapuram, Visakhapatnam District. - Non-Compliance of certain provisions – Show Cause Notice Issued - Regarding.

Ref.- This office Inspection Order No. R. No. 104025/2022, dt:30-06-2022.

Please show cause in writing within a **07 days** of receipt of this notice, why prosecution should not be taken against you for non-compliance of the provisions of the above Act and Rules, as detailed in the Inspection Order cited above

Yours Faithfully,

Encl: Inspection Order.

(G. V. V. S. Narayana)
 I/c. Deputy Chief Inspector of Factories,
 Visakhapatnam.

भारतीय डाक
 RNS90355200IN IVR:8270490335
 R.L.P AND T COLONY (WH) S.D
 Counter No:1, 31/07/2022, 13:07
 To: SANJEEWA ABEYRATHNA, APSEZ
 PIN: 531011, Atchutapuram S.D
 From: CHIEF INSPE, 50-50-35/3
 Wt: 20gms
 Net: 0.0095425.00
 Track on www.indiapost.gov.in
 Dial 18002564962 (Wear Masks, Stay Safe)

भारतीय डाक
 RNS90355200IN IVR:8270490335
 R.L.P AND T COLONY (WH) S.D
 Counter No:1, 31/07/2022, 13:07
 To: RAJIV M, AP SEZ
 PIN: 531011, Atchutapuram S.D
 From: CHIEF INSPE, 50-50-35/3
 Wt: 20gms
 Net: 0.0095425.00
 Track on www.indiapost.gov.in

OFFICE OF THE DEPUTY CHIEF INSPECTOR OF FACTORIES: VISAKHAPATNAM.

R. No. 104025/2022

Date: 30-06 -2022.

INSPECTION ORDER

Factories Act, 1948 and A. P. Factories Rules, 1950 and the Government notification issued thereon.

Sir,

Upon a recent Inspection of the factory by the I/c. Inspector of Factories, Visakhapatnam-II on 03.06.2022 at about 02:30 PM; by me on 03.06.2022 at about 04:00 PM & on 04.06.2022 at about 04:00 PM by me, and on 06-06-2022 & 07-06-2022 at 10:00 AM by the I/c. Joint Chief Inspector of Factories, Visakhapatnam along with me & I/c. Inspector of Factories, Visakhapatnam-II It was found to the extent indicated below that certain provision of the Act and Rules were not being carried out.

The orders below are issued or repeated from previous order, without prejudice to any action that the office may take for non-compliance with the provisions of the act and rules there under.

Yours faithfully,

(G. V. V. S. Narayana)

I/c. Deputy Chief Inspector of Factories,
Visakhapatnam.

To:
Sri. Rajiv Priyan Malasekera,
Occupier.
Sri. Sanjeewa Abeyrathna,
Manager,
M/s. Seeds Intimate Apparel India Pvt Ltd,
Plot No. 11, Brandix India Apparel City,
APSEZ, Atchutapuram,
Visakhapatnam – District.

1. Section 6 & Rule 3(1)(b):-

Installed and taken into use the following additional construction which is not shown in previous plans approved vide Lr. No. LAE05-11021(35)/24/2022-A SEC-DOF- DOF, dated 17-03-2022 without obtaining a previous permission in writing approving the plans from the Director of Factories, A.P., Vijayawada.

A lean to roof (Galvalume sheet) is installed between L block and M1, M2 & N blocks having 6m wide and 150 m length corridor at a height of 6.41 meter over the slab of M1, M2 & N blocks at north side of corridor and 7.5 meter over the slab of L block at south side by maintaining a gap of 1.50 meter in between the slab height (4.91m) of M1, M2 & N blocks and roof sheet.

This is irregular.

2. Section 41 and Rule 61-F(3) read with section 7-A(2):

- i) Failed to conduct risk assessment study by a third party expert agency for usage of chemicals i.e., chlorpyrifos 20% EC chemical in pest control operations in the premises to prevent risks to the health of workers working in M1 and M2 sheds due to inhalation of toxic vapours and submit compliance of recommendations made in the report.
- ii) Failed to provide a suitable system at the fresh air entry of all air handling units of work halls to prevent entry of toxic vapours inside the work halls M1 and M2 to prevent risks due to inhalation of toxic vapours .

Due to the above failures, on 03.06.2022 at 9am to 11.40 am pest control operator namely sri M Gangaraju of agency Intoto Pest Control and Facility Services had been entrusted to spray Chlorpyrifos 20% EC mixed in the proportion of 25 ml chlorpyrifos 20% EC with 3 Lts of water and sprayed through sprayer around the premises and corridor area. The solubility of chlorpyrifos 20% EC in water is 2mg/L and the final concentrated residue may have settle down in the sprayer due to improper mixing and the concentrated chemical sprayed at corridor area accumulated under neath the lean to roof galvalume sheet installed over the corridor with 1.5m gap between slab of M1,M2&N blocks and roof sheet at north side of corridor sucked by fresh air inlet ducts of 4 AHUs of M1 and M2 sheds at north side of lean to roof sheet corridor through the 1.5 m gap and recirculate inside the closed halls and caused the incident at about 11.50 am in which the female workers working in M1 and M2 sheds felt a pungent smell and suffered with symptoms like vomitings ,bowl irritation ,headache and breathlessness and nearly 410 workers were admitted in the following hospitals in Anakapalli and Atchtapuram due to inhalation of toxic vapours of chlorfyriphos 20%EC.

S.No	Name of the Hospital	Number of persons admitted & discharged
1	NTR hospital, Anakapalli	192
2	Usha prime, Anakapalli	101
3	Satyadev, Anakapalli	61
4	Medrise, Atchtapuram	35
5	Benerji medicon, Atchtapuram	9
6	Mother and child, Atchutapuram	5
7	KGH, Visakhapatnam	4
8	Starzen, Atchutapuram	2
9	Suryateja, Atchutapuram	1

The affected persons were discharged subsequently after getting recovery.

This is irregular

Notes:

1. On 03.06.2022 at about 02:30 PM; by the I/c. Inspector of Factories, Visakhapatnam-II & on 03.06.2022 at about 04:00 PM by me & on 04.06.2022 at about 04:00 PM by me, and on 06-06-2022 & 07-06-2022 at 10:00 AM by the I/c. Joint Chief Inspector of Factories, Visakhapatnam along with me & I/c. Inspector of Factories, Visakhapatnam-II
2. Working, 2m(i), Mfg. of Clothing.
3. "103" workers on 03/06/22 & "....." workers on 04/06/22
4. Issued Show Cause Notice along with Inspection Order to both Occupier and Manager.
5. No claims.

Copy Submitted to the Director of Factories, Andhra Pradesh. Vijayawada.
Copy Submitted to the Joint Chief Inspector of Factories, Visakhapatnam.
Copy to the Inspector of Factories, Visakhapatnam-II.

GOVERNMENT OF ANDHRA PRADESH
 FACTORIES DEPARTMENT

From,
 Sri. V. Suresh
 B. E. MBA.
 Deputy Chief Inspector of Factories,
 Visakhapatnam.

To,
 The Occupier,
 M/s. Brandix Intimate India Pvt Ltd,
 Plot No. 11, Brandix India Apparel City,
 APSEZ, Atchutapuram,
 Anakapalli District.

Lr. A. No. 316341/2022, Dt. 12-08-2022.

Sir,

Sub:- Factories Act, 1948 – Gas Leak – Gas Leak was occurred in M/s. Brandix Intimate India Pvt Ltd., Plot No. 11, Brandix India Apparel City, APSEZ, Atchutapuram, Anakapalli – District – Intimation regarding furnishing reply to the Show Cause Notice incident occurred on 03.06.2022 – regarding.

- Ref: - 1. Lr. No. Nil; Dated: 09-08-2022 was received from the management on 10-08-2022
 2. Lr. No. Nil; Dated: 28-06-2022 was received from the management on 28-07-2022.
 3. Our Office Lr. A. No. 316341/2022, Dated. 30-06-2022 to the both Occupier and management of the Factory.

With reference to the above 1st cited, I am to inform you that you have requested 15 days time to submit the reply to the Show Cause Notice along with Inspection Order vide reference 3rd cited above. But no reply received so far and further requested another 15 days time to submit vide 2nd cited above. Hence, in view of time limitation for compliance verification and submit further action proposal, no additional time cannot be granted for submitting reply ^{and} you are instructed to submit the same on your part without any further loss of time.

Yours faithfully

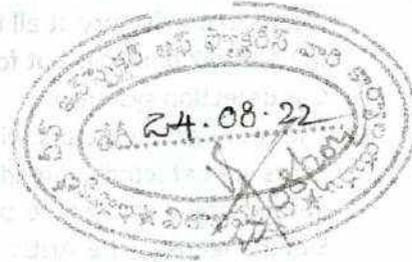
V. Suresh
 Deputy Chief Inspector of Factories,
 Visakhapatnam.

*despatched
 W/S 15/8/22*

23rd August 2022

To

The Deputy Chief Inspector of Factories,
 Visakhapatnam.



Sub: Reply to the Show Cause Notices – reg.

Ref: 1. Show Cause Notice Lr. A No. 316341 / 2022 dated 30.06.2022 received by me and Mr Rajiv Malalasekera on 26.07.2022.
 2. Our letter dated 28.07.2022.
 3. Our letter dated 09.08.2022.

Dear Sir,

With reference to your Show Cause Notices cited above, we submit below our reply for your kind perusal and consideration.

1. **Your observation- Section 6 & Rule 3(1)(b):** We request you to kindly note that we have very much shown in our previous plans the additional construction which has been very much depicted in the previous plans which have been approved by Factories department. Copy of approved plan vide LAE05-11021(35)/24/2022-A SEC-DOF—DOF dated 17.03.2022 is enclosed. (Annexure 1)
2. **Your observation Section 41 & Rule 61-F (3) read with section 7-A (2):**
3. Risk Assessment has been conducted by internal team comprising of representatives from Unit OHS, Administration and Engineering. A copy of Risk Assessment for Pest Control Spraying operations is enclosed for your information (Annexure 2). There is no requirement under the provisions of Factories Act and the Rules made thereunder that the Risk Assessment should be conducted by Third Party Expert Agency.
 - a. As regards the irregularity mentioned about non provision of suitable system at the fresh air entry of air handling units of M1 and M2 buildings we would like to state that since ours is the garment industry which falls under the category of Green Zone there is no statutory requirement that such a system should be installed and we have never felt or experienced or imagined that this sort of incidents would happen.
 - b. However, in view this incident as **precautionary Safety/Security measures**, we have installed multilevel Gas detectors at the entrance of the factory at Security Room for the detection of the following hazardous gases;
 - Ammonia
 - Methyl Mercaptan
 - Chlorine
 - Carbon Monoxide
 - Formaldehyde
 - TVOC

- c. We have also installed VOC & Oxygen level monitoring systems at M2 and L blocks and we will be installing the same for M1 building too.
 - d. Further, we have also installed **Auto Dampers and Filtration systems at all the AHU rooms** in our factory at all the fresh air entry points of the AHUs ie. not only for the M1 and M2 buildings but for all the other buildings in our factory with integration of Gas detection system.
 - e. The multi gas detectors will send signals to the auto dampers whenever any toxic gases are detected. Immediately on receipt of such signals the auto dampers will get automatically shut off to prevent entering of the toxic gases into the AHU rooms. Simultaneously, the AHUs also will get automatically shut off. These systems will ensure prevention of entry of any toxic gases into the buildings.
4. In this connection we also submit the following which are very relevant to the present context.
- a. At the outset it is humbly submitted that it is a very unfortunate for such an incident to take place in the premises of our factory which caused minor and temporary health issues to the employees of our factory.
 - b. As you are kindly aware, our factory is a garments manufacturing unit and by the very nature of garments industry it does not use or require to use any toxic chemicals which cause health hazards of any sort.
 - c. As has been observed by you that the very reason that has caused ill health to our employees is strong unpleasant smell. However, this smell has not originated in our factory premises and the source of this smell is external. This is amply evident from the news published in the local Telugu daily, **EENADU** dated 4.06.2022. As per the news published this smell was also experienced by the people outside our factory within the radius of about 12 Kms and that the villagers of **Pedapadu** etc. also have experienced this strong unpleasant smell simultaneously at that time. This smell was also experienced in the nearby village **Dupputuru** etc. In this connection the following are enclosed for your kind information from which it is evident that the smell is not from within our factory premises, but it is from the premises outside our factory.
 - i. Copy of the clipping from the EENADU daily dated 4.8.2022 (Annexure 3)
 - ii. Statement recorded from Vanapalli Mani Adhar Card No 9550 6400 9509, contact number 9704569936 resident of Dupputuru village (Annexure 4).
 - iii. Statement recorded from Pragada Kavitha Adhar Card No 9476 3308 2593, resident of Dupputuru village (Annexure 5).
 - iv. Statement recorded from Pragada Harika Adhar Card No 9964 9973 0312 , resident of Dupputuru village (Annexure 6).
 - v. Statement of Sri Janapareddy Srinivasa Rao, Ex-ZPTC member, Pedapadu village whose observation has been published in EENADU daily dated 4.6.2022 (Annexure 7).
 - d. The same chemical in highly diluted form is being sprayed in the unit since inception and there have been no concerns till date.
 - e. The operator who has carried out the spraying on 3rd June 2022 is healthy and he has not suffered any ailments.



- f. The odour of chlorpyrifos is completely different from the odour experienced on the day of incident.
5. As per MSDS (Material Safety Data Sheet) of Chlorpyrifos which is enclosed for your ready reference, Symptoms may be hypersensitivity, nervous instability, tremors, and ataxia urinary inconsistent and convulsions result on ingestion or inhalation: contact eyes cause every irritation to eye and itching. Burning and tingling are some symptoms upon contact with skin. But none of our employees has exhibited these symptoms. They were having very mild symptoms of Vomiting, breathlessness, unconsciousness and anxiety (Annexure 8).
6. The action / measures taken by the management:
- a. Immediately on observing the unpleasant incident, the management team has provided first aid in their Occupational Health Centre (OHC) to the employees impacted and shifted all of them to the following hospitals in Atchutapuram and Anakapalli and arranged required medical treatment till they are recovered.
- i. Hospital and number wise details of 410 associates will be mentioned here.

Hospital Wise Head Count		
S.No	Hospital Name	Number of employees
1	NTR Hospital, Anakapalli	192
2	Usha Prime Multi Speciality Hospital, Anakapalli	101
3	Satyadev Hospital, Anakapalli	61
4	Medirise Hospital, Atchutapuram	35
5	Dr. Benerjis Medicon Hospital, Anakapalli	9
6	Mother & Child Hospital, Anakapalli	5
7	King George Hospital (KGH), Visakhapatnam	4
8	Starzen Hospital, Atchutapuram	2
9	Surya Teja Multi Speciality Hospital, Atchutapuram	1
Total		410

- b. Food and other expenses have been fully provided to all the employees admitted in the hospitals as also to their attendants.
- c. Subsequent medical check ups through the team of Apollo doctors not only to the hospitalised employees but also to the other employees have been arranged in the factory premises from 20th June-2022 to 4th July 2022.
- d. The factory was under closure from afternoon shift of 3.6.2022 to 16.6.2022 and the salaries and the incentives have been paid to all the employees for these non-working days also.

7. Mass Hysteria:

In sociology and psychology, mass hysteria is a phenomenon that transmits collective illusions of threats, whether real or imaginary, through a population and society as a result of rumours and fear.

[Handwritten Signature]

In medicine, the term is used to describe the spontaneous manifestation—or production of chemicals in the body—of the same or similar hysterical physical symptoms by more than one person.

A common type of mass hysteria occurs when a group of people believes that they have a similar disease or ailment, sometimes referred to as mass sociogenic illness or epidemic hysteria.

Mass Hysteria also has played role to some extent in this incident. All the 410 employees must have not been impacted by the pungent smell, but some employees out of these 410 must have experienced by the phenomenon **Mass Hysteria**.

For these and other reasons to be submitted at the time of **Personal Hearing** we request you to kindly afford us an opportunity of **Personal Hearing**.

These submissions and reply may please be treated as reply and submissions by me and by Mr. Rajiv Malalasekera, occupier of this Company to whom similar show cause notice has been issued.

Be pleased to consider our above submissions.

Thanking you,

Yours faithfully,



Sarjeewa Abeyrathna

CC to Inspector of Factories



GOVERNMENT OF ANDHRA PRADESH
 FACTORIES DEPARTMENT



From,
 The Director of Factories
 ANDHRA PRADESH

To,
 M/S SEEDS INTIMATE APPAREL INDIA PVT
 LTD,
 M/S SEEDS INTIMATE APPAREL INDIA PVT
 LTD,
 Sy NO: PLOT NO:11,
 BIACSEZ,
 PUDIMADAKA (V),
 Atchutapuram (M),
 Visakhapatnam (Dist) - 531011

LAE05-11021(35)/24/2022-A SEC-DOF - DOF dt 17/03/2022

Sir,

Sub: Factories Act, 1948 - Plans - M/S SEEDS INTIMATE APPAREL INDIA PVT LTD, Sy NO: PLOT NO:11, BIACSEZ, PUDIMADAKA (V), Atchutapuram (M), Visakhapatnam (Dist)- **APPROVED** -- Regarding

Ref: Application No : RVP2100894 (SDP Ref. CAF Application ID: NA) of the Single Desk, received on 08/03/2022.

Plans of the factory received in the above references are **APPROVED** under Factories Act, 1948 subject to following conditions.

1. The proposed in red only are approved. 2. Fire detection & suppression systems as prescribed under Rule 61 of AP Factories rules and applicable standards namely Fire Hydrant System, Water Sprinklers, DCP flooding, Foam Tenders, Smoke/Heat detection Systems coupled with audio visual alarms etc, as the case may be based on their applicability, shall be installed and made functional at least 15 days before the proposed date of commencement of operations even for trail purpose.

Your's faithfully,
 For Director of Factories,
 ANDHRA PRADESH

Validity unknown
 Digitally Signed By Prantulu Chandra Sekhara
 Varma (State Government Directorate of
 Factories)
 Date : 17-Mar-2022 15:29:11 IST

Note:

**GOVERNMENT OF ANDHRA PRADESH
FACTORIES DEPARTMENT**

-:-

From:
Sri V. Suresh
B.E, M.B.A,
Deputy Chief Inspector of Factories,
Visakhapatnam.

To,
The Chairman of Committee appointed
by National Green Tribunal on
Brandix Intimate India (P) Ltd,
Plot No.11, BIAC, APSEZ,
Atchutapuram.

Lr. A.No. 316641/2022, Dated: 05-12-2022

Sir,

Sub:- Submission of copies of enquiry reports and other evidences – Incidents occurred on ~~03-06-2022~~ & 02-08-2022 in Brandix Intimate India (P) Ltd, Plot No.11, BIAC, APSEZ, Atchutapuram submitted - regarding.

With reference to the above subject cited, It is herewith submitted ~~that~~ the enquiry reports and evidences pertaining to the incidents occurred on 03-06-2022 & 02-08-2022 in Brandix Intimate India (P) Ltd, Plot No.11, BIAC, APSEZ, Atchutapuram as instructed.

Yours faithfully,


Deputy Chief Inspector of Factories,
Visakhapatnam

ಶ್ರೀ, Mr. Narasinga Rao, Director, Pesticide Licence, Agriculture Department, Bangalore, Karnataka, India. Mr. Narasinga Rao, Director, Pesticide Licence, Agriculture Department, Bangalore, Karnataka, India. Mr. Narasinga Rao, Director, Pesticide Licence, Agriculture Department, Bangalore, Karnataka, India.

ಇವು ವಿಸ್ತೃತ, Inspector of factories, Visakhapatnam-2, G.A.C, and ಸಹಾಯಕಿ, ಇವರ ಅಧೀನದಲ್ಲಿ ಇವರ ಕೆಲಸವನ್ನು ನೋಡಲು.

N. Narasinga Rao
Inspector of factories, etc.
Visakhapatnam-2.

K. M. Srinivasulu

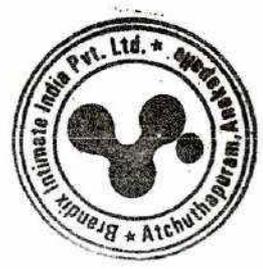
S. Srinivasulu
Operator, pest cure solutions & fumigation

Witness

① N. Narasinga Rao
N. Narasinga Rao
Pest cure solutions & fumigation

Statement recorded in my presence.

② *(Signature)*
K. M. Srinivasulu
Executive - Admin
No: 52912
7799724874



04/06/2022 బుధ, BRANDIX INTIMATE INDIA PRIVATE LIMITED, PLOT NO-11
 BRANDIX INDIA APPAREL CITY, APSEZ, ATCHUTHAPURAM, నంబూ శిరిలి 83
 సూపర్ లునూ 129 మంది ప్రముఖులకి గులైన సందర్భముగా, Smt T. SRINUBABU,
 MANAGER FACILITIES విజ్ఞప్తి వ్రాయుట

నామ, T. SRINUBABU, S/O T. LAKSHMANA SWAMY, 42 years,
 గత 4th JUNE 2012 నుండి SEEDS INTIMATE INDIA PRIVATE LIMITED, Plot -
 BRANDIX INDIA APPAREL CITY, నంబూ MANAGER FACILITIES గా పనిచేయుచున్న
 మరియు నా Qualification DIPLOMA IN ELECTRICAL & ELECTRONICS ENGINEERING
 & FACTORY'S సంబంధించి, OPERATION & MAINTAINANCE OF ELECTRICAL,
 AIR CONDITIONING, GENERATORS, AIR COMPRESSORS, MAINTAINANCE OF FIRE
 EQUIPMENTS, PLUMBING, PAINTING, CARPENTERING, Annual Maintenance
 Services for all systems & Equipments, చేస్తుంటాను. నా under లో స్టాఫ్ లుగా
 20 మంది పనిచేస్తుంటారు, అవగా ఉంటారు electricians, plumber, Painter,
 Carpenter, welder & Shift Engineer.

ఈ factory లో L, M1, M2, N Building Blocks ఉంటాయి మరియు
 N-Block canteen first floor ఉంటుంది, North లో AC (compressor) room ఉంటుంది
 M1 లో 4 AHU లు ఉన్నాయి, M2 లో 4 AHU's మరియు L లో 12 AHU's ఉన్నాయి మరియు
 East లో N-Building లోనే Generation room, MSB Panel room (23 KVA Substation,
 Transformer 2 nos capacity 1600 KVA, Generator 2 nos (1010 KVA),
 HSD Diesel tank 15KL మరియు N-Block వద్దనే chiller plant room, cooling tower,
 Fire Pump house ఉన్నాయి ఈ factory నుండి wash rooms (cubicals) 117 nos ఉన్నాయి
 అది Male & female కి సంబంధించినవి, మరియు 27 nos Sewer man holes ఉన్నాయి. ఈ
 మొత్తం factory Premises లో septic tanks Provision తీసుకుంటున్నాము అవగా
 Sewage water direct గా ETP plant కి connect చేయబడి ఉంది. ఈ Sewage
 Manholes weekly once అవగా Sunday రోజున (non working days) లో
 Plumber సహాయం తీసుకుంటూ cleaning చేస్తున్నాము మరియు
 cleaning చేసిన తరువాత man hole cover విభిన్న చోట్లకు మూసివేస్తుంటాము.
 ఈ water consumption వివరాలి? విజ్ఞప్తి చేస్తున్నాము - factory ప్రతి రోజు 225 KL
 (200 liter) water ను wash room లోనే usage కి ఉపయోగిస్తాము మరియు
 మరియు canteen లో Hand wash / plates cleaning కి ఉపయోగిస్తాము.
 వివరాలను Sewage వ్యర్థాలను line లో choke ఉద్భవించే ప్లంట్ ఫ్లూట్
 ఉత్పాదన gravity లో ETP plant కి పంపించేందుకు ఉంటుంది మరియు వివిధ
 ఎత్తలలో water flushing వ్యర్థాలను తీసుకుంటాము & Sewage Pipe line diameter
 larger size కంటే ఎక్కువగా Sewer Man holes లో Sewage వ్యర్థాల విడుదల
 lines వ్యర్థం flushing ఉత్పాదన ఉంటుంది.

వ్యర్థం తీసుకోవడానికి Sewer Man holes ని Smt chinna Rao గారు
 (Factory's Inspector) గారు Incident తగ్గించే మరియు రోజున అవగా 03/06/2022.
 03:30 PM గంటలకు Inspected చేసారు మరియు (Location H1 Building Back Side).
 ఉపయోగం Sewer Man holes cleaning schedules తీసుకుంటూనే weekly
 Once చేస్తుంటాము & Inspector గారికి తెలియజేస్తుంటాము.

ನೀವು ಪಟ್ಟಣ ಇನ್ಸ್ಪೆಕ್ಟರ್ ಆಫ್ ಫ್ಯಾಕ್ಟರೀಸ್, ನಿಸಾಕಹಾಲನಾಂ - II - A.C.
 ಪೂರ್ವ ನಿಯೋಜಿತರಾಗಿ ನಿಯೋಜಿಸಿ ಕಾರ್ಯ ನಿರ್ವಹಿಸಬೇಕು. ಇದರ ಯುಕ್ತ ಕ್ರಮ ಅನುಷ್ಠಾನಿಸುವುದು.



L.S.K.
 01/01/2022

T. SRINIBASU

Manager - Facilities

Brandix Intimate India Pvt.

నేను ఏనగా మూరికెట్టి చంద్ర, మయస్సు 36నం||, య/0
మెకట సూరి జ్యోతిగాళ్ళ గత పది సంవత్సరములగా
(బ్రాండిన్గ్ బ్రాంకమేట్ బ్రాండియా ప్రైవేట్ లిమిటెడ్ కంపెనీగారము
నందు పనిచేయున్నాను. యుల మూడతి మా స్ట్రాంట్ ప్రజ్ఞావీల,
ప్రజ్ఞావీల కంపెనీయస్సులగా మా స్ట్రాంట్ మునుండి కంపెనీగార
మునకు చేరుకుని పని చేయగించుకుని తిరిగి అదేయస్సులగా
స్ట్రాంట్ మునుకు చేరుకుంటాము, నేను వెంటనే గా
తి కంపెనీగారముగా పనిచేయచున్నాను. 04.08.2022 దినమున

B-shift నకు (2pm to 10pm) మధ్యాహ్నం 2 గంటలకు
పోజరు డియనాను. నేను సుమారు 5:30 గంటలకు (మధ్యా
హ్నం) వాష్ రూముకు 'M' Block నుండి బయలుకు
వచ్చినాను. తనమయింట్లో 'M' Block క్లౌజింగ్ లాక్కు
జీల్లి ప్రదేశంగా (M1 and M2 బ్లాకుల మధ్యగా)
యూదుయన వాసనను గమనించడం జరిగినది. వెంటనే
వారంటియ మరీయ కళ్ళకు తుగుడు జరిగినది. తప్పిట్
ముఖం కడుగుకుని వెంటనే వియంకు తిరిగి పోజరు
డియనాను. తరువాత గెం||నాండి 6:30 ని|| ల
మధ్యగా తాత్ర భోజన విరామ సమయం త్రాంట్ కు
వెళ్ళి తిరిగి వచ్చే సమయంగా సమయం 6:30 గం|| మరీయ
6:40 ని|| మధ్యగా తిరిగి తీవ్రమయన యూదుయన వాసనను
గుర్తించడం జరిగినది. తనమయింట్లో త్రాంట్ కు భోజనం
వెళ్ళి Second break (6:40 ని|| నుండి 7:10 ని||) తాల్కియ
యూదుయన వాసన కు తనయి, వారంటియ మరీయ

కర్మి తరుగుట తమ భవించునారు, వెంటనే వారందరినీ
 ప్రాక్టీసి అయితున్నలు, మరియు తెహకర్స్ మరియు
 108 ద్వారా అప్పుతాఫ్రం మరియు అనావిల్లిగా
 వివిధ తోపపులను తరలించటం జరిగినది. గతంబ
 03.06. 2022 దినమున జరిగిన ప్రముఖుని నేను
 ప్రభావిత మయ్యున్నాను కాని జైత్రం లొత్తవద్దనే
 చెబుంబు కున్నాను. ప్రస్తావనను నెకవిల్లిగాని
 ఉంపువే మట్టి సైతారితో ఉపపత్రి నందు జిక్క
 పాండు రున్నాను. ఇది నేను చెప్పగా, ప్రాక్టీసి దిక్కు
 చిప్పి ఇన్స్ పిక్టర్ ఉప ప్రాక్టీసి, వికావయ్యం శ్రీ వి. సరోజ్
 గారు ప్రాక్టీసి అయినారు, మరియు ఇది మన పుర్తిగా
 ఎటువంటి పెట్టి తేమిండా తూర్తి స్వేమలి ఉల్పయ
 ఇచ్చిన సైయామింట్.

Written by:-
 V. Sorel
 Deputy Chief Inspector
 Factory,
 Visakhapatnam

గవంతు
 E ID 4709
 ఎంలమి
 (814/577723)

Recoded in my presence:-
 S.K. Salman
 Emp. ID:- 10418
 Safety officer.
 Brandix Intimate Indiapvt Ltd
 Ph:- 9966309401

Enquiry report on the incident that occurred on 02.08.2022 at Brandix Intimate India Pvt. Ltd., located in the premises of M/s. Brandix India Apparel City Pvt., Ltd, SEZ, Atchuthapuram, Anakapalli District.

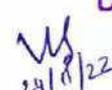
Introduction:-

On 2-8-2022 an incident took place in between 6.30 PM to 6:40 PM in M/s. Brandix Intimate India (P) Ltd., (Formerly known as M/S. Seeds Intimate apparel India (P) Ltd),. In Plat No.11 located in the premises of M/s. Brandix India Apparel City (P) Ltd., SEZ; Pudimadaka Road; Atchuthapuram; Visakhapatnam District. (Presently Anakapally District) and employees of M/s. Brandix Intimate India (P)Ltd were affected due to inhalation of pungent smell. The management of M/s. Brandix Intimate India (P)Ltd informed that the employees felt smell around 6.30 PM in between the M1 & M2 midday and lunch boxes stored racks area which are on North side of the M1 and few of them approximately 5 persons were vomited; employees with symptoms like vomiting bowl irritation and breathlessness; and were admitted in Satyadev hospital; Usha Prime and Vaibhav hospital; Starzen hospital and Medirise hospital all are located in Anakapally town; soon after knowing the information about the incident, the ASP Narsipatnam; Dist. Collector Anakapalli; RDO Anakapally; E.E. & Asst. EE, APPCB, Visakhapatnam and I/c. Inspector of Factories, Visakhapatnam-II and Deputy Chief Inspector of Factories, Visakhapatnam have reached the area where the incident occurred. The above officials have visited the factory operational area and other facilities of M/s. Brandix Intimate India (P)Ltd and also conducted meeting with Honorable Minister for Industries; Infrastructure Investment & Information Technology along with the related departments; the Deputy Chief Inspector of Factories, Visakhapatnam and I/c. Inspector of Factories, Visakhapatnam –II has visited the factory on 03-08-2022 at 10.00 AM and enquired about the incident; and on 04-08-2022 at 10.00 AM. I along with Deputy Chief Inspector of Factories, Visakhapatnam and I/c. Inspector of Factories, Visakhapatnam–II has visited the factory and conducted further enquiry..

About the factory:-

M/s. Brandix Intimate India (P) Ltd (Formerly known as M/s. Seeds Intimate Apparel India (P) Ltd), in Plot No.11 located in the premises of M/s. Brandix India Apparel City (P) Ltd., SEZ; Pudimadaka Road; Atchuthapuram; Visakhapatnam District. (Presently Anakapally District) is engaged in manufacturing of knitting of Bras -39,800/day and knitting o Bralet 10,200 No's /day.


 Deputy Chief Inspector
 of Factories
 Visakhapatnam


 24/8/22

The unit is a registered 2m(i)factory bearing R. No. 104025; Sri. Rajiv Priyan Malasekera is the occupier of the factory and Sri. Sanjeewa Abeyrathna is the manager of the factory; the licence limits are 3715.39 HP and to employee maximum of 4000 workers; the unit comes under non Hazardous category.

Facilities & Utilities: -

- The facility consists of four blocks namely Manufacturing block. M1 manufacturing Block M2 and administration and warehouse -1 and Utilities & Canteen – N.
- Chilling Plant (1No.) with three no. of compressors in N block.
- DG Set capacity of 1010 KA (2 NO.S)
- Diesel storage tank of capacity 15KL
- The sizes of NM1 block and M2 blocks are 60m x 50m x 5m height at eaves.
- 4 AHUs are provided for each M1 & M2 buildings. Two (75TR AHUs-1,2) at North side and two [80TR AHUs-3,4] at South side of buildings.
- Capacity of AHUs for each building : 80 TR AHUs (2 No.s)-34,400 CFM 70 TR AHUs (2No.)- 28000CFM.
- Lines 1,3,5,7,9,11 connected to AHUs -3 at South west side of M1
- Lines 2,4,6,8,10,12 connected to AHU -4 at South east side of M1
- Lines 13,15,17,19,23 connected to AHU-2 at North east side of M1
- Lines 14,16,18,20,24 connected to AHU -1 at North west side of M1
- AHU Room size 20.9ft x 16inch.
- Fresh air damper of AHU size 20x 16 inch.
- AHUs No. 3 & 4 are installed on slab of M1 building at South side at a distance of 5 m from corridor lean to roof.
- The space between M 1 & M2 is "6" meters, the open space on North side of M1 block is "15" meters (North side M1 to North compound wall).
- 3 sock pits of M2 which is situated on back (North) side of M2 block.
- One sock pit of M2 is adjacent to corridor between M1 & M2.
- "3" soak pits of M1 which is situated on back side of clock room and wash room/ latrines.

Statutory permissions:-

- License from Factories Department
- Permission from PESO

V. Sanjeewa Abeyrathna
Deputy Chief Inspector
of Factories
Visakhapatnam

- Consent from AP Pollution Control Board.
- NOC of Fire Service Department.

About The Incident:-

M/s. Quantum Clothing India Pvt. Ltd., was located on Westside of the M/s. Brandix Intimate India (P) Ltd; The gap between these two is approximately 100m; The Quantum was sold out to M/s. Brandix Intimate India (P) Ltd and the employees were merged on 01-06-2022 by closing the Quantum; All the employees who are working in Quantum are allocated in M1. After joining and working in M/s. Brandix Intimate India (P) on 01-06-2022; just 2 days after i.e on 3-06-2022 the first incident occurred ; At that time the committees constituted by the Collector & District Magistrate Anakapally and also the Committee constituted by the APPCB has conducted enquiry and confirmed that the chloropropos which was sprayed in the duct (used for pest control) has sensed the smell and the woman workers who are not having immunity power has vomited and others got headache and irritation and were admitted in different hospitals in Anakapally town. Total 410 workers were affected; out of these 410 workers, 218 workers who came from Quantum Clothing India (P) Ltd, were affected and 192 workers who are working in the existing factory were effected; as on now the 2,380 workers came from Quantum Clothing India (P) Ltd, and 1,952 workers belongs to seeds are working in the M/s. Brandix Intimate India (P) Ltd.

The management has stopped spraying of pest control work after the incident occurred on 03-06-2022 and again restarted on 01-08-2022; After the first incident the management decided to spray the pest and insect control during the night times i.e after completing of second shift (2.00 PM. to 10.00 PM) likewise on 01-08-2022 the management has sprayed the pest control (Beta Cyfluthrin) from 11.00 PM on words after completing of B shift (2.00 PM to 10 PM); and completed within 3 hours; The pest control sprayed in verandah and outside the M1, M2, L and N buildings; on 02-08-2022 the workers who came to the first shift from 6.00 AM to 2.00 PM has not sensed any smell and not get vomited and completed their shift by 2.00 PM and went to their houses; they all are safe and not effected; the other workers who came in the 2nd shift i.e from 2.00 PM To 10.00 PM got effected at about 6.40 PM actually the workers will go to the lunch in the B shift in two spells 1st spell is from 6.00 PM to 6.30 PM and 2nd Spell is from 6.40 PM to 7.10 PM the workers who went for dinner in 1st spell has not affected and not sensed any smell; they have completed their dinner from 6.00 PM to 6.30 PM and attended to their duty; and the second spell workers who come out from the factory at about 6.30 PM at North side exit of

the factory and after completing natural calls after collecting their lunch boxes at 06:40 PM was walked in the verandah along with the workers who will take lunch in canteen has sensed first pungent smell first in lunch boxes storage rack area and in verandah and got vomited the smell also spreaded in other verandahs, total 5 workers were vomited; immediately the workers were moved to the safe place to wards Quantum which is on west side of the factory; from their same of the workers were shifted to the hospitals and other workers were shifted to their houses by buses; while going to home some of the workers who fell inconvenience also joined in the hospitals; total 129 workers were joined in different hospitals located in Anakapally town; the following are the details of the workers as on 5-08-2022.

Sl. No.	Hospital Name	No. of workers admitted	No. of workers discharged as on 5-08-2022
1.	NTR	43	43
2.	Usha Prime	46	46
3.	Satyadev	14	9
4.	Medirise	15	13
5.	Sree Vaibhav	6	6
6.	Starzen	5	5
	Total	129	122

Total 7 workers are yet in Hospitals and two workers were readmitted in NTR Hospital; total 9 workers are undergoing treatment as on 05-08-2022.

Out of the 129 workers effected on 02-08-2022; the workers who came from the Quantum Clothing India (P) Ltd are 123 and are working in M1 and 6 workers belongs to the seeds. Working in M2; after the incident the APPCB was seized the M1 Block.

We have verified the factories located 1km radial distance on all four sides of the factory; the factories located

On East side are

1. Rain CII Carbon (Vizag) Limited (1km);
2. Uniparts India Limited (1km);
3. Pioneer Elastic India Pvt Ltd (0.3km);

On North side

1. Pilkington Automotive India Pvt Ltd (1km);

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On west side

1. ATC Tires AP Pvt. Ltd. (1.5 km);
2. Brandix Apparel India (P) Ltd, Unit - I (0.1km);
3. Teejay India Pvt Ltd (1KM);
4. Quantum Clothing India (P) Ltd (0.1km)
5. Brandix India Apparel City (P) Ltd, ETP (1.25km) and

On South side

1. Solara Active Pharma Sciences Limited (1.008km),
2. Porus Laboratories Pvt.Ltd (0.502km);
3. Toyotsu Rare Earths India (P) Ltd (0.508km);

On North side Pilkington Automotive India Pvt Ltd factory is located; the manufacturing process in the factory is manufacturing of car & Truck wind shield for this the management use black ink to design the wind shield glasses. The ink is black in color; Flash point is 90°C (ISO 3679). It is not explosive; there are no dangerous reactions; and no dangerous decomposition, but on skin and eye has irritant effect; and also having N.C thinner D13 – X solvent which will use to clean the wind shields which the glass having the ink design. In this the hazard is fire and explosion only; Hence there is no toxic gas release from this factory hence Pungent smell from this factory is ruled out. And also in between these two factories Brandix officers' quarters is existing in there no smell is sensed by the officers and staff.

On west side ATC Tires AP Pvt. Ltd; Brandix Apparel India (P) Ltd, Unit – I; Teejay India Pvt Ltd; Quantum Clothing India (P) Ltd and Brandix India Apparel City (P) Ltd, ETP are located Brandix 1 and Quantum are both similar garments manufacturing units; Teejay India (P) Ltd., is located with a radial distance of 1 KM; the manufacturing activity is knitted fabric; the main chemicals are Hydrogen peroxide 30% concentration which is fire hazard in nature; Acetic acid Hazard is corrosive both are of maximum 2T storage capacity; Hence the toxic gas release is ruled out

On East side 1) Uniparts India Ltd., is located with a radial distance of 1 km; the manufacturing process is manufacturing off precession machined parts; in this unit the hazardous material is propane (32T); The hazard from this is fire and explosion only. Hence there is no chance for release of Toxic gas. 2) Pioneer Elastic India Pvt., Ltd is located with a radial distance of 0.3 KM; the manufacturing process in the factory is manufacturing of elastic for to use in bras and bralets. 3) Rain CII Carbon Vizag Ltd., is

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located with a radial distance of 1 Km; the manufacturing process in the factory is manufacturing of calcinated carbon; the Hazardous materials are liquor Ammonia with 24% concentration; Maximum storage capacity is 630 KL, the main Hazard is Toxic gas release; it is heavier than air; as it is liquor Ammonia and the radial distance is 1 KM; no smell occurred in this factory and no one effected in this factory as well as 1 KM distance area. Hence the smell from this factory is ruled out.

On South side:-

1. M/s. Porus Laboratories Private Limited (Unit – VI)

- The industry is situated toward Southern side from the site of Incident at a radial distance of about 550 Mts.
- The industry is manufacturing Agro & Specialty chemicals.
- About 68 Kgs of Chlorine is available in the process whereas there is no scope of escape of Chlorine as the scrubbers are in continuous operation.
- After collecting the information about the utilities no interruptions were found. Hence there is no possibility or release of chlorine from M/s. Porus Laboratories Private Limited(Unit-Vi) In to the atmosphere.

2. M/s. Atchutapuram Effluent Treatment Limited (AETL)

- The factory is situated towards South – East side from the site of incident at a radial distance of about 2.0 K.M.
- The factory is a common effluent treatment plant run by APIIC to treat the effluents generated & collected from members industries of APSEZ, Atchuthapuram.
- Observed some VOC emissions within the premises of AETL and there is no possibility of these emissions to reach the site of incident as the prevailing wind direction towards from South West to North East.

3. M/s. Solara Active Pharma Sciences Limited.

- The industry is situated towards South – West side from the site of incident at a radial distance of about 600 meters.
- The industry is manufacturing API & Bulk Drugs.
- The Hazardous materials are only solvent storage tanks; the hazard is only fire and explosion; there is no chance for Toxic gas release.

4. M/s. Toyotsu Rare Earths (India) Private. Limited.

- The industry is situated towards South side from the site of incident at a radial distance of about 600 Meters.

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- The industry is manufacturing the oxides & carbonates of rare earth elements.
- The process consists separation of rare earths oxides & carbonates the raw material are supplied by India Rare Earths Limited based on the long term agreement.

Keeping in view of the above observation there is no chance of any toxic emission reach the site of the accident at M/s Brandix Intimate India (P) Ltd.,

The main Hazardous chemical factories are located on South side of the factory. The management has provided 6 gas detectors namely 1. Carbon Monoxide, 2. Formoldehyde, 3. T VOC, 4. Ammonia 5. Chlorine. 6. Methyle mercaptain. Near the factory main gate which is at South west corner of the factory; the smell sensed by the workers on north side of the factory. The gas detectors has not detected any leak; hence the leak at South side of the Factory is ruled out.

The management has provided 6 gas detectors near the factory main gate ; suggested the management to provide gas detectors in the processing areas and verandah's and also suggested to purchase portable gas detectors to detect any smell at any place.

The management has provided auto damper system to the one of the AHU chute; suggested the management to provide another 7 duct chutes; located in M1 & M2 blocks and also suggested that follow revalidation of all vendors, 2) pest control shall be done only in night after completing the B- Shift. 3) Get fitness certificate with the panel of Apollo Doctors. 4) Conduct Risk Assessment with the third party external agency.

Incident:

On 02.08.2022 at around 6.43 PM, initially at the back side of M1 block (North side of the factory) near wash rooms and locker area an unpleasant smell was experience by the workers and the same was also experienced later at the corridor between the M1 and M2 blocks and also at the corridor between L and M1&M2 blocks. In this incident total 129No. of female workers were hospitalized with symptoms of vomiting sensation, bowl irritation and breathlessness and in which 122 are from Quantum Clothing India Pvt Ltd and 7 were from Brandix Intimate India Pvt. Ltd. After treatment all the workers were discharged safely by 06.08.2022.

Sequence of Operations after the incident:

18.43:-In the mid bay (exteriors) of M1 and M2, one associate while going to canteen area sensed an unpleasant smell.

18.47:-Another associate complained about the smell to welfare officer.

18.55:-Unit Engineering, safety, HR and other teams witnessed the smell in the mid bay area and checked for other areas.

19.00:-It was observed that a smell is experienced in midway exit areas and no smell experienced in other areas.

19.20:-Checked continuously all the areas for detection of smell and switched off all the AC's as a precautionary measure.

19.20:-One associate was taken by wheel chair to medical room(OHC).

19.22:-One associate moved from M1 and M2 path ways to medical room.

19.28:-One associate reported from lockers area to medical room and another associate reported from M1 path way to medical room.

19.45:-One associate started vomiting and ambulance was made ready.

19.46:-First patient moved from the factory to Medirise Hospital, Atchutapuram by ambulance.

20.00:-Few more operators started complaining about vomiting, headache and dizziness .Stated evacuation of associates and shifted sick employees to nearby hospitals and got logistic support from all other Brandix units.

21.00:-Suspended shift operations in all areas of the unit and started sending all the associates to their homes.

Details of enquiry:

- On 01-08-2022 at about 10:30 PM, Sri. Koviri Mutyalu, age: 29 Years who has been working as Pesticide and Insecticide Spraying Operator from the contracting agency of M/s. Pest Cure Solutions & Fumigation Sprayed Beta Cyfluthrin 2.45SC of 50 ml with 05 liters of water to the outside walls of L, M1, M2, and N Blocks.
- At the time of incident there are 940 workers in M1 block, 727 in M2 Block and 254 in L block and a total of 1921 workers present in the factory.
- Out of the 129 female workers who were hospitalized, 122 employees of them from M1-Block and 07 employees from M2 Block.

- Samples were collected from different locations, i.e., Ducts of air handling system and at different locations of M1 Block by the Pollution Control Board authorities and sent to laboratory for examination. After the incident PCB authorities seized the M1 block.
- Examined probable gas emanation from the nearby factories which are located within one kilometer radius of the factory. But, it may be ruled out as 06 numbers of sensors provided at the security gate of the factory (South West of the factory) to detect any of the following gases and no gas presence was detected.
 1. Carbon Monoxide,
 2. Formaldehyde,
 3. VOC,
 4. Ammonia,
 5. Methyl Mercaptan,
 6. Chlorine,
- As wind direction is predominantly from South-West to North-East, any gas emanation from external source may be ruled out as the workers were mainly affected in the North direction of the factory.
- During the course of enquiry opened the covers over the soak pits and other drains (storm water pits) near the chemical room and observed that a soak pit (30cmx30cmx60cm approximately) has not been cleaned for few weeks and observed foul odour. There are 117 nos. of wash rooms and 27 nos. of sewer man holes present in the factory. Through these man holes every day 225 KL of water will reach the centralized effluent treatment plant located on South-West corner of BIAC.

Internal issues in the factory prior to the incident:

From 01.06.2022 onwards 2446 no of workers were taken into Brandix Intimate India Pvt. Ltd from nearby Quantum Clothing India Pvt Ltd in which operations were terminated due to financial crisis. Initially workers from Quantum Clothing India Pvt Ltd refused to work in Brandix Intimate India Pvt. Ltd but the management of the factory persuaded them by assuring provision of required amenities to them. The associates from Quantum (operators, quality and supporting workers) were engaged in M-1 building. Staff and executives were allotted to concerned departments based on hierarchy and at the time of assigning roles, there raised resistance from some departments especially from RMWH(Raw Material Ware House) department workers. By conciliating the employees from both the units, job roles were assigned accordingly. The 120 numbers of workers from RMWH department were

taken to Kondakarla Ava Lake on 24.07.2022 as a part of outbound training program and a picnic like program was arranged and conciliated the workers from both the units.

Consequently on 03.06.2022 an incident happened in the factory premises in which 410 no of female workers were hospitalized due an unknown gas presence and later all of them were discharged. In this incident 218 female workers are from M1 Block 188 from M2 Block and 4 from security. 218 workers from nearby Quantum Clothing India Pvt Ltd and 192 from the existing factory were affected. Due to this incident the factory remained closed until 15.06.2022 and continued operations since 16.06.2022.

Suggested Measures to be taken to prevent such type incidents in future:

1. Data log is to be maintained on all identified equipment (VOC and Multi Gas detectors) with hourly monitoring during factory working hours.
2. Additional CC cameras are to be installed to cover all the areas wherever there is human or material movement.
3. The quality of drinking water shall be in conformity to the requirements of BIS standard IS10500:2012.
4. Every worker/any person/visitor who enters the factory premises to be thoroughly scanned for any unwanted materials along with baggage brought by them.
5. Exhaust duct of moulding block should be extended away from the inlet of AHUs of M1& M2.
6. Inlet or Intake of fresh air of AHUs at M1 and M2 blocks should be extended from the roof top of L building or to a safe level based on engineering calculation.
7. Pest Control SOP (internal procedure to be strictly adhered) and pest control spraying operations must be performed only on the previous night of weekly off after 10:00 pm. For example, if weekly off is on Sunday, spraying must be performed on Saturday after 10:00 PM and it shall be carried on in the presence of a responsible person from the organization and not from the contracting agency.
8. Evacuation Mock drills related to Gas leak from possible external sources to be performed within a week from the date of recommencement of operations.
9. Report of Fire Mock drills shall be submitted to authorities once in every 2 months

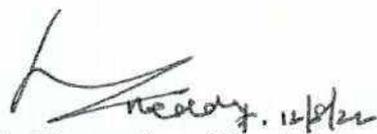
10. Chemical Room to be relocated to Security Room and it should be under the control and supervision of security personnel.
11. The soak pits connecting all the latrine accommodations shall be cleaned thoroughly every day.

Conclusion:-

- There are 27 number of soak pits in the factory premises, in which one soak pits is situated in between M1 & M2 carridor, 6 soak pits are on back/north side of M1 & M2 blocks.
- As the uncleaned manure is being stagnated in each soak pit since long time, the biogas obviously generated and accumulated as gas pocket beneath the cover plate of manhole.
- The gas is occupied the entire space of soak pit, the huge quantity of water being flushed into soak pits during rest intervals. The water flushed from latrines displace gas accumulated, subsequently push the gas pocket with little bit pressure and caused to release from the gaps and round holes of cover plates of manhole and finally generated foul odour gas during rest hours.

But the released gas from the sewage water mainly consists of methane (CH₄), Carbon monoxide(CO) and Hydrogen Sulfide(H₂S).Methane and carbon monoxide are odorless while Hydrogen Sulfide with trace amounts in ambient atmosphere has a characteristic of foul odor of rotten eggs. It is more heavier (dense) than air with 1.36 Kg/Cubic Meter while normal air is having density of 1.204 KG/Cubic Meter. So it stays low to the ground. Hence the release of any toxic gas from sewage water also is ruled out and no definite conclusion could be drawn out regarding the incident.

I am here with submitting Form No. 18 copy; witness statements and photographs for kind perusal.


Joint Chief Inspector of Factories,
Visakhapatnam.

Submitted to the Director of Factories, A. P, Vijayawada.
Copy to the Deputy Chief Inspector of Factories, Visakhapatnam.
Copy to the Inspector of Factories, Visakhapatnam-II.


Deputy Chief Inspector
of Factories
Visakhapatnam

**INQUIRY REPORT ON INCIDENT AT
M/s. SEEDS INTIMATE APPAREL INDIA PVT. LTD.,
ATCHUTAPURAM on 03-06-2022.**

by

**The Committee constituted by the District Collector,
Anakapalli vide order RC.No.290/2022/D/, dt:04-06-2022**

And

**The Committee constituted by the Member Secretary,
A.P. Pollution Control Board, Vijayawada
vide Procds.No.383/APPCB/UH-II/TF/VSKP/2022
dt:04/06/2022**

1.0 Introduction

An unfortunate incident took place at the premises of M/s. Seeds Intimate Apparel India Pvt. Ltd., located at Plot No.11 of M/s.Brandix India Apparel City Pvt. Ltd., SEZ, Pudimadaka Road, Atchuthapuram, Anakapalli District on 03.06.2022 for a short duration of about 10 minutes between 11:50 AM to 12:00 Noon. As reported by the management of the company, the employees of M/s.Seeds Intimate Apparel India Pvt Ltd.got affected due to inhalation of an unknown toxic gas and reported symptoms like vomiting, bowl irritation and breathlessness. Soon after hearing the widespread news of the incident, the District Collector, Anakapalli, Superintendent of Police, Anakapalli, Addl. Superintendent of Police, Narsipatnam, Revenue Divisional Officer, Anakapalli, Environmental Engineer & Assistant Environmental Engineer, APPCB, Visakhapatnam and I/c Inspector of Factories & I/c Deputy Chief Inspector of Factories, Visakhapatnam rushed to the location and inspected the premises of M/s.Brandix India Apparel City Pvt. Ltd. and its other operational areas, namely, the M/s. Seeds Intimate Apparel India Pvt. Ltd. Meanwhile, the management of the industry started shifting & admitting their employees to various hospitals including NTR Govt. Hospital, Anakapalli, Atchuthapuram Primary Health Care centre, KGH & other private Hospitals like Medirise, Usha Prime, Satya Dev, Medicon, Thalli Pilla Hospitals and Stargen.

A meeting was conducted by the above officials with the Hon'ble Minister for Industries, Infrastructure, Investment & Information Technology along with the concerned departmental officials. The District Collector, Anakapalli constituted a committee with the following officials vide order RC.No.290/2022/D/, dt:04-06-2022 to conduct an inquiry and submit report on the incident:

- | | |
|---|-----------------|
| 1. Joint Collector, Anakapalli | Chairman |
| 2. Environmental Engineer, APPCB | Member Convenor |
| 3. Revenue Divisional Officer, Anakapalli | Member |
| 4. Deputy Chief Inspector of Factories | Member |
| 5. Dy. Commissioner of Labour, Anakapalli | Member |

- | | | |
|----|---|--------|
| 6. | Addl. Superintendent of Police, Narsipatnam | Member |
| 7. | Prof. P.J.Rao, Dept. of Chemical Engineering,
Andhra University, Visakhapatnam | Member |
| 8. | Prof.P.Rajendra Prasad, Dept. of Chemical
Engineering, Andhra University,
Visakhapatnam | Member |
| 9. | Md. Yaswen, Managing Partner, air 'n' gas
Controls | Member |

The copy of the District Collector Proceedings are herewith produced at Annexure-I.

A.P. Pollution Control Board has also constituted a committee with the following members vide proceedings dt: 04.06.2022 for inquiry of the incident at M/s.Seeds Intimate Apparel India Pvt. Ltd.

1. Joint Collector, Anakapalli District
2. Joint Chief Environmental Engineer, Zonal Office, APPCB, Visakhapatnam
3. Inspector of Factories Visakhapatnam
4. Zonal Manager, APIIC, Atchutapuram

The copy of the APPCBproceeding is herewith produced at Annexure-II. During the course of inquiry, the Atchutapuram Effluent Treatment Plant, present in the vicinity of the area where incident took place, was also investigated for possible emissions. Since the plant is run by APIIC, the ZM, APIIC who was also the member of the above mentioned committee was excused from the inquiry to prevent any conflict of interest.

The Committee has visited the incident site and surrounding industries on 06.06.2022 & 07.06.2022 to investigate the possible cause of the incident and also to explore the type and source of the unknown gas experienced on the day of incident.

2.0 Description of the site of incident:

The site of incident include M1 & M2 blocks of M/s.Seeds Intimate Apparel India Pvt. Ltd., a garment manufacturing unit existing in M/s.Brandix India Apparel City Pvt. Ltd, SEZ, Pudimadaka Road, Atchuthapuram, Anakapalli District. This industry is engaged in manufacturing and knitting of Bras – 39,800 Nos./day & knitting of Bralet – 10,200 Nos./day. The location of the incident site is produced at Annexure-III

2.1 Facilities & Utilities

- The infrastructure facility consists of four blocksnamely Manufacturing Block (M1), Second Manufacturing Block (M2), Administration & Warehouse (L) and Utilities & Canteen (N).
- One Chilling Plant with three Nos. of compressors is located in Block-N.
- Two Nos. of DG setswith a capacity of 1010 KVA each.
- Diesel storage tank of 15 KL capacity.

2.2 Statutory Permissions

- License from Factories Department
- Permission from PESO
- Consent from A.P.Pollution Control Board
- NOC from Fire Service Department

3.0 Joint inspection of the Committee:

Followed by the proceedings of District Collector, Anakapalli, the Committee under Chairmanship of Joint Collector, Anakapalli conducted a systematic investigation into the incident by conducting physical visits to the site of incident as well as the surrounding industries.

Due to the incident, a total of 420 personnel got affected and were admitted in various medical facilities over a span of one week of which 401 were discharged till date. As per the local enquiry conducted by the Tahsildar, the affected

employees experienced pungent smell after which they started feeling nausea, reeling sensation, chest pain, abdominal pain, cramps, breathlessness etc. Many of the employees started losing consciousness within a few minutes of the incident. Of all the cases, two cases had become particularly serious who were shifted to ventilator due to sudden development of bronchospasm. Both the cases had stabilized later and were also discharged. As on date, all the affected employees are recovering and are stable.

To find out the reasons of the alleged leak and keeping in mind the above series of events, various possible scenarios were considered for the study and a typical fishbone analysis was taken up to find out the causal factors responsible for the incident. As part of the investigation, various technical information was collected from all the surrounding industries and feedback was taken by interacting with the employees. The Committee has gone through various manufacturing processes & operations of the surrounding industries and critically studied the possibility of release of any toxic gases into the atmosphere in case of worst scenario.

In order to consider all possibilities, the Committee visited the industries present in the vicinity of the area after analyzing the prevailing wind direction on the day of incident. The following industries were inspected and the observations made are enumerated below:

i) M/s.Porus Laboratories Private Limited (Unit-VI):

- The industry is situated towards southern side of the affected site at a radial distance of about 550 mts.
- The industry is engaged in manufacturing of Agro & Specialty Chemicals.
- The management informed that “the scrubber at HCL storage area got tripped at 09:45 AM on 03-06-2022 and the same was rectified within 5 minutes”. The Committee has visited that spot and opined that there will be no adverse impact due to the short-term process disturbance of 5 minutes. Moreover, proper safety measures are in place at the premises of the industry.

- The Committee has visited all the manufacturing blocks and available Distributed Control Systems (DCS) to find out any process interruptions and operability of scrubbers. As per the information provided by the plant authorities and physical site visit of the Committee, it was found that there was no scope of accidental release of process emissions into the atmosphere.
- The synthesis of the process at various phases was critically studied and found that chlorination is being done at Stage-I & Stage-III of the product 2-(1-Chlorocyclopropyl)-2-((2-chlorophenyl)methyl)-oxirane (M243). As the industry has provided 3-stage scrubbers to control the chlorine and HCl emissions and the scrubbers were in continuous operation as per the data collected from the DCS, there is no possibility of escape of chlorine/HCl gas.
- After collecting the information about the process area, no interruptions were found. Hence, there is no possibility of release of chlorine from M/s.Porus Laboratories Private Limited(Unit-VI) into the atmosphere.

ii) M/s.Atchutapuram Effluent Treatment Limited(AETL):

- The facility is situated towards South-East from the site of incident at a radial distance of about 1.7 Km.
- The facility is a Common Effluent Treatment Plant (CETP) run by APIIC to treat the effluents generated & collected from member industries of APSEZ, Atchutapuram.
- The Committee has visited the facility and observed that the operations are in place.
- During the visit, the Committee observed some VOC emissions within the premises of AETL but it opined that there is no possibility of these emissions to reach the site of incident as the prevailing wind direction is from South-West to North-East.

iii) M/s. Solara Active Pharma Sciences Limited:

- The industry is situated towards South-West from the site of incident at a radial distance of about 600 meters.
- The industry is manufacturing API & Bulk drugs.
- During inspection, the industry was not in operation. The management has informed that the unit has not been in operation for the last two months. Hence, no emissions can be expected from this industry.

iv) M/s. Toyotsu Rare Earths (India) Private Limited:

- The industry is situated towards South from the site of incident at a radial distance of about 600 meters.
- The industry is manufacturing the oxides & carbonates of rare earth elements.
- The process consists separation of rare earth oxides & carbonates from the raw material supplied by India Rare Earths Limited based on long term agreement.
- After careful examination of the process steps the committee found that there were no gaseous emissions from this industry.

Keeping in view the above observations during physical visits of all the surroundings industries, the Committee opined that there is no chance of any toxic emissions reaching the site of incident at M/s. Seeds Intimate Apparel India Pvt. Ltd. After elimination of all possible scenarios to establish the exact cause of the incident the Committee focused on possible causes within the premises of M/s. Seeds Intimate Apparel India Pvt. Ltd. The incident was reported from two production units of the company, namely, M1 and M2. The officials of APPCB collected air samples on the day of incident i.e., on 03-06-2022 from inside the shed near line-1, inside the shed near line-7, outside the shed near fresh air inlet and dust samples collected from AHU ducts inside the sheds and from fresh air inlet filter of Air Handling System (AHU) in M1 block for residual gases and residual solids are submitted to IICT, Hyderabad for analysis.

As per the analysis reports of IICT, Hyderabad the sample collected from outside the shed near fresh air inlet of air handling unit reported traces of Acetonitrile and Hexane and the report of dust samples show the traces of hydrocarbons like Cyclopropane, Chloromethane, Acetaldehyde, Furan, Acetone, Di-Chloromethane, 2-methyl propanal, etc. which may be due to the operation of incinerator and a common effluent treatment plant situated in the complex.

It was observed that there was no system in place for cleaning of filters in the Air Handling Units(AHUs) of either of the two production units, M1 and M2, where the incident took place. However, despite being asked to not tamper with evidence by making any modifications in the affected site, it was observed that the company had cleaned filter of the AHU present in one of the production units on the next day of the incident. The copy of the IICT Analysis reports is produced at Annexure-IV.

During investigation, on enquiring about the incinerator operations, the management of M/s.Brandix India Apparel City Pvt. Ltd.informed that the incinerator was not operated on the day of incident. However, on verifying with the CC footage of the incinerator area, it was observed that the incinerator was in operation on the day of incident also i.e., on 03-06-2022. The management has deliberately given false information and mislead the committee. They have removed the log register pages corresponding to operations held on 03-06-2022.

The committee while visiting the incinerator area had found that 30 meters height stack was attached to the incinerator which was meant for burning cloth and waste material consisting of some rubber / elastic items. The stack was situated at a radial distance of 1.5 Km in the upwind direction of the site of incident. The Officials of APPCB directed the management to start the incinerator for monitoring on 07-06-2022. The management started the incinerator and the officials of APPCB conducted stack monitoring on 07-06-2022. It was observed that the incinerator is not attaining the required temperatures in the primary and secondary chambers. The scrubber attached to the stack of incinerator was also not properly functioning. As per the stack monitoring report, the concentrations of PM, HCl, HF and CO are exceeding the stipulated standards. The stack monitoring report is produced at annexure - V.

The Department of Police found that except in the premises of M/s. Seeds Intimate Apparel India Pvt. Ltd, no other companies in the vicinity or any other persons felt any smell which was noticed by the employees of M/s. Seeds Intimate Apparel India Pvt. Ltd. Other industries adjacent to the area of the incident Porus, Teejay, Toyotsu, Solara Active Pharma, Vasanta Chemicals did not observe any odour or any incidents in their premises.

Followed by the above observations, the Committee focused on the possibilities of any toxic emissions from the pest control activity which is usually taken up in the premises and also at production units M1 & M2. The procedure and schedules of pest control were critically studied to bring all the information about the chemicals used, supplier and the person employed for pest control on the day of incident. The MSDS of the chemicals were obtained from the supplier and it was found that the symptoms mentioned therein are matching with the symptoms felt by the employees affected in M1 & M2 blocks on the day of incident. The Committee interacted with the affected persons, contractors as well as the officers of the company to explore the chance of contamination by toxic fumes during pest control process.

4.0 Findings:

In the process of investigation, the Committee made the following observations:

- a) **Intoto Pest Control and Facility Services** is the pest control agency which is engaged by M/s. Seeds Intimate Apparel India Pvt. Ltd. On behalf of the agency, a person named Sri M. Gangaraju, Pest Control Operator, is regularly engaged in spraying of pesticide in & around the plant premises.
- b) Sri M. Gangaraju, in his written statement, stated that he comes everyday and collects 25-30 ml of chemical from the chemical storage room located in N-Block and dilutes it with 3 ltrs of water in 5 ltrs capacity spraying can. He then proceeds for spraying the diluted pesticide covering all the blocks outside. The Committee has collected a log sheet which contains the block wise spraying details along with time of completion and signatures of respective managers of the sections.

- c) It is further observed that the agency is using two chemicals for pest control viz., Alpha Cypermethirin 10% SC, for pest management inside the facilities and blocks, and Chlorpyrifos 20% EC, for use in open areas.
- d) During the visit, the Committee was informed that there was no stock of Alpha Cypermethirin 10% SC on the day of incident and the pest control operator had used Chlorpyrifos 20% EC instead of Alpha Cypermethirin 10% SC in between the production blocks. The 6 meter corridor between L-Block and M1, M2 & N Blocks is covered with a lean to roof GI Sheeting. The height of the roof at L-Block side is 7.5 meter and the height of eaves on slab of M1, M2 & N block is 6.41 Meter. There is a gap of 1.50 meter between the slabs of M1, M2 & N and roof sheet. There are two AHU units on the roof of M1 Block & two AHU Units on M2 Block. The fresh air inlets of all 4 AHU units are located near the opening of the lean to roof. It appears that due to suction of AHUs, Chlorpyrifos 20% EC sprayed in that area might have been sucked into air handling unit and inturn into the production areas.
- e) As per the composition, solubility of Chlorpyrifos 20% EC in water is 2 mg/l and at the time of spraying at the incident site, the final concentrated residue may have settled down in the sprayer due to improper mixing and the concentrated chemical might have been sprayed at the site leading to the occurrence of the incident.
- f) It was reported by the pest control operator that a few days prior to the incident, the stocks of Alpha Cypermethirin 10% SC, meant to be used inside the blocks, was exhausted and that he had asked Sri Sekhar, Supervisor of the Agency for additional stock who instructed the Pest Control Operator to use a transparent bottle filled with a light yellow coloured liquid (Chlorpyrifos 20% EC). The copy of the written statement given by the Pest Control Operator and Job Cards/service acknowledgment for M/s.Seeds Intimate Apparel India Pvt. Ltd and Photographs of the Pest Control chemicals used in the premises and are produced at Annexure-VI.
- g) The statement obtained from the pest control operator Sri M. Gangaraju stating that the pest control was done from 09:00 AM to 11:24 AM on the

day of incident i.e., on 03-06-2022 at various facilities including the semi closed area between the M1, M2, N and L Blocks. The copy of the statement is produced at Annexure-VII.

- h) Four AHUs rooms are provided for each manufacturing block and three chilling units in the utility block.
- i) No leakages of R134, a refrigerant gas, are found in the Chilling plant.
- j) Among the 8 AHU rooms, one of the AHU rooms i.e., South East Corner of M1 Block, was found to have been cleaned after this incident.

Conclusion:

In view of the above material facts, the Committee hereby concludes that the source of toxic gas is from the premises of M/s. Seeds Intimate Apparel India Pvt. Ltd for the following reasons:

1. The inquiry commenced from the day of incident on 03-06-2022. However, the company has suspiciously cleaned one of the air filters in a hurried manner after the incident, despite being instructed to cooperate with the investigation and not to tamper with any of the evidence.
2. The industry has 6.0-meter-wide corridor between L block and M1, M2 & N block which is covered with Lean to Roof (Galvalume Sheet), the height of the roof at L block side is 7.50 meter and the height of eaves on slab of M1, M2 & N blocks is 6.41 meter and there is a gap of 1.50 meter in between the slabs of M1, M2 & N blocks and roof sheet. The construction of Lean to Roof on entire length of the corridor is not approved under Factories Act, 1948 in approval Lr No. R.Dis.A/119472/2018, dated: 10.10.2018 of Chief Inspector of Factories.
3. The industry has engaged a pest control contractor who is not having valid license for commercial pest control operations which is a mandatory requirement Under Sub-Rule 3(A) of Rule 10 of the Insecticides Rules, 1971 to be obtained from the Agricultural Department, GoAP.
4. The pest control operator has given statement that he sprayed Chlorpyrifos 20% EC instead of Alpha Cypermethirin 10% SC between the production blocks.
5. Chlorpyrifos is an organophosphate and is toxic in nature. The symptoms due to exposure to Chlorpyrifos are muscle spasms, weakness, shortness of breath,

vomiting, difficulty in breathing, loss of consciousness etc. which are similar to the symptoms of the affected employees of the company. They also experienced the mercaptan like smell which is associated with the chemical.

6. Except in the premises of M/s. Seeds Intimate Apparel India Pvt. Ltd, no other company in the vicinity or persons felt any symptoms/ smell which was noticed by the employees of M/s. Seeds Intimate Apparel India Pvt. Ltd.

Hence, the committee concludes that the incident took place due to spraying of Chlorpyrifos 20% EC between the production blocks and the accumulated vapours underneath the roof were sucked into the inlets of 4 ducts of Air Handling Units installed in M1 & M2 Blocks, thereby leading to the incident.



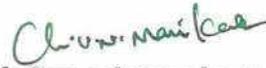
Prof. P.J. Rao,
Dept. of Chemical Engineering,
Andhra University, Visakhapatnam



Prof. P. Rajendra Prasad,
Dept. of Chemical Engineering,
Andhra University, Visakhapatnam



Md. Yaswen, Managing Partner,
air 'n' gas Controls



Addl. Superintendent of Police,
Narsipatnam



Joint Chief Environmental Engineer,
APPCB, Visakhapatnam



Dy. Commissioner of Labour,
Anakapalli



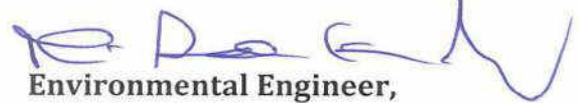
I/c Deputy Chief Inspector of
Factories, Visakhapatnam



Revenue Divisional Officer,
Anakapalli



I/c Inspector of Factories,
Visakhapatnam-2



Environmental Engineer,
APPCB, Visakhapatnam



Joint Collector,
Anakapalli District

Annexure-I

PROCEEDINGS OF THE DISTRICT COLLECTOR & DISTRICT MAGISTRATE, ANAKAPALLI
PRESENT: RAVI PATTANSHETTI I.A.S.,

Sub: Industrial Accidents – Anakapalli District- Incident occurred in The Seeds Intimate Apparel India Pvt;., Ltd in Brandix company in SEZ., Atchutapuram Village & Mandal, Anakapalli District on 3-6-2022 – Constitution of District Joint Committee to inquire into the incident – orders Issued

Ref: Note submitted by the Tahsildar, Atchutapuram on 03-06-2022,

ORDER:

Whereas, the Tahsildar, Atchutapuram reported that an incident took place at about 11-50am, on 03-06-2022 at Seeds Intimate Apparel India Pvt;., Ltd unit of Brandix India Apparel City Park, Atchutapuram village & Mandal, Anakapalli District & many employees with symptoms like vomiting, irritation, breathlessness, etc. due to the incident were admitted to NTR Government hospital, Anakapalli and other private hospitals .

Therefore, a District Joint Committee is hereby constituted with the following officers to conduct an inquiry and submit a detailed report.

- | | |
|---|--------------------|
| 1. Joint Collector, Anakapalli | - Chairman, |
| 2. Environmental Engineer,
AP. Pollution Control Board | - Member, Convenor |
| 3. Revenue Divisional Officer, Anakapalli, | - Member |
| 4. Dy. Chief Inspector of Factories | - Member |
| 5. Dy. Commissioner of Labour, Anakapalli | - Member |
| 6. Addl Superintendent of Police, Narsipatnam | - Member |

The Committee constituted shall submit the report at the earliest.

J
Supt- 3/6/22

Yuan
3/6/22
DRO

Ravi
3/6/2022
Collector &
District Magistrate
Anakapalli

To,

- 1) Joint Collector, Anakapalli
- 2) Environmental Engineer, AP. Pollution Control Board, Anakapalli
- 3) Revenue Divisional Officer, Anakapalli,
- 4) Dy. Chief Inspector of Factories, Anakapalli
- 5) Dy. Commissioner of Labour, Anakapalli
- 6) Addl. Superintendent of Police, Narsipatnam

Annexure-II



ANDHRA PRADESH POLLUTION CONTROL BOARD
D.No.33-26-14, D/2, Near Sunrise Hospital, Pushpa Hotel
Centre, Chalamalavari street, Kasturibaipet, Vijayawada – 10

Procds.No.383/APPCB/UH-II/TF/VSKP/2022

04/06/2022

PROCEEDING OF THE MEMBER SECRETARY, APPCB, VIJAYAWADA

PRESENT SRI GSRKR VIJAYKUMAR IAS

Sub: APPCB – HO – UH-II – Constitution of Committee for inquiry of Gas leak incident at M/s.Brandix India Apparel City Ltd,(BIAC), Brandix SEZ, Atchutapuram, Anakapalli District – Proceedings – Issued - Reg.

Ref: News Items published in the leading daily news papers dt 04.06.2022 regarding the suffering of employees of BIAC due to gas leak on 03.06.2022

That M/s.Brandix India Apparel City Ltd,(BIAC), Brandix SEZ, Atchutapuram, Anakapalli District is an Apparel park located at Brandix SEZ, Atchutapuram having various Export Oriented Apparel units with large number of female employees.

A gas leak incident occurred On 03.06.2022 from an chemical industry located at the APSEZ Atchutapuram leading to the illness of the female employees working in Brandix India Apparel Park, Atchutapuram. Vide reference cited it was reported in the news papers that Over 100 women working in the Brandix SEZ in Achutapuram have fallen sick after inhaling ammonia, leaked from the nearby Porus chemical factory. Reported that about 100 women in an apparel unit developed symptoms of headache, vomiting and a few fainted after inhaling the gas, Treatment has been provided to them and all are out of danger.

In this regard, a committee here by has been constituted with the following members to inquire into the incident,

1. JOINT COLLECTOR, Ankapalli District
2. JCEE Zonal Office, APPCB Visakhapatnam.
3. Inspector of Factories Visakhapatnam
4. ZM APIIC, Atchutapuram

They are requested to submit the report with in a weeks time.

The Collecotr and District Magistrate shall take necessary action accordigly

are requeste Vijay Kumar Gsrkr Ias

MEMBER SECRETARY
APPCB

To

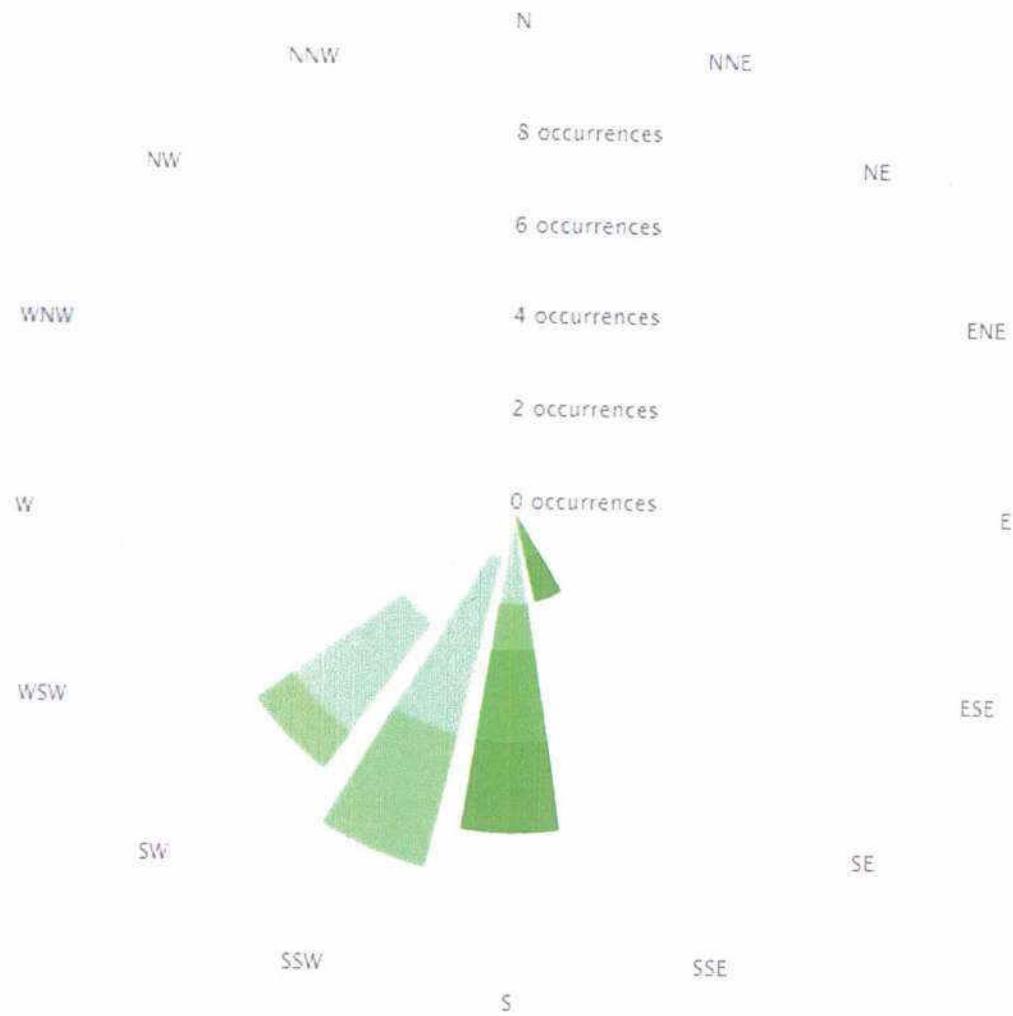
1. **Collector and District Magistrate, Ankapalli**
2. Joint Collector Ankapalli District for information for information and necessary action
3. JCEE Zonal Office, APPCB Visakhapatnam for information and necessary action
4. Inspector of Factories Visakhapatnam for information and necessary action
5. ZM APIIC, Atchutapuram for information and necessary action

Copy to:

The EE, RO, Visakhapatnam for information and necessary action.

Location of the Incident Site





0 to 5 km/h 5 to 10 km/h 10 to 15 km/h 15 to 20 km/h 20 to 25 km/h 25 to 30 km/h

	Department: DASC	Activity: TESTING	
	CSIR-IICT-Analytical Test Report		
	Form No: CSIR-IICT/FORM/TRF	Page No.: 1 of 2	

Annexure-IV

Reference No.	: 08062022/363
Date of Report	: 08/06/2022
Sample Registration No.	: 5469
Customer Name & Address (with E-mail & Mobile Number of the Contact person)	: AP POLLUTION CONTROL BOARD VISAKHAPATNAM Email: rovpappcb@gmail.com Mob: 9177303309/9866776722
Sample ID(s)/Code(s)	: Inside the shed near line – 1 (gas) Inside the shed near line – 7 (gas) Outside the shed near fresh air inlet (gas) Inside the shed near line – 7 (Sorbent) Outside the shed near fresh are inlet (sorbent) Dust sample from AHU ducts inside the sheds (Dust sample) Dust sample from the fresh air inlet filter of Air Handling System (AHU) (Dust sample)
Nature of Samples	: 3 gases, 4 solids
Number of samples	: 7
Sampling plan, if any	: All samples were submitted by APPCB
Conditions at which sample received (sealed/unsealed/ice box etc.)	: Sealed, Room Temperature
Date of Sample Receipt	: 06-06-2022
Date of Analysis	: 06-06-2022
Test method(s) used for analysis	: GC-MS WITH HSS
Deviations from test method/procedure, if any	: NA
Additional information, if any	: Qualitative Result

Results of Analysis

S.No.	Name of Sample	Chemicals observed	Technique and Instrumental details
1	Inside the shed near line – 1 Data file code: APPCB-VIZ-1 Sample: Gas in PE bag	No volatile chemicals were observed	GC-MS with PLOT Q column and HSS analyser
2.	Inside the shed near line – 7 Data file code: APPCB-VIZ-2 Sample: Gas in PE bag	No volatile chemicals were observed	GC-MS with PLOT Q column and HSS analyser
3.	Outside the shed near fresh air inlet Data file code: APPCB-VIZ-3 Sample: Gas in PE bag	Acetonitrile Dichloromethane Ethylacetate n-Hexane Toluene	GC-MS with PLOT Q column and HSS analyser
4.	Inside the shed near line-7 Data file code: APPCB-VIZ-4 Sample: Sorbent tube	Dichloromethane n-Hexane	GC-MS with PLOT Q column and HSS analyser

	Department: DASC	Activity: TESTING	
	CSIR-IICT-Analytical Test Report		
	Form No: CSIR-IICT/FORM/TRF	Page No.: 2 of 2	

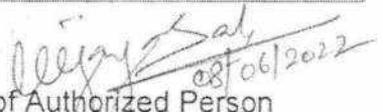
5.	Outside the shed near fresh air inlet Data file code: APPCB-VIZ-8 Sample: Sorbent tube	No volatile chemicals were observed.	GC-MS with PLOT Q column and HSS analyser
6.	Dust sample from AHU ducts inside the sheds Data file code: APPCB-VIZ-5 Sample: Dust	Cyclopropane Chloromethane Acetaldehyde Furan Acetone Dichloromethane 2-methyl propanal n-butanol n-Hexane 2-methylfuran 2-Butanone Benzene Toluene	GC-MS with PLOT Q column and HSS analyser
7.	Dust sample from the fresh air inlet filter of Air Handling System (AHU) Data file code: APPCB-VIZ-6 Sample: Dust	Chloromethane Acetaldehyde Propanal Acetone 2-methylpropanal 2,3-butanedione 2-butanone 1-butanol 2-methylbutanol Hexanal	GC-MS with PLOT Q column and HSS analyser
8.	Blank sorbent Data file code: APPCB-VIZ-7 Sample: Sorbent	No volatile chemicals were observed	GC-MS with PLOT Q column and HSS analyser

*Indicate the specific analyte as a parameter and if necessary indicate the type of analysis performed

Disclaimer:

- The report pertains to the sample tested only
- The report shall not be used or produced in fragments
- The report shall not be used for any other purpose than declared by the sponsor
- CSIR-IICT is not a regulatory/certifying agency hence no part of this report should be used for legal purposes under any circumstances
- CSIR-IICT shall not be held financially liable for losses incurred by clients on account of inferences and interpretations made on the basis of the test results

//END OF REPORT//


Signature of Authorized Person
Name: Dr. U.V.R. Vijaya sarathi

तकनीकी प्रबंधक / प्रभारी वैज्ञानिक
Technical Manager / Scientist-In-Charge
विश्लेषण कक्षक नमूना प्राप्ति केंद्र
Analytical Sample Receipt Centre
विश्लेषण एवं संरचनात्मक रसायन विभाग
Dept. of Analytical & Structural Chemistry
सीएसआइआर-भारतीय रसायनिक प्रौद्योगिकी संस्थान
CSIR-Indian Institute of Chemical Technology
हैदराबाद / Hyderabad - 500 007, भारत / India

Annexure-V



**ANDHRA PRADESH POLLUTION CONTROL BOARD
ZONAL LABORATORY, VISAKHAPATNAM**

D.No.39-33-20/4, Behind RTA Office, Madhavadhara VUDA Colony,
Visakhapatnam – 530 018.

M RAVI, M.Sc.,
SENIOR ENVIRONMENTAL SCIENTIST

Ph : 0891-2719380/481
e-mail: zovsplab-ses2@ appcb.gov.in

FORM - IVREPORT BY THE STATE BOARD ANALYST[See Rule-14]

Report No. 2022 – 06 – ST – 001

Date: 09.06.2022

I hereby certify that I M. Ravi State Board Analyst duly appointed under sub-section (3) of Section 26 of the Air (Prevention and Control of Pollution) Act, 1981, received on the day of 08.06.2022 from Junior Scientific Officer, Zonal Laboratory, Visakhapatnam the following sample for analysis of stack attached to incinerator of M/s. Brandix Apparel City (I) Pvt. Ltd., Atchutapuram (V&M), Anakapalli District collected on 07.06.2022 for analysis. The sample was in a condition fit for analysis as reported below:

I further certify that I have analyzed the above mentioned sample from 08.06.2022 to 09.06.2022 and declare the result of the analysis to be as follows: -

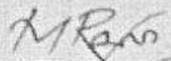
S.No.	Parameter	Value	Unit	Standard
1.	Particulate Matter (PM)	140.5	mg/Nm ³	50.0
2.	Hydrogen Chloride (HCl)	59.2	mg/Nm ³	50.0
3.	Sulphur Dioxide (SO ₂)	165.5	mg/Nm ³	200.0
4.	Oxygen (O ₂)	17	%	--
5.	Carbon Dioxide (CO ₂)	2.74	%	--
6.	Carbon Monoxide (as CO)	718	mg/Nm ³	100
7.	Hydrogen Fluoride (HF)	4.3	mg/Nm ³	4.0
8.	Oxides of Nitrogen (NO _x)	90.4	mg/Nm ³	400.0
9.	Cadmium (as Cd)	<0.001	mg/Nm ³	0.05
10.	Mercury (as Hg)	0.002	mg/Nm ³	0.05
11.	(As+Pb+Cr+Co+Cu+Ni)	0.21	mg/Nm ³	0.5

The condition of the seals, fastening and container on receipt was intact.

Note: 1. O₂, CO, CO₂, SO₂ & NO_x are measured through Testo-350 flue gas analyser.
2. All values are corrected to 11% Oxygen

Signed this: 09.06.2022.

Address:
M. Ravi,
Senior Environmental Scientist,
Zonal Laboratory, APPCB, Visakhapatnam.


SIGNATURE OF THE STATE BOARD ANALYST

INTOTO

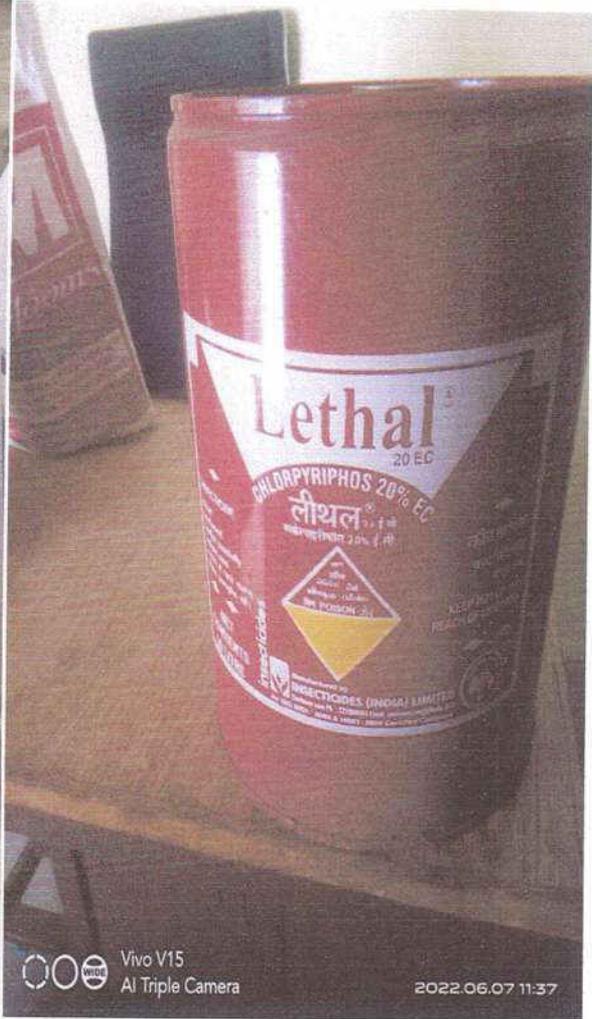
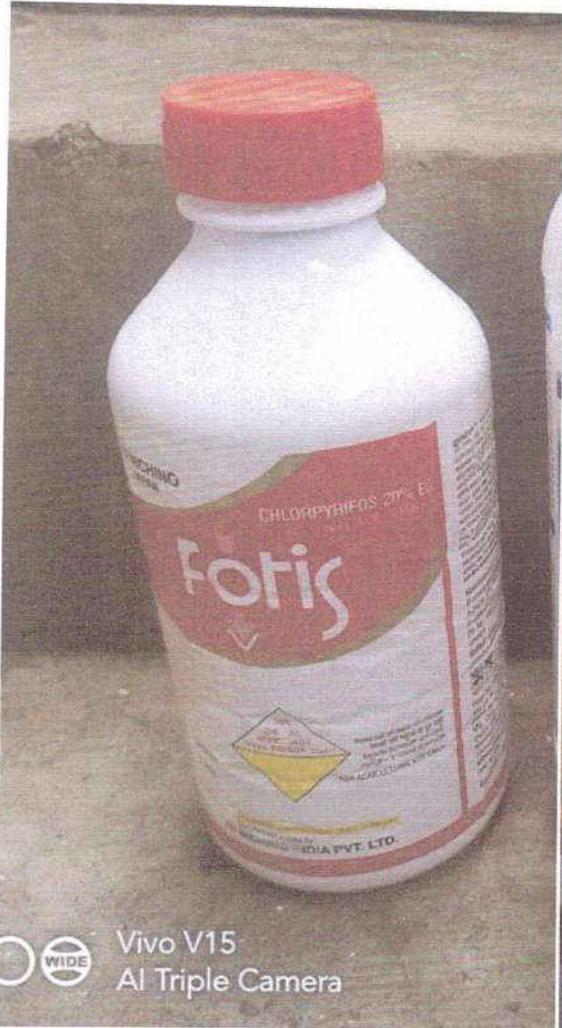
Pest Control & Facility Services
 JOB CARDS/SERVICE ACKNOWLEDGEMENT FOR
 SEEDS INDIA PVT. LTD., VISAKHAPATNAM

Date: 3-6-22

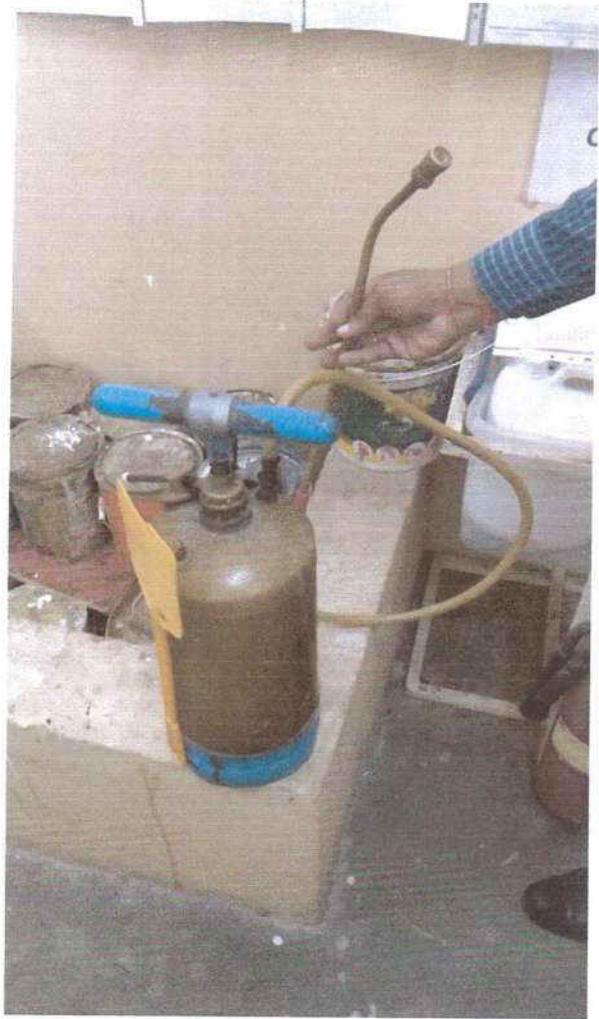
S.NO.	Area	Timing	Signatures	Remarks
1.	Manager (Project)			
2.	CEO (Room)			
3.	DEV Sir (Room)			
4.	HR (Dept)			
5.	Sample Room	10:55		
6.	Cutting Office	9:53AM	A. Gowth	
7.	Molding Room	9:55AM	K. Suresh	
8.	Cutting (Floor)	9:53AM	A. Gowth	
9.	Board Meeting (Room)			
10.	Production (Dept)	10:54	G. Jyothi	
11.	Production (Floor)	10:54	G. Jyothi	
12.	(Finance Dept)			
13.	Store (Dept)	09:40	K. Veni	
14.	IT Room			
15.	Procurement			
16.	MOA (Dept)	9:50	V. Tarek	
17.	Medical (Room)	9:10	Jyothi	
18.	Children Core	9:40	hina	
19.	Open Space	9:42	hina	
20.	Quality (Dept)			
21.	Locker-(Room)	9:00	Satya manj	
22.	Generator (Rator)	11:00		
23.	AC Operating (Room)	12:00		
24.	Electrical (Room)	10:51		
25.	Canteen Area	11:24	Mama	
26.	Ladies & Ladies Toilets - outside	9:00	Satya manj	
27.	Ladies & Ladies Toilets - inside	9:00	Satya manj	
28.	In Gate - Security Room	10:00	K. Suresh	
29.	Out Gate - Security Room	10:15	K. Suresh	
30.	Packing Department	10:55	G. Jyothi	
31.	Planning			
32.	F.G.W.	9:26		
33.	Car Parking Area	10:20	K. Suresh	
34.	Enginay	09:29		
35.	surplus Room damping shed	9:40	hina	
		12:06		

INTOTO PEST CONTROL FACILITY SERVICES SEEDS INDIA PVT.LTD.,

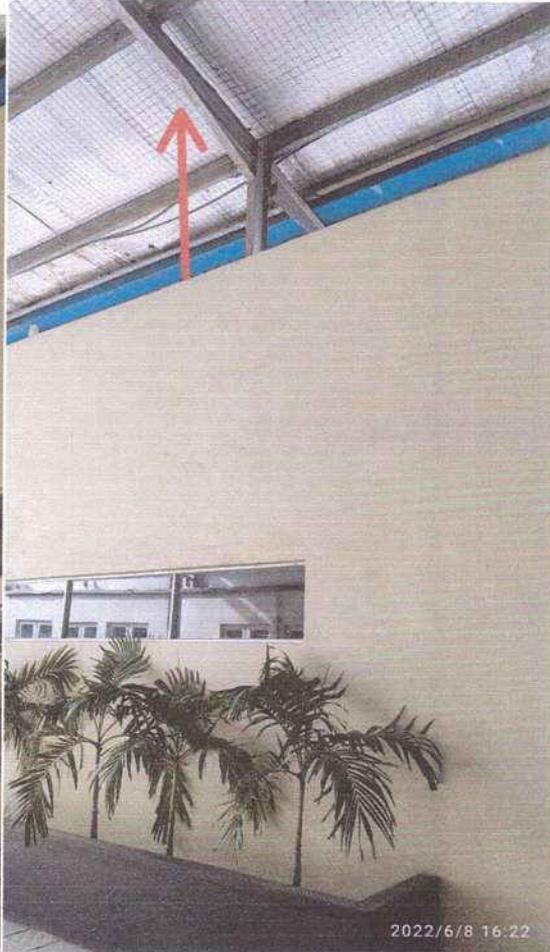
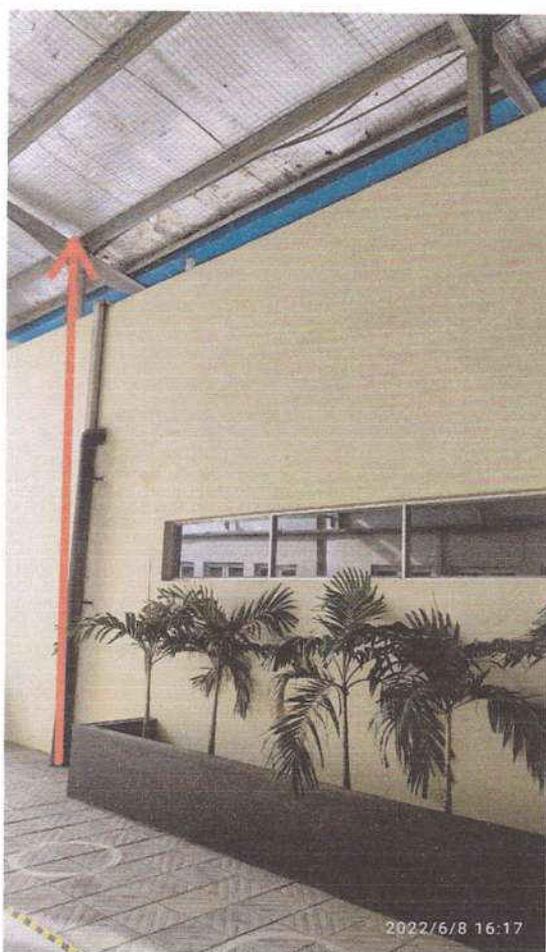
Pest Control chemicals

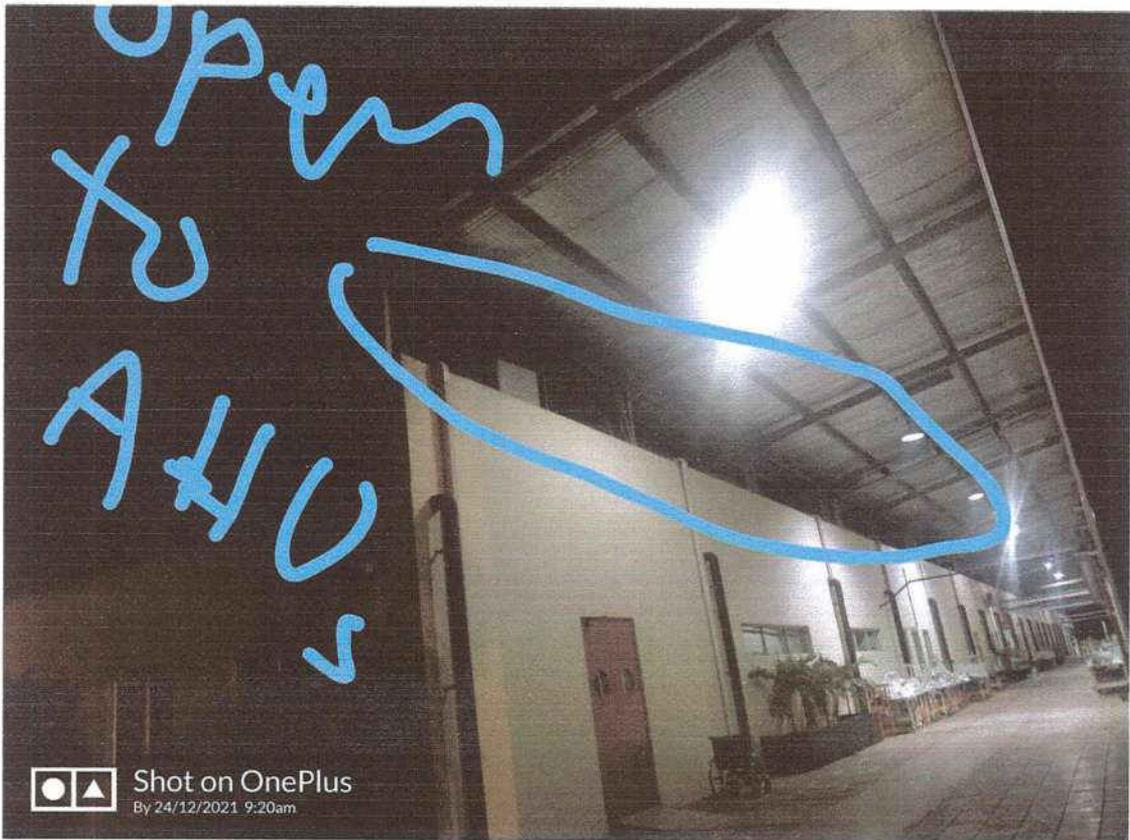


Pest Control sprayer



Lean to roof of GI Sheet found that the eaves are on M1, M2 & N blocks and leading from L (Admin. Building), leaving a gap of 6 meters between M1, M2 & N blocks and L (Admin Building).





Statement of Minnakuntla Ganga Rao s/o (L) Satya Rao
404 NR, Uswabrahman Exp Collie R/O Ompalle (U) & (R) Mumagapata
M/o Anabupalem (U) & (R), Mumagapata (M) ph no 9652521627

నేను ప్ర చతునాథుని నుండి నివాసం ఉంచు అభ్యర్థనకు
బాండ్ కు కంపెనీ లో గల సిడ్స్ కంపెనీ లో per Control బోర్డుకి
మరికైనా Spray చేసి రంపు నా గల సెల తులనగా పని బోర్డు
కెంద చిని 25 కార్ట్రేజ్ వల్ల సెలకు 9,000/- అయి నాని
ఖాయన అయి పని బోర్డు నుండి ప్రతి రోజు ఉదయం 08:00 గం. లో
బిల్లు పంపించారు. 05.05.2022 వరకు కంపెనీ లో ఉంటాను. నాకు మీ
కార్ట్రేజ్ గారు 03 రోజులు 7 daysing తులన గుర్తు. నాకు మీ కార్ట్రేజ్
గారు 02 రోజుల కెమిక్స్ 25 లిటర్ల నిలి మెంట్ పని రంపు రంపు లో
గ్లూ కంపెనీ లో పని తెలు కెమిక్స్, బిల్లు పని రంపు రంపు రంపు నిలి
కలికి Spray చేయమని చెప్పారు 25 HL తెలు కెమిక్స్ 5 లిటర్ల నిలి
20 HL కెమిక్స్ (పని రంపు రంపు) 5 లిటర్ల నిలి కలికి Spray చేయమని చెప్పారు
25 కెమిక్స్ పని తులన నాకు తెలిసి. ప్రతి రోజు లాగానే తేలి 03-06-22
న ఉదయం 08:00 కి బిల్లు కెమిక్స్ నిలి తులన కెమిక్స్ గాని Spray లో
మీరు 11-1 Lock లో 25 కెమిక్స్ 11-2 లో 25 కెమిక్స్ 25 కెమిక్స్
పని రంపు లో మీరు కార్ట్రేజ్ 25 కెమిక్స్ 25 కెమిక్స్ కంపెనీ లో పని
మిల్లన గల కార్ట్రేజ్ నిలి తులన వాడుక ప్రపంచ 25 కెమిక్స్ పని రంపు
కుమిలు కార్ట్రేజ్ మీరు Spray చేసారు. 25 కెమిక్స్ పని రంపు
Spray బోర్డుకి గుర్తు పని రంపు రంపు Chemical, Water లో కలికి
బిల్లు Spray చేసి 11:45 గం. లో నిలి తులన కెమిక్స్ 25 కెమిక్స్
25 కెమిక్స్ పని రంపు లో. అక్టోబర్ 25 కెమిక్స్ అంపు నా పని రంపు
వెళి గ్లూ leak అయింది 25 కెమిక్స్ అంపు పని రంపు లో
బిల్లు వల్ల బోర్డుకి బాతామి 25 కెమిక్స్ అంపు లో పని రంపు
పని రంపు లో బోర్డు కెమిక్స్ అంపు అంపు అంపు పని రంపు
వల్ల నన్ను బోర్డు నుండి ప్రతి రోజు ఉదయం 08:00 గం. లో
సంకం ఉంది " అని చెప్పాను.

M. Ganga Rao

Chemical room 3 బెళ్ళ, 3 litera 3 లీటర్ల అవుట్లెట్, దానికి 25 ml chemical pickler
 వేసి, పడిల AC opening room 3 బెళ్ళ తో సుమారు 12 PM 3 spray చేయటం జరిగింది.
 సుమారు 12:06 PM Dumping yard లో spray చేయించగా, ప్రతి బాల్కు 28 గ్రాములకు,
 వేసు కేవల M1 Block వేసు వచ్చింది. అదే కాలంలో female worker 3 కేవలం 28 female
 worker ఎత్తు కేవలం అవుతుంది, Block నుండి బయటకు అవుట్ వస్తుంది; అదే కేవలం Ambulance
 పులు వేళి ఎక్కించబడుతుంది అనిపించింది. అటువంటి వేసు సుమారు 2:30 - 3 PM వరకు company
 బస్సులు వేసు ఇంటికి బెళ్ళి వచ్చింది

వేసు అవుట్లెట్ల chemicals ఎత్తుకు వచ్చి నుంచి తెలియదు వేసు ఎత్తుకు
 supervisor బెళ్ళి, దాని ప్రకారం వేసు ఏ ఏ వేసు వచ్చింది.

28 వేసు వచ్చింది. Inspect of factory, Visakhapatnam - D (I-AC) అని,
 statement నమోదు చేసి, చదివి ఎత్తుకు వచ్చింది. ఇది ఎత్తుకు వచ్చి దృష్టిపెట్టినట్లు

M. Ganapathi
 07/10/2022

M. Ganapathi

Inspect of factory,
 Visakhapatnam - D. G.

* Statement recorded in my presence.

K. S. R.
 07/10/2022



SRINIVASU T
 Manager - Facilities

Date 07 Jan 2022

Srinivas Chirawalli
 INTON Post Control & Facility Services.
 Sacramento 95833 500015
 ph: 9246569090

I here by state that, I am
 the owner of above post control services.

As part of my business, I am in
 contract with SACD intimate company
 with below mentioned details:

1) one supplier (w/ 6/22 Mr. Ganja Raju
 is employee, with supervision of Mr. Chandra Sekh,

Monthly, we provide chemical to ops
 with these recommendation of chemical/solvent

1. Chlorophos 20 EC (yellow colour, smelly)
 for external use about areas of out site
 2 liter for waste, Ratio (1:20, water)
2. Alphacypermetrin 10 SC (white, smell less)
 for internal use about areas with Ratio of
 1:50 (water) 1 liter per site.

As ops conduct spill clean up he recognizes
 external use internal chemical, sep colour/sml,
 they have been using a couple of times
 to level.

The schedules and work are ~~in~~ as
 indicated by SACD company, he also says
 by some Akshay, and they spill once
 each.

Jagan Srinivas
 Srinivas
 (SRINIVAS. U)
 9246569090

* Note: The chemical in
 white bottle is
 Alphacypermetrin 10 SC.

② Chemical in transparent
 bottle is Chlorophos
 2 liter.

**ANDHRA PRADESH POLLUTION CONTROL BOARD
REGIONAL OFFICE, VISAKHAPATNAM**

Lr No.1862/PCB/RO-VSP/2022

Date:06.12.2022

From
The Environmental Engineer,
A.P. Pollution Control Board,
Regional Office,
Visakhapatnam

To
The Chairman of the Committee
constituted by the Hon'ble NGT Order
dt:03.08.2022 in Original Application
No.448 of 2022 (PB)

Sir,

Sub: APPCB, RO, VSP - Hon'ble NGT, Principal Bench, New Delhi Original Application No.448 of 2022 (PB) in the matters of news item published in Hindustan Times dated 03.06.2022 titled "178 women workers fall ill after gas leak in Andhra's Visakhapatnam" - Action taken report submitted - Reg.

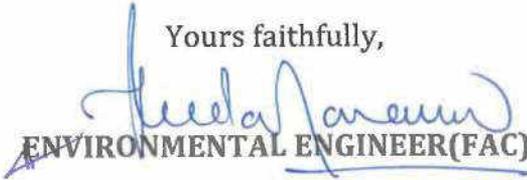
Ref: Instructions of the Committee constituted by the Hon'ble NGT Order dt:03.08.2022 in Original Application No.448 of 2022 (PB) on 05.12.2022.

* * *

It is to submit that as per the instruction of the committee constituted by the Hon'ble NGT Order dt:03.08.2022 in Original Application No.448 of 2022 (PB), I am herewith submitting the action taken report on First (03.06.2022) & Second (02.08.2022) Incidents Occurred in M/s. Seeds Intimate Apparel India Pvt. Ltd at Plot No.11 of M/s.Brandix India Apparel City Pvt. Ltd., SEZ, Pudimadaka Road, Atchutapuram, Anakapalli District for favour of information. Copy of the report is herewith enclosed

Submitted.

Yours faithfully,


ENVIRONMENTAL ENGINEER(FAC)
06.12.22

**ACTION TAKEN REPORT ON FIRST (03.06.2022) & SECOND(02.08.2022)
INCIDENTS OCCURRED IN M/S. SEEDS INTIMATE APPAREL INDIA PVT. LTD**

Report on First Incident occurred on 03.06.2022:

1. An un-fortunate incident took place on 03.06.2022 for a short duration of about 10 minutes between 11:50 AM to 12:00 Noon in the premises of M/s. Seeds Intimate Apparel India Pvt. Ltd., located at Plot No.11 of M/s.Brandix India Apparel City Pvt. Ltd., SEZ, Pudimadaka Road, Atchutapuram, Anakapalli District
2. This office received the information through phone from the management of M/s.Brandix India Apparel City Pvt. Ltd., regarding gas leak incident at 12:00 PM and APPCB officials immediately rushed to the spot of the incident at 01:30 PM on 03.06.2022 and conducted VOC Monitoring in & around M/s. Seeds Intimate Apparel India Pvt. Ltd. The parameters such as NH₃, CO, HCL, HC, Cl₂, H₂S were monitored within & outside the premises located at a distance 500 m from the incident site in southern direction. The measured constituents were within Below Detectable Levels. (Annexure-I)
3. Officials of APPCB collected residual air and residue samples on the day of incident i.e., on 03.06.2022 from inside the shed near line-1, inside the shed near line-7, outside the shed near fresh air inlet and dust samples collected from AHU ducts inside the sheds and from fresh air inlet filter of Air Handling System (AHU) in M1 block in the premises of M/s. Seeds Intimate Apparel India Pvt. Ltd., and are submitted to IICT, Hyderabad for analysis.
4. EE, RO, Visakhapatnam has requested IICT to analyze for presence of any toxic chemical residues if any in the samples. This office has received final analysis reports from the CSIR-IICT wherein Chlorpyrifos residues were detected in the samples.
5. As per the analysis report, it was observed that the dust samples collected from AHU ducts inside the sheds and from fresh air inlet filter of Air Handling System (AHU) in M1 block contain Chlorpyrifos as tabulated below (Annexure-II):

S. No.	Name of the sample	Concentration of Chlorpyrifos
1	Dust sample from AHU Ducts inside the sheds	3.7 µg/Kg.
2	Dust sample from the fresh air inlet filter of air handling system (AHU)	278.6 µg/Kg.

6. APPCB monitored Ambient Air Quality within the industry premises using Mobile CAAQM station on 24 Hrly Basis for five days period i.e. from 08.06.2022 to 13.06.2022. As per the data generated, the ambient air quality parameters (CO, O₃, NO, NO₂, NH₃, SO₂, PM_{2.5}, PM₁₀) were within the NAAQS norms. (Annexure-III)
7. The District Collector, Anakapalli constituted a committee vide order RC.No.290/2022/D/, dt:04-06-2022 comprising of Joint Collector, Anakapalli -

Chairman, Environmental Engineer, APPCB - Member Convenor, Revenue Divisional Officer, Anakapalli -Member, Deputy Chief Inspector of Factories-Member, Dy. Commissioner of Labour, Anakapalli -Member, Addl. Superintendent of Police, Narsipatnam - Member, Prof. P.J.Rao, Dept. of Chemical Engineering, AU, Visakhapatnam - Member, Prof.P.Rajendra Prasad, Dept. of Chemical Engineering, AU, Visakhapatnam - Member & Md. Yaswen, Managing Partner, air 'n' gas Controls - Member and also APPCB has constituted a committee vide proceedings dt: 04.06.2022 comprising of Joint Collector, Anakapalli District, JCEE, ZO, APPCB, Visakhapatnam, Inspector of Factories Visakhapatnam, Zonal Manager, APIIC, Atchutapuram.

8. Both the Committees have visited the incident site i.e., M/s.Seeds Intimate Apparel India Pvt. Ltd, CETP of M/s. Brandix Apparel India (Pvt) Ltd(BIAC) & incinerator within the premises of BIAC and surrounding industries viz., M/s.Porus Laboratories Private Limited (Unit-VI), M/s.Atchutapuram Effluent Treatment Limited(AETL), M/s. Solara Active Pharma Sciences Limited & M/s. Toyotsu Rare Earths (India) Private Limited on 06.06.2022 & 07.06.2022. As per the directions of the District Collector, Anakapalli District, the committee has submitted the inquiry report on the incident occurred on 03.06.2022 at M/s.Seeds Intimate Apparel India Pvt. Ltd., to the District Collector, Anakapalli District on 10.06.2022.

Report on Second Incident occurred on 02.08.2022:

1. Another incident took place in the same premises of M/s. Seeds Intimate Apparel India Pvt. Ltd., on 02.08.2022 in between 6.30 PM to 07.45 PM. About 129 people were got affected and admitted in various hospitals.
2. This office received the information through phone from the management of M/s.Brandix India Apparel City Pvt. Ltd., regarding gas leak incident at 07:30 PM and APPCB officials immediately rushed to the spot of the incident at 09:00 PM on 02.08.2022 and conducted VOC Monitoring in & around M/s. Seeds Intimate Apparel India Pvt. Ltd from 10:30 PM to 11:50 PM. The parameters such as NH₃, CO, HCL, HC, Cl₂, H₂S were monitored at locations within & outside the premises at a distance 500 m from the incident site in southern direction. The measured constituents were within Below Detectable Levels. (Annexure-IV)
3. The Regional Office, APPCB, Visakhapatnam immediately directed the industry on 02.08.2022 not to carry-out any maintenance works and cleaning activity in the premises of industry till further instructions.
4. At the time of incident on 02.08.2022, all the multi gas analyzers installed by the industry at the security gate have shown values of 'zero' which clearly shown that there was no outside source for causing smell nuisance in the industry.
5. APPCB Officials collected air samples on 02.08.2022 & 03.08.2022 from the inside & outside premises of M-1 & M2 Blocks (during AHU on/off condition) and also at toilet and corridor between M1 & M2 blocks and collected the samples of air filter

- dust from all Air Handling Units (AHU) installed on the top of M1 & M2 blocks and also collected the samples of dust deposited on the AHU ducts in M1 & M2 blocks of M/s.Seeds Intimate Apparel India Private Limited for analysis. The samples were submitted to IICT Hyderabad on 03.08.2022 for detailed analysis of VOCs, Methane, Monomeththylamine, Propadine, Ammonia, Mercaptans and Pesticide residues viz., Chloriphyrifos, Cypermethrin, Deltamethrin, Beta-Cyfluthrin. The CSIR-IICT, Hyderabad furnished analysis report on 16.08.2022 and as per the reports pesticide residues of Chloriphyrifos were present in dust samples collected in AHU ducts of M1 & M2 Blocks. (Annexure-V)
6. ICMR accepted the proposal to take up a detailed study on the incident through mail dt:03.08.2022.
 7. APPCB monitored Ambient Air Quality within the industry premises using Mobile CAAQM station on 24 Hrly Basis for two days period i.e. from 03.08.2022 to 08.08.2022. As per the data generated, the gaseous parameters viz., CO, O₃, NO, NO₂, NO_x, NH₃, SO₂ & PM₁₀ measured were found to be within the NAAQS norms. Some of the VOCs were also detected but in trace levels. (Annexure-VI)
 8. The Government of Andhra Pradesh, Vide G.O.Rt.No.78, dt.03.08.2022, constituted the Expert Committee to probe into the cause behind the gas leak and suggest measures to improve the protocol for industrial safety within the 30 days.
 9. ICMR- NIE (National Institute of Epidemiology) and ICMR-National Institute of Nutrition (NIN), Hyderabad has conducted their visits on 05.08.2022 & 06.08.2022 and interacted with the affected persons who were undergoing treatment in hospitals.
 10. The Collector & District Magistrate, Anakapalli District has convened meeting with District level committee on the incident on 06.08.2022 and directed to submit SOP to be required for safe and effective operation of garment industry.
 11. APPCB officials accompanied the ICMR-NIN Team and the team with the help of Health officials, have taken blood and urine samples of affected and non-affected employees on 07.08.2022. And also interacted with the Collector & District Magistrate, Anakapalli District on 07.08.2022.
 12. ICMR has submitted the final report to the Member Secretary, APPCB on 20.10.2022.



ANDHRA PRADESH POLLUTION CONTROL BOARD

ZONAL LABORATORY, VISAKHAPATNAM

Behind RTA Office, Madhavadhara VUDA Colony
Visakhapatnam - 530 018.

M. RAVI, M.Sc
SENIOR ENVIRONMENTAL SCIENTIST

Ph.No. 0891-2719380/481
e-mail: Zovsplab-scs2@appcb.gov.in

AMBIENT AIR MONITORING REPORT

Name of the industry : M/s. Seeds Intimate Apparel India Pvt Ltd
Plot -11, Brandix Apparel City (I) Pvt. Ltd.,
APSEZ, Atchuthapuram, Anakapalli District

Date of monitoring : 03.06.2022, (9.45 PM to 11.30PM)

S.No	Location	Parameters					
		NH3	CO	HCL	HC	CI2	H2S
1	Near line -1 (inside the shed)	BDL	BDL	BDL	BDL	BDL	BDL
2	Near line -- 7 (inside the shed)	BDL	BDL	BDL	BDL	BDL	BDL
3	Outside the industry premises	BDL	BDL	BDL	BDL	BDL	BDL

Remarks : The values are recorded using single gas detectors
BDL: Below Detectable Limit (0.1 ppm)

M. Ravi
SENIOR ENVIRONMENTAL SCIENTIST

	Department: DASC	Activity: TESTING	
	CSIR-IICT-Analytical Test Report		
	Form No: CSIR-IICT/FORM/TRF	Page No.: 1 of 2	

Reference No.	: 08062022/363
Date of Report	: 08/06/2022
Sample Registration No.	: 5469
Customer Name & Address (with E-mail & Mobile Number of the Contact person)	: AP POLLUTION CONTROL BOARD VISAKHAPATNAM Email: govrappeh@gmail.com Mob: 9177303309/9866776722
Sample ID(s)/Code(s)	: Inside the shed near line - 1 (gas) Inside the shed near line - 7 (gas) Outside the shed near fresh air inlet (gas) Inside the shed near line - 7 (Sorbent) Outside the shed near fresh air inlet (sorbent) Dust sample from AHU ducts inside the sheds (Dust sample) Dust sample from the fresh air inlet filter of Air Handling System (AHU) (Dust sample)
Nature of Samples	: 3 gases, 4 solids
Number of samples	: 7
Sampling plan, if any	: All samples were submitted by APPCB
Conditions at which sample received (sealed/unsealed/ice box etc.)	: Sealed, Room Temperature
Date of Sample Receipt	: 06-06-2022
Date of Analysis	: 15-06-2022
Test method(s) used for analysis	: GC-MS WITH HSS
Deviations from test method/procedure, if any	: NA
Additional information, if any	: Qualitative Result

Results of Analysis

S No.	Name of Sample	Chemicals observed	Technique and Instrumental details
1.	Inside the shed near line - 1 Data file code: APPCB-VIZ-1 Sample: Gas in PE bag	No volatile chemicals were observed	GC-MS with PLOT Q column and HSS analyser
2.	Inside the shed near line - 7 Data file code: APPCB-VIZ-2 Sample: Gas in PE bag	No volatile chemicals were observed	GC-MS with PLOT Q column and HSS analyser
3.	Outside the shed near fresh air inlet Data file code: APPCB-VIZ-3 Sample: Gas in PE bag	Acetonitrile Dichloromethane Ethylacetate n-Hexane Toluene	GC-MS with PLOT Q column and HSS analyser
4.	Inside the shed near line-7 Data file code: APPCB-VIZ-4 Sample: Sorbent tube	Dichloromethane n-Hexane	GC-MS with PLOT Q column and HSS analyser
5.	Outside the shed near fresh air inlet Data file code: APPCB-VIZ-8	No volatile chemicals were observed.	GC-MS with PLOT Q column and HSS analyser



	Department: DASC	Activity: TESTING	
	CSIR-IICT-Analytical Test Report		
	Form No: CSIR-IICT/FORM/TRF	Page No.: 2 of 2	

6.	Sample: Sorbent tube Dust sample form AHU ducts inside the sheds Data file code: APPCB-VIZ-5 Sample: Dust	Cyclopropane Chloromethane Acetaldehyde Furan Acetone Dichloromethane 2-methyl propanal n-butanol n-Hexane 2-methylfuran 2-Butanone Benzene Toluene	GC-MS with PLOT Q column and HSS analyser
7.	Dust sample from the fresh air inlet filter of Air Handling System (AHU) Data file code: APPCB-VIZ-6 Sample: Dust	Chloromethane Acetaldehyde Propanal Acetone 2-methylpropanal 2,3-butanedione 2-butanone 1-butanol 2-methylbutanal Hexanol	GC-MS with PLOT Q column and HSS analyser
8.	Blank sorbent Data file code: APPCB-VIZ-7 Sample: Sorbent	No volatile chemicals were observed	GC-MS with PLOT Q column and HSS analyser
S.No.	Name of Sample	Concentration of Chlorpyrifos	Technique and Instrumental details
1	Dust sample form AHU ducts inside the sheds Sample: Dust	3.7 µg/kg	GC-MS with HP-5MS column
2	Dust sample from the fresh air inlet filter of Air Handling System (AHU) Sample: Dust	278.6 µg/kg	GC-MS with HP-5MS column

*Indicate the specific analyte as a parameter and if necessary indicate the type of analysis performed

- Disclaimer:**
- The report pertains to the sample tested only
 - The report shall not be used or produced in fragments
 - The report shall not be used for any other purpose than that stated by the sponsor
 - CSIR-IICT is not a regulatory/certifying agency hence no part of this report should be used for legal purposes under any circumstances
 - CSIR-IICT shall not be held financially liable for losses incurred by clients on account of inferences and interpretations made on the basis of the test results

//END OF REPORT//


 Signature of Authorized Person
 Name: Dr. U.V.R. Vijaya Srathi
 तकनीकी प्रबंधक / सभारी वैज्ञानिक
 Technical Manager / Scientist-in-Charge
 विश्लेषणात्मक नमूना प्रयोग केंद्र
 Analytical Sample Receipt Centre

CSIR-Indian Institute of Chemical Technology, Uppal Road, Tarnaka, Hyderabad - 500 007
 CSIR-Indian Institute of Chemical Technology
 హైదరాబాద్ / Hyderabad - 500 007, भारत / India

A.P. POLLUTION CONTROL BOARD, ZONAL LABORATORY, VISAKHAPATNAM
MOBILE CONTINUOUS AMBIENT AIR QUALITY MONITORING STATION
24 Hrs. AVERAGE VALUES

M/s Seeds Intimate Apparel India Private Limited, Pudimadaka(Rd), Atchutapuram(m), Anakapalle.

Location : Near SEEDS Main Gate

Date	Time	CO µg/m ³	O ₃ µg/m ³	NO µg/m ³	NO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	PM _{10/2.5} µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	Temp °C	RH %	WS m/s	WD dir	SP m/s
08.06.2022 to 09.06.2022	18:00 to 17:00	0.6	47.0	4	12	17	16	11.2	38	88	32.8	32.8	78.9	1.2	200	753
09.06.2022 to 10.06.2022	18:00 to 17:00	0.4	40.6	2	9	11	18	10.8	29	71	32.3	32.3	79.8	1.0	176	755
10.06.2022 to 11.06.2022	18:00 to 17:00	0.3	40.2	5	20	25	11	10.5	27	60	31.9	31.9	82.6	1.1	195	757
11.06.2022 to 12.06.2022	18:00 to 17:00	0.4	35.1	4	18	22	15	13.6	25	52	30.6	30.6	80.8	1.2	218	758
12.06.2022 to 13.06.2022	18:00 to 17:00	0.5	33.2	6	23	29	11	12.5	23	43	30.5	30.5	81.6	0.9	199	759
Standard Limits	-	*2	*100	-	80	-	400	80	60	100	-	-	-	-	-	-

Note:-

* CO & Ozone standard is for 8 hours


SENIOR ENVIRONMENTAL SCIENTIST



ANDHRA PRADESH POLLUTION CONTROL BOARD

ZONAL LABORATORY, VISAKHAPATNAM

Behind RTA Office, Madhavadhara VUDA Colony
Visakhapatnam – 530 018.M. RAVI, M.Sc
SENIOR ENVIRONMENTAL SCIENTISTPh.No. 0891-2719380/481
e-mail: Zovsplab-ses2@appcb.gov.inAMBIENT AIR QUALITY MONITORING REPORT

Name of the industry : M/s. Brandix Intimate Apparel India Pvt. Ltd.,
(Formerly M/s Seeds Intimate Apparel India Pvt Ltd.,)
Plot -11, Brandix APSEZ, Atchuthapuram,
Anakapalli District

Date & Time of monitoring : 02.08.2022 (10.30 PM to 11.50 PM)

S.No	Location	Parameters						
		TVOC	NH ₃	CO	HCL	HC	Cl ₂	H ₂ S
1	Inside the M1-Shed	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2	Outside premises of the industry	BDL	BDL	BDL	BDL	BDL	BDL	BDL
3	In between M1 & M2 Sheds	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Remarks: The above values are recorded using individual gas detectors. TVOC was measured using hand held PID gas detector (make: Ion Science, model: Phocheck Tiger)

BDL: Below Detectable Limit (0.1 ppm)


SENIOR ENVIRONMENTAL SCIENTIST

	Department: DASC	Testing: Analytical	
	CSIR-IICT-Analytical Test Report		
	Form No: CSIR-IICT/FORM/TRF	Page No.: 1 of 6	

Reference No	: 16082022/385
Date	: 16-08-2022
Sample Registration No.	: 5696
Customer Name & Address (with E-mail & Mobile Number of the Contact person)	: AP Pollution Control Board Zonal Office Visakhapatnam Email: zovsplab-ses2@appcb.gov.in
Sample ID(s)/Code(s)	: Air Samples – 10 Dust samples – 7 Sorbent tube samples 10
Nature of Samples	: Semi Solids (17) and gas (10)
Number of samples	: 27
Sampling plan, if any	: Samples submitted by APPCB
Conditions at which sample received (sealed/unsealed/ice box etc.)	: Room Temperature
Date of Sample Receipt	: 04-08-2022
Date of Analysis	: 14-08-2022
Test method(s) used for analysis	: GC-MS and LC-MS
Deviations from test method/procedure, if any	: NA
Additional information, if any	: Qualitative Result

Results

Analytical Test Results

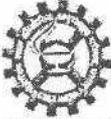
S. N	Sample description	Volatile organics	Mercaptans, Methane, Monomethyl amine Propadine, Ammonia	Chlorpyrifos	Delta methrin	β -Cyfluthrin	α -Cypermethrin
1	Tedlarbag: Inside the M1 block near line-10 (During Shut down of AHUs)	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2	Tedlarbag: Inside the M1 block near Line-24 (During shut down of AHUs)	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
3	Tedlar bag: Outside the	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected

	Department: DASC	Testing: Analytical	
	CSIR-ICT-Analytical Test Report		
	Form No: CSIR-ICT/FORM/TRF	Page No.: 2 of 6	

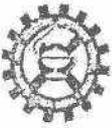
	near lockers area (During shut down of AHUs)						
4	Tedlar bag: Outside near walkway between M1 & M2 Blocks (During shut down of AHUs)	Not detected					
5	Tedlar bag: Inside M1 block (During operation of AHUs)	Not detected					
6	Tedlar bag: Outside M1 Block near Lockers area (During operation of AHUs)	Not detected					
7	Tedlar bag: Inside the M2 Block (during shutdown of AHUs)	Not detected					
8	Tedlar bag: Inside the M2 Block (During operation of AHUs)	Not detected					
9	Tedlar bag: Near Ladies wash room of M1 block	Not detected					
10	Tedlar bag:	Not	Not detected	Not detected	Not	Not	Not detected

	Department: DASC	Testing: Analytical	
	CSIR-IICT-Analytical Test Report		
	Form No: CSIR-IICT/FORM/TRF	Page No.: 3 of 6	

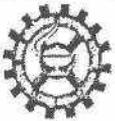
	Near Ladies wash room of M2 block	detected			detected	detected	
11	Sorbent Tube: Inside the M1 Block (During shut down of AHUs)	Not detected	Not detected	1.22 µg/kg	Not detected	Not detected	Not detected
12	Sorbent tube: Outside the M1 Block (During shut down of AHUs)	Not detected					
13	Sorbent tube: Inside the M2 Block (During shut down of AHUs)	Not detected	Not detected	0.4 µg/kg	Not detected	Not detected	Not detected
14	Sorbent tube: Inside the M2 Block (During operation of AHUS)	Not detected	Not detected	1.5 µg/kg	Not detected	Not detected	Not detected
15	Sorbent tube: Near Ladies Wash Room of M1 Block	Not detected	Not detected	1.0 µg/kg	Not detected	Not detected	Not detected
16	Sorbent tube: Near Ladies Wash Room of M2 Block	Not detected					
17	Sorbent tube: Blank sorbent tube	Not detected					
18	Dust	Not	Not detected	506 µg/kg	Not	Not	Not detected

	Department: DASC	Testing: Analytical	
	CSIR-ICT-Analytical Test Report		
	Form No.: CSIR-ICT/FORM/TRF	Page No.: 4 of 6	

	sample: Collected from the AHU ducts inside M1 block	detected			detect ed	detected	
19	Dust sample: Collected from the AHU ducts inside M2 Block	Not detected	Not detected	471 µg/kg	Not detect ed	Not detected	Not detected
20	Dust sample: Collected from the inlet air filter-1 front side of M1 Block (86TRLHS)	Not detected	Not detected	493 µg/kg	Not detect ed	Not detected	Not detected
21	Dust sample: Collected from the inlet air filter-2 front side of M1 Block (86TRLHS)	Not detected	Not detected	336 µg/kg	Not detect ed	Not detected	Not detected
22	Dust sample collected from the inlet air filter-1 rear side of M1 Block (70TRRHS)	Not detected	Not detected	201 µG/KG	Not detect ed	Not detected	Not detected
23	Dust sample collected from the inlet air filter-2 rear	Not detected	Not detected	177 µg/kg	Not detect ed	Not detected	Not detected

	Department: DASC	Testing: Analytical	
	CSIR-ICT-Analytical Test Report		
	Form No: CSIR-ICT/FORM/TRF	Page No.: 5 of 6	

	side of M1 Block (70TRRHs)						
24	Dust sample collected from the inlet air filter-1 front side of M2 Block (86TRLHS)	Not detected	Not detected	498 µg/kg	Not detected	Not detected	Not detected
25	Dust sample collected from the inlet air filter-2 front side of M2 Block (86TRLHS)	Not detected	Not detected	312 µg/kg	Not detected	Not detected	Not detected
26	Dust sample collected from the inlet air filter -1 rear side of M2 Block (70TRLHS)	Not detected	Not detected	134 µg/kg	Not detected	Not detected	Not detected
27	Dust sample collected from the inlet air filter-2 rear side of M2 Block (70TRRHs)	Not detected	Not detected	165 µg/kg	Not detected	Not detected	Not detected

	Department: DASC	Testing: Analytical	
	CSIR-IICT-Analytical Test Report		
	Form No: CSIR-IICT/FORM/TRF	Page No.: 6 of 6	

Disclaimer:

- i. The report pertains to the samples tested only and the results are scientific findings only.
- ii. The report shall not be used or produced in fragments.
- iii. The report shall not be used for any other purpose than declared by the sponsor.
- iv. CSIR-IICT is not a regulatory/certifying agency hence no part of this report should be used for legal purposes under any circumstances.
- v. CSIR-IICT shall not be held financially liable for losses incurred by clients or for any decisions on account of inferences and interpretations made on the basis of the test results.

TECHNICAL MANAGER

[Handwritten Signature]
16/05/2022

Signature of Authorized Personnel

[Handwritten Signature]
16/05/2022

END OF REPORT

भारतीय प्रौद्योगिकी संस्थान
 Director (Technology) / Scientific In-Charge
 Analytical Centre
 Dept. of Analytical & Applied Chemistry
 CSIR-Indian Institute of Chemical Technology
 Hyderabad - 500 007, India

A.P. POLLUTION CONTROL BOARD, ZONAL LABORATORY, VISAKHAPATNAM
MOBILE CONTINUOUS AMBIENT AIR QUALITY MONITORING STATION
24 Hrs. AVERAGE VALUES

M/s Brandix India Apparel City(Formerly M/s Seeds Intimate Apparel India Pvt Ltd), Pudimadaka(Rd), Atchutapuram(M), Anakapalli District.

Location 1 : Near M1 & M2 Block Back Side

Date	Time	CO mg/m ³	O ₃ µg/m ³	NO µg/m ³	NO ₂ µg/m ³	NO _x µg/m ³	NH ₃ µg/m ³	SO ₂ µg/m ³	PM ₁₀ µg/m ³	AT °C	RH %	WS µg/m ³	WV µg/m ³	SP µg/m ³
03.08.2022 to 04.08.2022	19:00 to 18:00	0.5	19.0	3	9	11	19	7.5	47	29.8	84.3	0.7	101	756
Location 2 : Near Out Gate														
04.08.2022 to 05.08.2022	19:00 to 18:00	0.4	33.5	3	7	10	15	5.7	34	29.7	83.9	0.9	155	755
05.08.2022 to 06.08.2022	19:00 to 18:00	0.5	69.4	3	10	13	12	12.3	35	30.0	81.6	1.2	262	753
06.08.2022 to 07.08.2022	19:00 to 18:00	0.7	55.6	3	9	12	16	14.1	32	28.8	86.9	1.4	253	751
07.08.2022 to 08.08.2022	19:00 to 18:00	0.5	51.6	3	7	10	12	5.9	42	27.8	88.0	2.1	268	750
NAAQ Standards 24 Hrs.	-	*2	*100	-	80	-	400	80	100	-	-	-	-	-

Note:- * CO & Ozone standard is for 8 hours

M. Rao
SENIOR ENVIRONMENTAL SCIENTIST

Investigational Report

An Epidemiological Investigation of Acute neuro and gastrointestinal outbreak among women workers in Apparel factory, Achyutapuram, Anakapalle District, Andhra Pradesh

(Ref: AP pollution control Board, Visakhapatnam, Andhra Pradesh email dated 05-08-2022)

Submitted by
Director,

ICMR - National Institute of Nutrition (ICMR-NIN),
ICMR-National Institute of Epidemiology (ICMR-NIE),

Indian Council of Medical Research (ICMR),
Ministry of Health & Family Welfare, Govt. of India
Jamai - Osmania PO, Hyderabad – 500007, T.S. INDIA,
R-127, TNHB, Ayapakkam, Chennai 600071, India.



icmr
INDIAN COUNCIL OF
MEDICAL RESEARCH

NIN
NATIONAL INSTITUTE
OF NUTRITION

28.11.2022



icmr | **NIN**
INDIAN COUNCIL OF MEDICAL RESEARCH | NATIONAL INSTITUTE OF NUTRITION

आई सी एम आर - राष्ट्रीय पोषण संस्थान
स्वास्थ्य अनुसंधान विभाग, स्वास्थ्य और परिवार
कल्याण मंत्रालय, भारत सरकार

ICMR - National Institute of Nutrition
Department of Health Research, Ministry of Health
and Family Welfare, Government of India

144

डॉ. हेमलता आर, लर्नेटिंग एंड रिसर्च डायरेक्ट, एन सी आर
निदेशक

Dr. Hemalatha R, MBBS, MD, FNAAS, FIUNS, FIAS
Director

Ref.No D/NIN/2022/
Date: 02.12.2022

To,
The Member Secretary,
Andhra Pradesh Pollution Control Board,
D No.33-26-14D/2, Near Sunrise Hospital,
Pushpa Hotel Center,
Chalamalavari Street, Kasturibaipet,
Vijayawada - 520010

Sub: Submission of report on "An Epidemiological Investigation of Acute neuro and gastrointestinal outbreak among women workers in Apparel factory, Achyutapuram, Anakapalle district, Andhra Pradesh" - Reg.

Ref: e-mail dated 5th August 2022 from AP Pollution Control Board, Visakhapatnam, Andhra Pradesh

Sir/Madam,

In reference to the mail cited above requesting ICMR-NIN to investigate sudden illness of women employees at M/s. Seeds Intimate Apparel India Pvt. Ltd., located in the premises of M/s. Brandix India Apparel City (Pvt) Ltd., (BIAC), SEZ, Atchuthapuram, Anakapalle District, please find herewith attached the detailed report on the investigations carried out by ICMR-NIN and ICMR-NIE, for your perusal.

With best regards,

Yours sincerely,

(Hemalatha R)

Table of Contents

S.No	Title
1	Introduction: Rationale for Investigation:
2	Objectives: / Goals of Investigation
3	Plan of Investigational Approach
4	Methods (Approach)
5	Results
6	Community Diagnosis
7	Recommendations
8	Acknowledgments
9	Annexures

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Email: directornin@icmr.gov.in, dg@icmr.org.in.

Website: www.nin.res.in

1. Introduction: Rationale for Investigation:

On August 2nd 2022, a request was made to ICMR-NIN by the AP Pollution control board on behalf of Government of Andhra Pradesh that a sudden unknown gas leak was reported at M/s. Seeds Intimate Apparel India Pvt. Ltd., located in the premises of M/s. Brandix India Apparel City (Pvt) Ltd., (BIAC), SEZ, Atchuthapuram, Anakapalle District.(Ref: AP pollution control Board, Visakhapatnam, Andhra Pradesh email dated 05-08-2022) to investigate into the sudden unknown illness of employees of the firm. About 129 women employees were admitted in government and private hospitals located in Anakapalle town. The major symptoms among the affected were breathlessness, giddiness, vomiting's, and drowsiness. The outbreak had created panic among the workers and attracted media glare from national communities.

The Director, NIN constituted a **multidisciplinary** team to conduct outbreak investigation, in view of experience, expertise, and infrastructure at the institute a study plan was made.

Team profile: ICMR-NIN

Dr Hemalatha Rajkumar, Director		
Dr J.J Babu Geddam	Scientist F	Principal Investigator
Dr Sinha Sukesh Narayan	Scientist F	Investigators
Dr. Shiva Perumal	Scientist-D	
Dr Mahesh Kumar Mummadi	Scientist C	
Dr Samarasimha Reddy N	Scientist-E	
Dr Sreenu Pagidoju	TO-B	
Mr Raji Reddy	Sr Tech-2	
Ms B Tulja	TO-B	
A Team with 3 epidemiologists, with Dr. JJ Babu trained in epidemic preparedness and the other two had post graduate degrees in Community Medicine. The team also had expertise in nutrition, food toxicology.		

Another Team was also constituted by **Dr Manoj Murekar**, Director **ICMR-National Institute of Epidemiology** as per the request of APPCB (Andhra Pradesh Pollution Control Board).

Team profile: ICMR-NIE

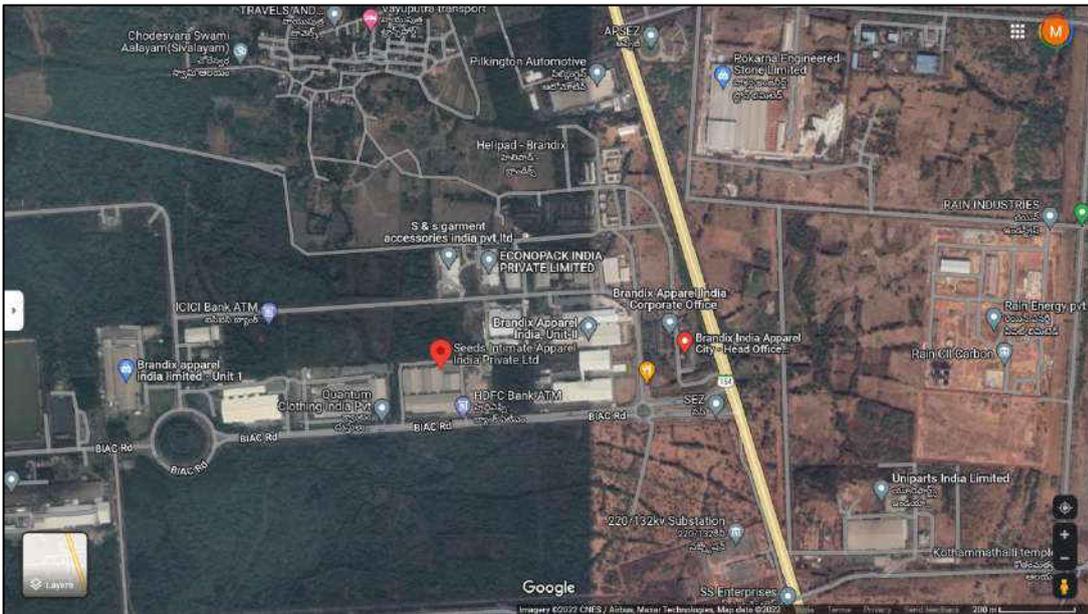
Dr Manoj Murhekar, Director		
Dr Prabdeep Kaur, Scientist-F		
Dr S Lokesh	Scientist-E	Principal Investigator
Dr Maniganda Nesan	Consultant	Investigators
Dr Ramya	Scientist-B	
Dr Ranjith	Scientist-B	

Institutional strength: Rich experience in handling the epidemics of any origin. The institutional infrastructure is on par with any international norms. Well trained Human resources from clinical, non-clinical, technical and field staff are well trained. All laboratory investigations are conducted under strict guidelines of GCP monitoring all quality aspects.

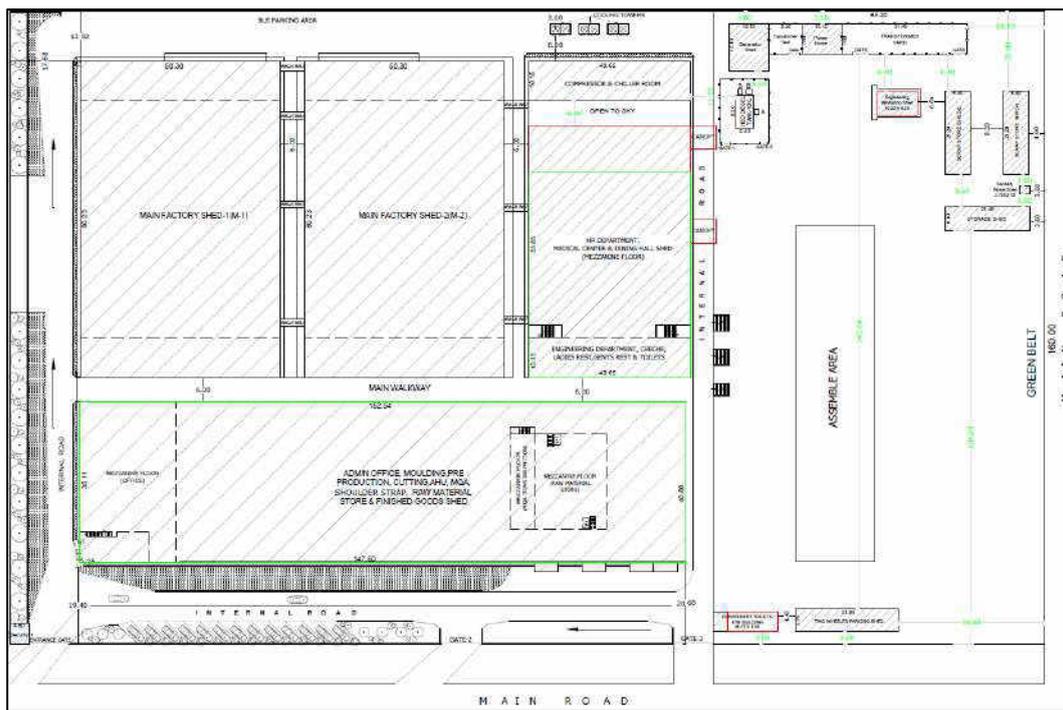
Site of inspection and investigation:

Atchuthapuram is a Mandal in Anakapalle district of Andhra Pradesh state. Brandix India Apparel City (BIAC) is a 1000-acre Branded Apparel clothing maker. It is located at 17°33'42"N 82°58'28"E.

The Media has reports as sudden unknown gas leak in M1 Block of M/s. Seeds Intimate Apparel India Pvt. Ltd., located in the premises of M/s. Brandix India Apparel City (Pvt) Ltd., (BIAC), SEZ, Atchuthapuram, Anakapalli District.



The industry has four sections – L, M1, M2 and N. The “L section” consists of administrative office, moulding and cutting units and a warehouse to store raw materials. M1 and M2 sections are the major sections of the industry involved in stitching the products by employing sewing machine operators (SMO). The “N section” has a warehouse to store finished goods on the ground floor and a canteen on the first floor. The L, M1, and M2 sections have closed-loop AHUs to supply filtered cool air to condition the room temperature. The AHUs intake the air from the room, filter it and cool it by circulating it around a system of cold-water pipes.



Description of the incident:

On August 2, 2022, some employees started complaining of vomiting and giddiness at around 6.30 PM during their break time. At the same time, there was an unusual odour in the outdoor area within the premises of Seeds Apparels. Subsequently, about 129 individuals developed symptoms such as giddiness, vomiting, headache, and shortness of breath and were shifted to nearby hospitals. The industry was reportedly evacuated immediately with the help of buses and ambulances. All but eight patients were discharged within two days, and no fatality was reported.

Description of the movement of the employees within the industry:

There are three types of shifts for the employees – morning shift (6 AM to 2 PM) and afternoon shift (2 PM to 10 PM) for the workers and a general shift (9 AM to 5 PM) for the administrative team, and a few other supporting teams. During the afternoon shift, the workers from the M1 and M2 sections go to the canteen during a half-an-hour break in three batches from 5.30 PM to 7 PM.

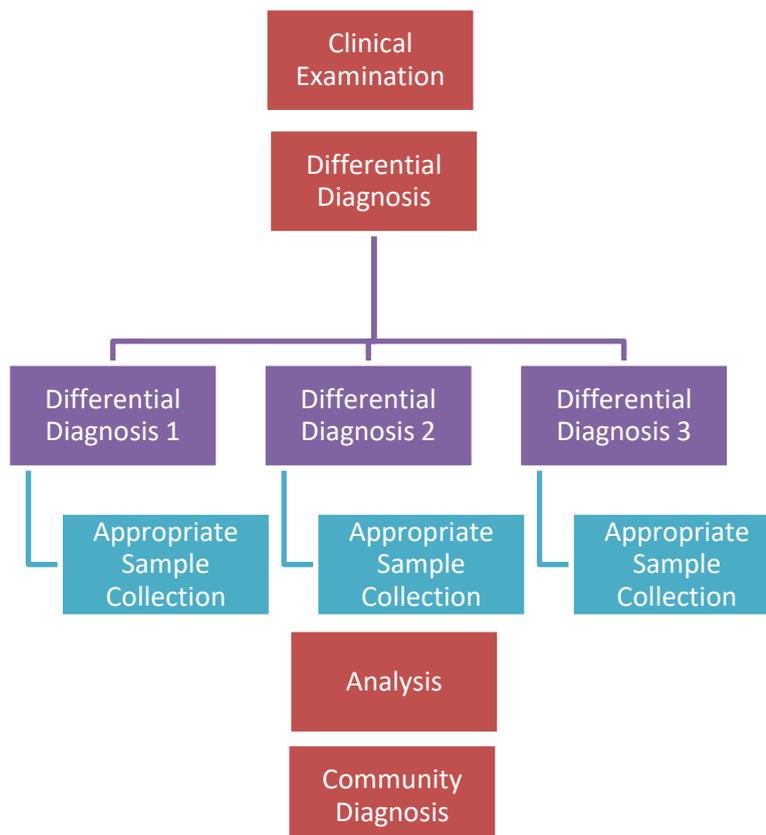
Analysis of the patient line list provided by the industry:

Of the 2069 employees in the industry during the afternoon shift, 129 developed symptoms (Attack rate – 6 per 100 people). Employees of the M1 section were affected more (12 per 100 people, 119/999) when compared with the M2 section (1 per 100, 7/780) and the L section (1 per 100, 3/290). Females (7 per 100) were affected more than males (only 1 out of 278). The attack rate among the quality auditors (78 per 100, 18/23) was disproportionately higher than the sewing machine operators (8 per 100, 85/1084).

2. Objectives: / Goals of Investigation:

- To describe the distribution of the outbreak in terms of time, place, and person.
- To identify the contaminant and its source which is causing the outbreak
- To propose the measures to control the outbreak and prevent further occurrences

3. Plan of Investigational Approach:



4. Methods (Approach):

4.1. Type of the Study:

It is an epidemiological investigation.

The investigation was conducted as an observational case control study.

4.2. Working Hypothesis:

A sudden onset of outbreak of unknown gas leak with neurological and gastro related symptoms with probable toxicological agent for investigation

4.3. Differential diagnosis:

From the clinical picture, the following differential diagnoses were made:

1. Acute Inhalation of Common Industrial gases like Chlorine, Hydrogen sulfide, Ammonia
2. Acute Inhalation of pesticide poisoning (Organophosphate / organochlorine compounds) used for treating insecticides/bugs on fabric in Textile industry
3. Acute Exposure to Formaldehyde (Commonly used Finishing/Shining agent in Textile Industry)

4.4. Sampling Design:

Present study is done as a case-control study.

Cases are the ones who work in Evening shift in M1 block with symptoms on the day of Accident.

Controls are the ones who work in Morning shifts in M1 block and M2 block without symptoms on the day of Accident

4.5. Investigation conducted:

The team conducted the following investigations from bedside and from households:

Factory Visit:

During the inspection of the premises, there was a chemical room at the backside of the M2 section near the walkway between the M1 and M2 sections. Upon enquiry, the team was informed that the room was used to store oil for the maintenance of the tailoring machinery, paints, anti-scalants and non-oxidizing microbicide used in the

cooling towers, which supply cold water to the AHUs. Most of the employees from M1 used to cross this room to go to the canteen, while some from M2 who exit using the door near the chemical room might go near it. However, the material safety data sheets for the chemicals above did not mention any inhalational hazard in line with the symptoms reported by the employees.

The industry management installed analyzers for six gases in the ambient air near the security gate. The analyzers check for the levels of ammonia, methyl mercaptans, formaldehyde, chlorine, carbon monoxide and volatile organic compounds. Reports from the industry management and APPCB mentioned that all the six analyzers recorded a “zero” value

Video Footage: We observed video footage of the outbreak from different viewpoints. Though the team was shown a few CCTV footage on the first day of the visit, the team’s request to show detailed CCTV footage during our second visit when we noticed the chemical room was denied. The reason given was that the backup of the CCTV footage was going on, and it would take 3.5 days for the process to complete. Hence, the team could not access the CCTV footage to look for any potential exposures that could have occurred in this room.

Hospital Visit: We have visited the admitted patients and collected blood, urine samples and conducted in-depth interviews with patients and treating doctors.

Enquired about the clinical findings such as breathlessness, giddiness, vomiting’s, and drowsiness.

Biological Samples: Received blood and urine samples from DMHO, Anakapalle which were collected on Day 2, Day 3, and Day 4 of the outbreak.

In-depth interviews were conducted with pollution control board team, factory Manager, factory maintenance in charge, security, and workers in nearby factories.

“The gas might be released within the M1 block with a big sound around 7 pm on 2nd August 2022, and it is not from surrounding factories as we don't see any other worker got involved and also similar episode happened two months back from the same area” told by a worker from nearby factory.

Water and Fabric Samples: We collected water samples from the drinking water source, drainages, air handling units and washrooms and fabric samples from the M1 unit where the outbreak has occurred.

Community Visit: We have visited the community and collected blood, urine samples among discharged patients and from few controls who are also the employees of same factory.

Telephonic Interviews: Telephonic interviews were done with the patients whose samples were received on Day 2, Day 3, and Day 4 of the outbreak.

Analysis: The blood samples were tested for acetyl cholinesterase enzyme which is a biomarker of organophosphate insecticide. The blood markers are sent to ICMR, NIOH, Ahmedabad for analysis of Insecticides using LC-MS/MS

Figure 1: ICMR-NIN Team at the site of Outbreak



Figure 2: ICMR-NIN Team interviewing patients at the Hospital



Figure 3: M1 Block of M/s. Seeds Intimate Apparel-place of incident



Figure 4: Collecting Water samples from Drinking water facility at M1 Block



Figure 5: Collecting Water samples from Drainage water at M1 Block



Figure 6: Monitoring the Gas Alarms for Carbon Monoxide, Formaldehyde, Ammonia, Chlorine, Methyl Mercaptan and VOC (Volatile Organic compounds) at the entrance of M1 Block



4.8 Methodology of pesticide analysis

4.8.1 Samples:

The Water, Blood samples were collected from Anakapalle district of Andhra Pradesh.

4.8.2 Reagents and LC Columns:

Methanol and acetonitrile (both LC-MS grade) were purchased from Sigma Aldrich USA, while the formic acid was purchased from Merk, USA. Captiva premium 0.2 μ syringe filter was purchased from Agilent Technologies, USA and the LC column (Agilent SB C18, 1.8 μ m, 4.6 \times 150mm and Xterra MS C18, 3.5 μ m, 4.6 \times 100mm) were purchased from Agilent Technologies, USA and from Water Corporations, USA.

(OP pesticides analysis)

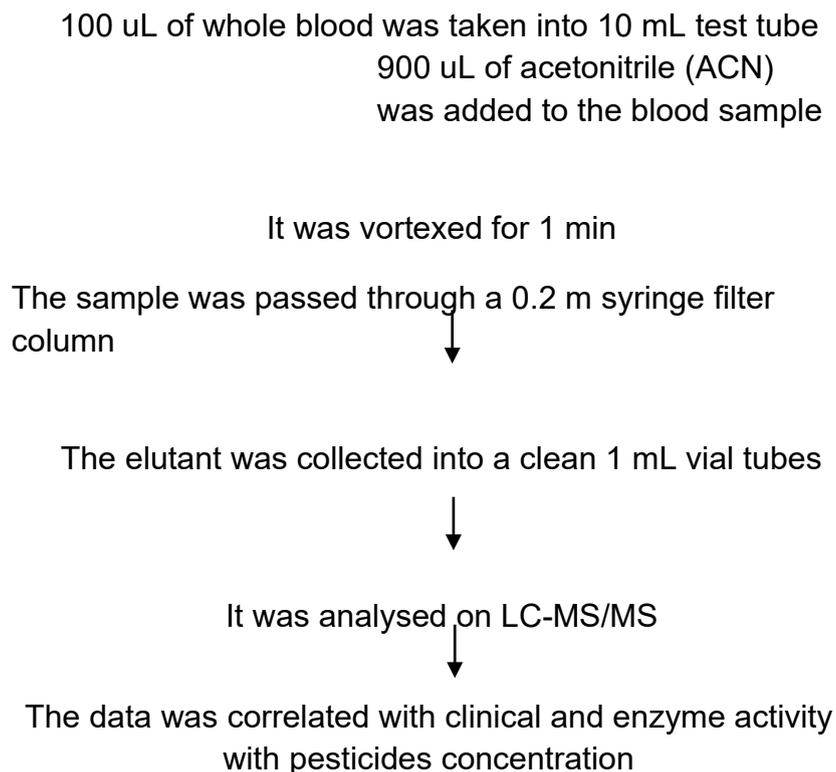
Standard we have procured from Sigma Aldrich standards for blood and water and vegetable samples. CDC Atlanta standards for urine metabolite were also brought and these standards were used in analysis and validation of method.

Solvents of LC-MS grade and analytical grade (AR) reagents were used during this study. The acetonitrile solvent was purchased from Sigma-Aldrich Chemical Co., USA. The standards of DAP metabolites diethyl dithiophosphate (DEDTP), diethyl thiophosphate (DETP), dimethyl thiophosphate (DMTP), and dimethyl-dithiophosphate (DMDTP), dimethyl phosphate (DMP) and diethyl phosphate (DEP) were obtained from CDC, Atlanta, USA. **(OP pesticide Metabolite analysis)**

4.8.3 Extraction Techniques:

Extraction of OP pesticides from blood:

Blood samples of OP's poisoned patients were collected in EDTA tubes after decapitation and stored at -80°C until analysis. The extraction process is as follows:



Quality statement: All samples were collected following all scientific procedures established at the institute. Analytical methods employed in this investigation are as per institutional SOPs, which are following all international norms. The standards used for comparisons are sourced from NIST, CDC, Sigma depending on the nature of samples. The ICMR-NIOH reference lab is also involved in analyzing the samples which is NABL accredited and GLP compliant.

Extraction method for analysis of Pesticide residues in biological samples (Blood, Serum)

- Take 1.0 ml of blood/serum sample in 15 ml PTFE centrifuge tube and equilibrate it to room temperature.
- Add 3.0 ml 2% acidified Ethyl Acetate (Ethyl acetate was acidified by addition of concentrated acetic acid) followed by 400mg MgSO₄ and slowly shake the tube for 5 mins.
- Centrifuge the tube for 10 minutes at 6000 rpm.
- Collect the supernatant organic phase in 10 ml glass test tube and evaporate under gentle nitrogen stream.
- To the above tube, add 1 ml of Ethyl Acetate and vortex it.
- Transfer the extract into 15 ml PTFE centrifuge tube containing 50mg PSA (Primary Secondary Amine) and slowly shake the tube for 5mins.
- Centrifuge the tube for 15 minutes at 6000 rpm.
- Collect the supernatant organic phase and filter the sample using 0.22 µm PTFE filter into vials for GC-MS/MS and LC-MS analysis.

4.8.4 Chromatography and Mass Spectrometry conditions:

4000 - QTRAP triple quadrupole hybrid mass spectrometer (Applied Biosystems MOS sciex, USA) was used for the analysis of pesticides, as per our previously reported method (Sinha et al., 2012). Multiple reaction positive Electrospray Ionization (ESI) modes with high-resolution monitoring were used for the analysis of analytes. This study was done using an ultra-fast Liquid chromatography system equipped with a triple - quadrupole ion trap hybrid mass detector, operating in the Multiple Reaction Monitoring (MRM) mode.

Quantification and Confirmation of Pesticides by Gas Chromatography Mass Spectrometry (GC-MS/MS):

Instrument name: - Shimadzu GC-MS/MS TQ8040 (Shimadzu Analytical Pvt. Ltd., Kyoto, Japan)

List of Pesticides (Organochlorine and Synthetic Pyrethriod)

Organochlorine: - BHC-alpha, BHC-beta, BHC-gamma , BHC-delta , Heptachlor, Heptachlor epoxide-B, Aldrin, Dicofol, Chlordane-a, Chlordane-g, Endosulfan-I, Endosulfan-II, pp'DDT, pp'DDD, pp'DDE, Endosulfan sulphate, Endrin Ketone, Endrin Aldehyde, Dieldrin, Endrin, Methoxychlor.

Synthetic Pyrethroids: - Alachlor, Butachlor, Fluchloraline, Pendimethaline, Bifenthrin, Fenpropathrin, Cyfluthrin, Cyhalothrin lambda, Cypermethrin, Fenvalerate, Deltamethrin.

Instrument Parameters:

Capillary column DB – 5 MS, 30 m x 0.25 mm ID x 0.25 µm I.d. Carrier gas - Helium (UHP – grade). Injector temp - 270°C, carrier gas – helium (UHP – grade) used, where the column flow is 1.50 mL/min, Splitless Mode,

Oven temperature programming - 120°C, hold for 1min, then ramped 210°C at 20°C /min, and hold for 9min, then ramped 300°C at 10°C/min and hold for 2 min. Total run time 24.10 min. Mass Spectrometry – Transfer line temperature is 250°C and ion source temperature is 230°C, under the in Multiple reactions Monitoring Mode (MRM). For quantitative purposes, at least 2 ions (product ion) yielding and considered their relative abundance ratio set as per reference standard.

Quantification and Confirmation of Pesticides by Liquid Chromatography Time of flight Mass Spectrometry (UPLC-TOF/MS):

Instrument name: - Waters UPLC-TOF/MS SYNAPT

List of Pesticides (Organophosphate and Carbamates)

Acephate, Flonicamid, Monocrotophos, Imidacloprid, Dimethoate, Acetamiprid, Thiocloprid, Aldicarb, Carbofuran, Thiodicarb, Atrazine, Metalaxyl, Chlorantraniliprole, Propargite, Azoxystrobin, Malathion, Miclobutanil, Thiamethoxam, Triadimefone, Triazophos, Difenaconazole, Ethion, Flubendiamide, Quinalphos, Phenthoate, Tebuconazole, Indoxacarb, Trifloxistrobin, Profenophos, Fenpyroximate

Instrument Parameters: Column- Acquity UPLC BEH C18; 1.7 μ m; 2.1 X 50 mm,

Run Time: 5.99 minute,

Mobile Phase- Line A- 0.1 % Formic Acid in Methanol.

Line B- 0.1 % Formic Acid in Water.

Column Temp: 40.0 $^{\circ}$ C, Sample Temp: 8.0 $^{\circ}$ C, Flow rate: 500 ml/min Gradient

Injection Volume: 10, Weak wash: Water/Methanol, Weak wash volume: 600 μ L

Strong wash solvent name: Water/Methanol, Strong wash volume: 200 μ L

Source (ES+, v- mode), Capillary (Kv): 3, Sampling cone: 30.0, Extraction cone: 3.0

Source Temp ($^{\circ}$ C): 120, Desolvation temp ($^{\circ}$ C): 350, Cone Gas Flow (L/Hr): 0.0

Desolvation gas flow (L/Hr): 600.0

Time (min)	Flow rate	%A	%B
Initial	0.500	5.0	95.0
0.10	0.500	5.0	95.0
4.23	0.500	100.0	0.0
4.29	0.500	100.0	0.0
4.30	0.500	5.0	95.0
5.98	0.500	5.0	95.0

5. Results

5.1 Clinical findings:

- A total of 59 participants (47 cases and 12 controls) were interviewed for Clinical symptoms using Case report forms. Out of 47 Cases (46 were females and 1 was male). Out of 12 Controls (3 were females and 9 were males). Mean Age of Cases was 30.8 years and Controls was 34.3 years.
- **Major Symptoms** in cases were giddiness (77 %), vomiting (66 %), comatose (66 %), breathlessness (58 %) and burning sensation of Eyes (45 %), Nausea (35%) (Figure-7).
- The **severity of cases** is mild in 21%, moderate in 27% and severe in 52 %. The Number of days in ICU is one day is 71 % of cases and six days in 3 % of cases.(Figure 8)
- A total of 64 blood serum samples (52 cases and 12 controls), 38 urine samples (26 cases and 12 controls with 2 repeat samples) were collected from participants and 9 water samples were collected from factory drinking, washroom, drainage and at water cooled ventilation places.

Figure 7: Distribution of clinical symptoms in cases

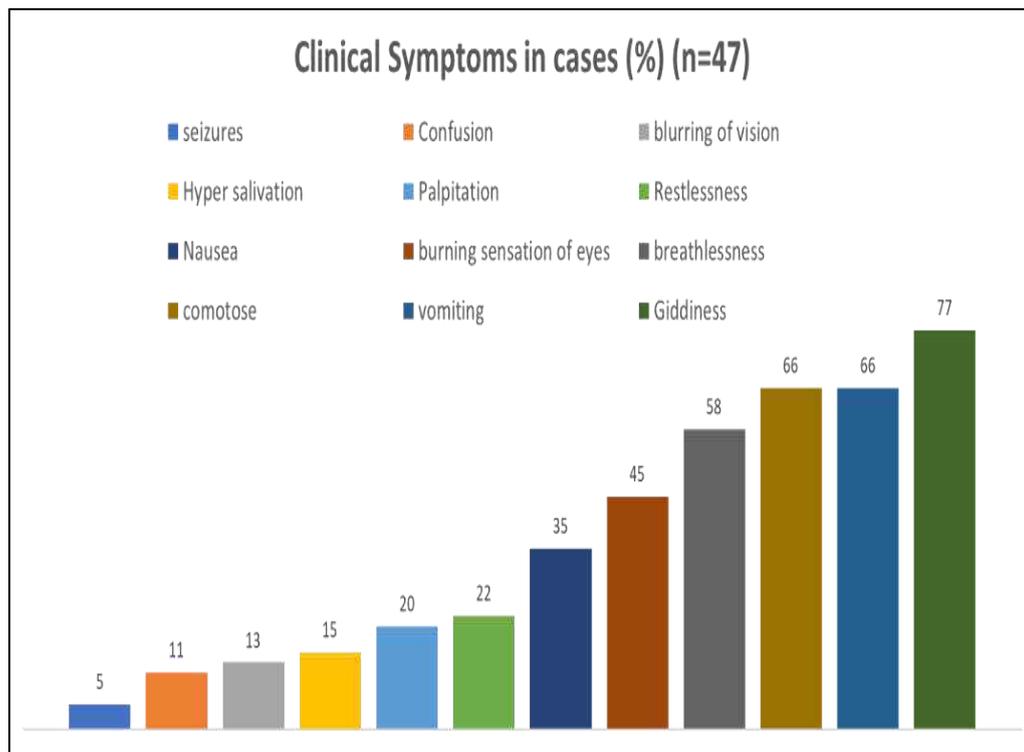
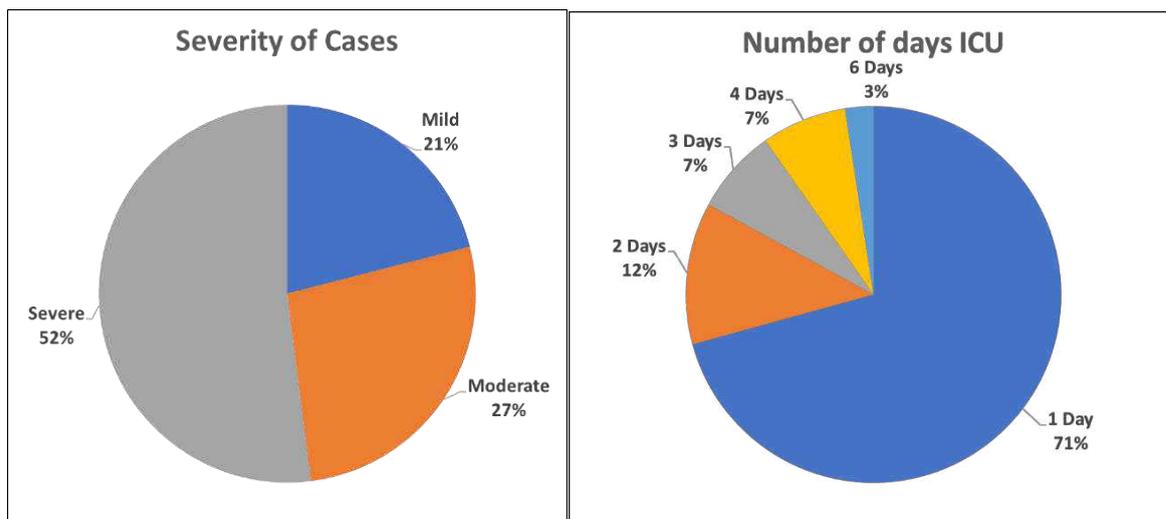


Figure 8: Severity of Cases and Number of Days in ICU



5.3 Biochemical Analysis of samples for Pesticides:

Toxicological analysis:

- 64 blood serum samples (52 are cases and 12 are controls) were analyzed for estimation of acetyl cholinesterase enzyme, which is a biomarker of organophosphate insecticide using HPLC (High-performance liquid chromatography) method. All samples were found negative.
- All Blood serum samples were analyzed for 30 Pesticides and Insecticides estimation using Liquid chromatography–tandem mass spectrometry (LC–MS–MS) at NIOH, Ahmedabad, four blood samples were positive for Imidacloprid, an Insecticide.
- Similarly, water and urine samples were analyzed for 30 Pesticides and Insecticides. All samples were found negative.
- The limitation of this investigation is the delay in collection of blood samples after the outbreak. Hence, we can not rule out the possibility of more samples to be positive for Imidacloprid, an Insecticide.
-

Table1: Percentage of blood samples positive for Pesticides.

S.no.	Type	Samples collected	Sample positive
1	Cases	52	4
2	Controls	12	0
Total		64	4

Table 2: Pesticide residues in serum samples (concentration reported in (ng/ml) Using LC-MS

S No.	Acephate	Flonicamid	Monocrotophos	Imidacloprid	Malathion	Triazophos	Thiacloprid
1	ND	ND	ND	ND	ND	ND	ND
2	ND	ND	ND	ND	ND	ND	ND
3	ND	ND	ND	ND	ND	ND	ND
4	ND	ND	ND	ND	ND	ND	ND
5	ND	ND	ND	ND	ND	ND	ND
6	ND	ND	ND	ND	ND	ND	ND
7	ND	ND	ND	ND	ND	ND	ND
8	ND	ND	ND	ND	ND	ND	ND
9	ND	ND	ND	ND	ND	ND	ND
10	ND	ND	ND	ND	ND	ND	ND
11	ND	ND	ND	ND	ND	ND	ND
12	ND	ND	ND	ND	ND	ND	ND
13	ND	ND	ND	ND	ND	ND	ND
14	ND	ND	ND	ND	ND	ND	ND
15	ND	ND	ND	ND	ND	ND	ND
16	ND	ND	ND	ND	ND	ND	ND
17	ND	ND	ND	ND	ND	ND	ND
18	ND	ND	ND	ND	ND	ND	ND
19	ND	ND	ND	ND	ND	ND	ND
20	ND	ND	ND	ND	ND	ND	ND
21	ND	ND	ND	ND	ND	ND	ND
22	ND	ND	ND	ND	ND	ND	ND
23	ND	ND	ND	ND	ND	ND	ND
24	ND	ND	ND	ND	ND	ND	ND
25	ND	ND	ND	ND	ND	ND	ND
26	ND	ND	ND	ND	ND	ND	ND
27	ND	ND	ND	ND	ND	ND	ND
28	ND	ND	ND	ND	ND	ND	ND
29	ND	ND	ND	ND	ND	ND	ND
30	ND	ND	ND	ND	ND	ND	ND
31	ND	ND	ND	ND	ND	ND	ND
32	ND	ND	ND	340	ND	ND	ND

33	ND	ND	ND	ND	ND	ND	ND
34	ND	ND	ND	210	ND	ND	ND
35	ND	ND	ND	ND	ND	ND	ND
36	ND	ND	ND	ND	ND	ND	ND
37	ND	ND	ND	ND	ND	ND	ND
38	ND	ND	ND	ND	ND	ND	ND
39	ND	ND	ND	628	ND	ND	ND
40	ND	ND	ND	ND	ND	ND	ND
41	ND	ND	ND	ND	ND	ND	ND
42	ND	ND	ND	359	ND	ND	ND
43	ND	ND	ND	ND	ND	ND	ND
44	ND	ND	ND	ND	ND	ND	ND
45	ND	ND	ND	ND	ND	ND	ND
46	ND	ND	ND	ND	ND	ND	ND
47	ND	ND	ND	ND	ND	ND	ND
48	ND	ND	ND	ND	ND	ND	ND
49	ND	ND	ND	ND	ND	ND	ND
50	ND	ND	ND	ND	ND	ND	ND
51	ND	ND	ND	ND	ND	ND	ND
52	ND	ND	ND	ND	ND	ND	ND
53	ND	ND	ND	ND	ND	ND	ND
54	ND	ND	ND	ND	ND	ND	ND
55	ND	ND	ND	ND	ND	ND	ND
56	ND	ND	ND	ND	ND	ND	ND
57	ND	ND	ND	ND	ND	ND	ND
58	ND	ND	ND	ND	ND	ND	ND
60	ND	ND	ND	ND	ND	ND	ND
61	ND	ND	ND	ND	ND	ND	ND
62	ND	ND	ND	ND	ND	ND	ND
63	ND	ND	ND	ND	ND	ND	ND
64	ND	ND	ND	ND	ND	ND	ND

Table 3: Pesticide residues in water samples (concentration reported in (ng/ml) Using LC-MS

S No.	Acephate	Flonicamid	Monocrotophos	Imidacloprid	Malathion	Triazophos	Thiacloprid
1	ND	ND	ND	ND	ND	ND	ND
2	ND	ND	ND	ND	ND	ND	ND
3	ND	ND	ND	ND	ND	ND	ND
4	ND	ND	ND	ND	ND	ND	ND
5	ND	ND	ND	ND	ND	ND	ND
6	ND	ND	ND	ND	ND	ND	ND
7	ND	ND	ND	ND	ND	ND	ND
8	ND	ND	ND	ND	ND	ND	ND
9	ND	ND	ND	ND	ND	ND	ND

Table 4: Pesticide residues in urine samples (concentration reported in (ng/ml) Using LC-MS

S No.	Acephate	Flonicamid	Monocrotophos	Imidacloprid	Malathion	Triazophos	Thiacloprid
1	ND	ND	ND	ND	ND	ND	ND
2	ND	ND	ND	ND	ND	ND	ND
3	ND	ND	ND	ND	ND	ND	ND
4	ND	ND	ND	ND	ND	ND	ND
5	ND	ND	ND	ND	ND	ND	ND
6	ND	ND	ND	ND	ND	ND	ND
7	ND	ND	ND	ND	ND	ND	ND
8	ND	ND	ND	ND	ND	ND	ND
9	ND	ND	ND	ND	ND	ND	ND
10	ND	ND	ND	ND	ND	ND	ND
11	ND	ND	ND	ND	ND	ND	ND
12	ND	ND	ND	ND	ND	ND	ND
13	ND	ND	ND	ND	ND	ND	ND
14	ND	ND	ND	ND	ND	ND	ND
15	ND	ND	ND	ND	ND	ND	ND
16	ND	ND	ND	ND	ND	ND	ND
17	ND	ND	ND	ND	ND	ND	ND
18	ND	ND	ND	ND	ND	ND	ND
19	ND	ND	ND	ND	ND	ND	ND

20	ND						
21	ND						
22	ND						
23	ND						
24	ND						
25	ND						
26	ND						
27	ND						
28	ND						
29	ND						
30	ND						
31	ND						
32	ND						
33	ND						
34	ND						
35	ND						
36	ND						
37	ND						
38	ND						

Figure 9: Standard chromatogram for Organo Phosphorous compound (standard)

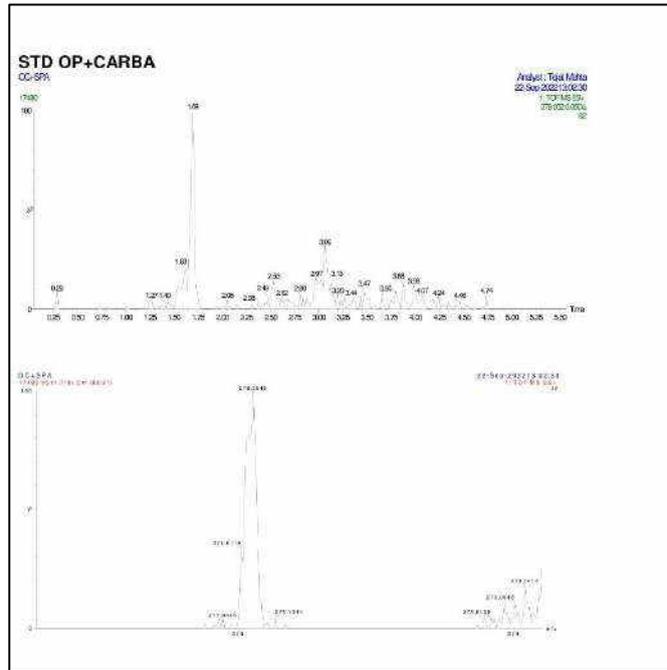
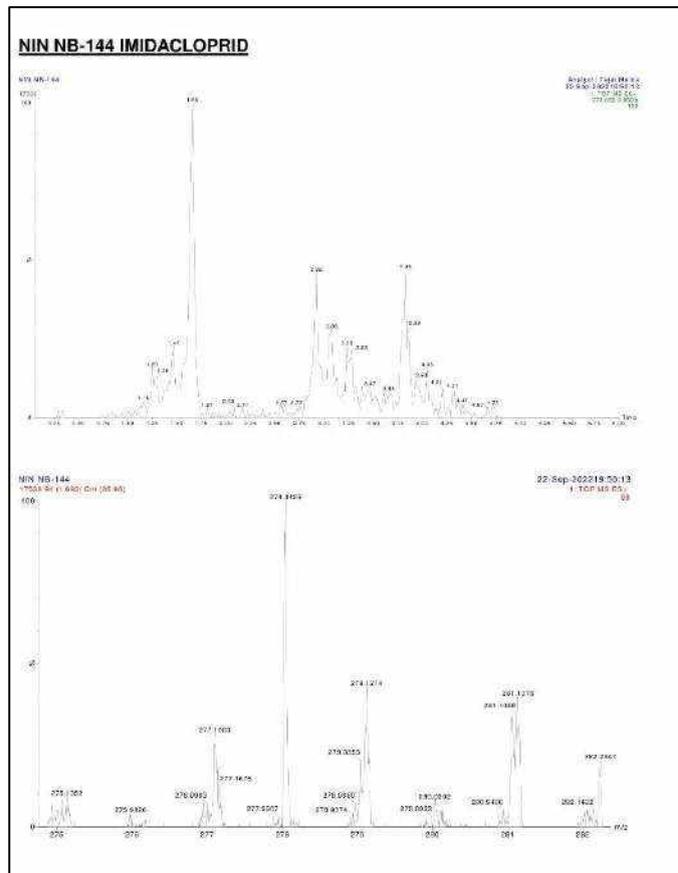


Figure 10: chromatogram of Imidacloprid In Blood sample of Case



6. Community Diagnosis:

The clinical picture and epidemic pattern are characteristic of a single exposure outbreak. The acute clinical signs and symptoms were suggestive of inhalation of organophosphate insecticide. The biomarker of Imidacloprid, an Insecticide, were found in four samples among the exposed.

This is suggestive of inhalation of Imidacloprid insecticide, but the source of exposure might be accidental or incidental.

7. Recommendations

- Spraying of any Insecticide in the campus to be done when no workers are present
- Give a day off to the workers after spraying any insecticide or conduct before public Holidays.
- Modify the threshold of gas identifiers as per The National Institute for Occupational Safety and Health (NIOSH) standards by CDC,USA . (For Ammonia- 300 ppm, Formaldehyde- 20 ppm , Carbon Monoxide- 1200 ppm, Chlorine- 10 ppm, methyle Mercaptan-150 ppm, VOC- 100 ppm)
- Periodical medical examination of the staff is advised
- Proper ventilation, Personal Protection Equipment to be used by workers as per the Occupational health regulations.

8. Acknowledgments:

We acknowledge Andhra Pradesh Pollution Control Board, the Collector & Joint Collector Anakapalle.district, Dr Hemanth, DMHO, District Medical and Health Officer, Anakapalle.district, Medical Superintendent, Government Hospital, Anakapalle, AP. We acknowledge Mr. T. Rajendra Reddy, T Sudharsham, P Srinivasa Rao, N Subhan Shaik for extending their support throughout the investigation. We acknowledge to Factory workers for participating in the study. We are very much grateful to the Secretary, DHR and Director General of Indian Council of Medical Research, Ministry of Health & Family Welfare (MoH&FW), Govt. of India, New Delhi.

**GOVERNMENT OF ANDHRA PRADESH
ABSTRACT**

E.F.S. & T. Department – Constitution of Expert Committee to probe into the causes behind the gas leak and suggest measures to improve the protocol for industrial safety - Orders- Issued.

ENVIRONMENT, FORESTS, SCIENCE & TECHNOLOGY (SEC.I) DEPARTMENT

G.O.RT.No. 78

**Dated: 03.08.2022.
Read the following:-**

1. Industrial accident occurred at about 11:50 AM on 03.06.2022 at M/s Seeds Intimate Apparel India Pvt Ltd., Anakapalli District.
2. Proceedings of the Dist Collector, Anakapalli, Rc.No.290/2022/D/ dt.03.06.2022
3. Proceedings of the Member Secretary, APPCB, 383/APPCB/UH.II/TF/VSKP/2022, dt.04.06.2022
4. Letter dated 14.07.2022 of the Member Secretary, APPCB along with report.

ORDER :-

An industrial accident took place at about 11:50 AM on 03.06.2022 at M/s Seeds Intimate Apparel India Pvt Ltd., existing in M/s. Brandix India Apparel City Pvt. Ltd., SEZ, Pudimadaka Road, Atchuthapuram, Anakapalli District and many employees suddenly fell sick with symptoms like vomiting, irritation, breathlessness due to the accident. 1175 employees in production floor M1 (32,295 Sqft of carpet area) and 928 employees in production floor M2 (32,295 Sqft of carpet area) are working in Seeds Intimate Apparel India Pvt., Ltd., at the time of the incident. 223 workers from M1 Block and 208 workers from M2 Block totalling 431 were admitted in the nearby hospitals.

2. The Collector & District Magistrate, Anakapalli and the Member Secretary, APPCB have constituted committees to inquire into the incident vide proceedings 2nd and 3rd read above.

3. In the letter 4th read above, the Member Secretary, APPCB has submitted the findings and recommendations of the committee.

4. Meanwhile, another gas leakage incident in the same premises of the industry occurred on 2.8.2022 around 7.00 PM and several workers were injured. In view of the recurring incidents, it is proposed to set up a third party expert committee.

5. Accordingly, Government after careful consideration hereby constitute a third party expert committee to enquire the whole issue with the following:

1	Senior Expert	ICMR, Hyderabad office
2	Senior Expert	IICT, Hyderabad
3	Senior Expert	Central Forensic Science Laboratory, Hyderabad
4	Member Secretary	APPCB (Member Convenor)

The Committee can invite other experts, as necessary.

(PTO)

:: 2 ::

6. The Member Secretary, APPCB is hereby directed to coordinate with the expert committee and submit a detailed report within thirty days.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESDH)

**NEERABH KUMAR PRASAD
SPECIAL CHIEF SECRETARY TO GOVERNMENT**

To
The Member Secretary, APPCB
The Members of the Committee through the MS, APPCB.
Copy to:
The PS to M (Energy, EFS&T, M&G)
The PS to CS
The PS to Spl. CS (EFS&T)
SF/SC (Computer NO.1771168)

// FORWARDED::BY ORDER //


SECTION OFFICER

Re: A.P. Pollution Control Board - Zonal Office, Visakhapatnam - Incident of sudden sickness of women employees in M/s. Seeds Intimate Apparel India Pvt. Ltd., Atchutapuram, Anakapalli District - Epidemiological study - Deputation of team - Requested - Reg.

From: DIRECTOR NIN (dirnin_hyd@yahoo.co.in)

To: directornin@icmr.gov.in; zovsp-jcee@appcb.gov.in

Cc: pa-ms@appcb.gov.in; collectorpeshianakapalli@gmail.com; geddambabu@gmail.com; unit2-jcee@appcb.gov.in; zovspappcb@gmail.com; geddambabuj@gmail.com; sukeshnr_sinha@yahoo.com; drsamareddy@gmail.com; mahidoc@yahoo.com; pagidoju@gmail.com

Date: Friday, August 5, 2022 at 04:18 PM GMT+5:30

Sir,

As requested by you, the Director, ICMR-NIN has deputed a team of officials from ICMR-NIN, to undertake epidemiology studies with regard to the incident of sudden sickness of women employees with dizziness, headache, vomiting etc., occurred on 2nd August, 2022 in M/s. Seed Intimate Apparel India Pvt. Ltd., (inner wear stitching unit) located in M/s. Brandix India Apparel City Pvt., Ltd., SEZ, Atchutapuram, Anakapalli District. The team as given below is lead by Dr. J. J. Babu, Scientist-F & Head (Clinical Epidemiology Division), ICMR-NIN and for further correspondence you may contact him directly on his mobile No.9849652497.

Team:

1. Dr. J.J. Babu, Scientist-F
2. Dr. S.N. Sinha, Scientist-F
3. Dr. N. Samarasimha Reddy, Scientist-E
4. Dr. M. Mahesh Kumar, Scientist-C
5. Dr. Pagidoju Sreenu Technical Officer-B

Thanking you,

P.S. to Director

ICMR-National Institute of Nutrition,
DHR, MoHFW, GOI.
Tarnaka, Hyderabad - 500 007
Ph. No. 040-27018083; 040-27197233

On Friday, 5 August, 2022 at 03:12:19 pm IST, T.Rajendra Reddy JCEE <zovsp-jcee@appcb.gov.in> wrote:

Madam,

It is to inform that there was an incident of sudden sickness of about 100 women employees with dizziness, headache, vomiting etc., occurred on 02.08.2022 in M/s. Seeds Intimate Apparel India Pvt. Ltd., (inner wear stitching unit) located in M/s. Brandix India Apparel City Pvt. Ltd., SEZ, Atchutapuram,

Anakapalli District. Similar incident occurred in the same premises on 03.06.2022 also and women employees got affected with almost similar symptoms.

In this regard, I am directed by the Member Secretary, A.P. Pollution Control Board, Vijayawada to request the Director, National Institute of Nutrition, Hyderabad to carryout epidemiological studies to know the root cause of health effects on the women employees.

I request to depute a team of officials to undertake epidemiological studies and furnish report.

Regards,

T. Rajendra Reddy,
Joint Chief Environmental Engineer,
A.P. Pollution Control Board,
Zonal Office, Visakhapatnam.
Mobile No. 9177301450.



	<p align="center">ANDHRA PRADESH POLLUTION CONTROL BOARD D.No-33-26-14D/2. Near Sunrise Hospital, Pushpa Hotel Center, Chalamalavari Street, Kasturibaipet, Vijayawada-520010 Website : www.pcb.ap.gov.in, E-mail : hopcblegal@gmail.com</p>
---	--

Lr.No. 703/APPCB/HO/UH-II/TF/VSP/2022,

08/08/2022

To,
The Director,
National Institute of Nutrition (ICMR),
Tarnaka,
Hyderabad.
Email : directornin@icmr.gov.in
dirnin_hyd@yahoo.co.in

Sir,

Sub:- APPCB – HO – UH-II – Expert Committee to probe into the causes behind the gas leak and suggest measures to improve the protocol for industrial safety – Committee constituted by Govt., of AP – Nomination of Senior Expert – Requested - Reg.

Ref:- G.O.RT No.78 dated 03.08.2022.

The Govt., of Andhra Pradesh vide G.O.RT No 78, dated 03.08.2022 (copy enclosed) constituted a third party expert committee to probe into the causes behind the industrial accidents took place on 03.06.2022 and 02.08.2022 at M/s.Seeds Intimate Apparel India Pvt. Ltd., Anakapalli District (near Visakhapatnam) and to suggest measures to improve the protocol for industrial safety.

The committee can invite other experts as necessary. APPCB was directed to co-ordinate with the expert committee and submit a detailed report within 30 days.

In view of the above, you are requested to nominate a Senior expert from your Institution to be as member of the committee. The nomination may please be communicated by e-mail to: membersecy@appcb.gov.in at the earliest. APPCB will provide necessary logistic support for travel, accommodation and local conveyance etc., Once the nominations are received the inspection date will be communicated.

Yours faithfully,

Encl: a/a.

Vijay Kumar Gsrkr Ias
MEMBER SECRETARY

Copy to:

- i. The Joint Chief Environmental Engineer, APPCB, Zonal Office, Visakhapatnam for information and necessary action.
- ii. The Environmental Engineer, APPCB, Regional Office, Visakhapatnam for

Government of Andhra Pradesh
Police Department

From:
Gowthami Sali, IPS.,
Superintendent of Police,
Anakapalli District
Anakapalli

To
The District Collector,
Anakapalli District
Anakapalli

C. No. 08 /SP-AKP/2022, Dated: 01.11.2022

Sir,

Sub: POLICE – Anakapalli District – Forwarding of preliminary enquiry report on the incident of Toxic Gas leakage occurred in the premises of Seeds Intimate Apparel India Pvt Ltd at Atchutapuram of Anakapalli District on 02.08.2022 – Reg.

- Ref:- (1) Cr. No 220/2022 U/s 336, 337 IPC of Atchutapuram Police Station, Anakapalli District.
(2) Preliminary Enquiry Report of Inspector of Police, Yelamanchili Circle, Anakapalli District.

@@@

It is to submit that, on 02.08.2022 at about 6.30 pm, gas leakage incident was taken place in the premises of Seeds Intimate Apparel India Pvt., Ltd., Company of Brandix at Atchutapuram village, Anakapalli District wherein 129 workers of that Company were effected and hospitalized.

In this connection, on a report given by Sri Lalam Ravi, S/o. Somu Naidu, 25 yrs, k.velama caste, VRO of Dupputuru village, Atchutapuram Mandal, a case cited in the 1st reference was registered on 02.08.2022 at 2100 hrs.

The Inspector of Police, Yelamanchili Circle is investigating the Case. He submitted his preliminary enquiry report on the findings of his investigation and the same is herewith forwarded for favor of information and perusal.

Encl: Preliminary Enquiry Report of CI, YLM

Yours faithfully,


Superintendent of Police,
Anakapalli District

To

The Superintendent of Police,
Anakapalli District,
ANAKAPALLI.

Respected Madam,

Sub: - POLICE - Atchutapuram P.S – Preliminary enquiry report on the Toxic Gas leakage Incident occurred in the premises of Seeds Intimate Apparel India Pvt Ltd – Submission of - Reg.

Ref:- Cr. No 220/2022 U/s 336, 337 IPC of Atchutapuram Police Station, Anakapalli District.

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Brief facts of the case:

I submit that on 02-08-2022 at about 6.30 pm, I have received information that some unknown Gas was leaked from the Seeds Company of Brandex, Atchutapuram and some of the workers of that company are effected with vomiting and irritative smell. On that, the Police department along with other departments like Pollution control and factories department rushed to the Seeds Company, Atchutapuram. Police department along with company management have made arrangements and started shifting the victims to hospitals for better treatment. Pollution Control Department and Factories Department started collection of air samples of that unknown gas and they started their enquiry from the day of incident.

Regarding to the above gas leakage incident, the complainant Sri Lalam Ravi, s/o Somu Naidu, 25 yrs, K. Velama by caste, VRO of Dupputuru (P), r/o Konempalem village, Atchutapuram (P) & (M), Anakapalli district have lodged a report on 02.08.2022 at about 21.00 hrs in Atchutapuram Police Station stating that he has been working as VRO of Dupputuru since 2 years. On 02-08-2022 at about 6.30 PM, he came to know that nearly 50 ladies of Seeds Intimate Apparel India Pvt. Limited company in Brandix Company suffered with indisposition due to leakage of unknown gas and all the victims were shifted to private hospital at Atchutapuram and some persons were shifted to Anakapalli for better treatment. Hence, he requested to enquire about the Unit from which the gas was leakage and to take necessary action in this regard.

Basing on the above report, the Sub-Inspector of Police, Atchutapuram P.S registered a case in Cr. No 220/2022 U/s 336, 337 IPC on the same day i.e., on 02-08-2022 at 21.00 hrs.

The Kind Superintendent of Police, Anakapalli District has given instructions to me to take up investigation in the above case.

As per the instructions of the Kind Officer, I have taken up investigation in the above case on 03-08-2022 and the following are my findings during the investigation.

Investigation findings

During the course of investigation, I visited the scene of offence and examined the scene and prepared rough sketch of the SOC in the presence of mediators under cover of scene observation report dated 03-08-2022 and taken photographs.

During course of investigation, the following 144 witnesses including 129 victims/workers, 17 employees of Seeds Intimate Apparel India Pvt and 7 security personnel and 2 pesticide sprayers and 2 other administration staff were secured and examined and got recorded their detailed statements in below mentioned dates.

Date of examination	Brief work done	Victim Or not	Hospital
03-08-22	Investigation took up by CI, YLM , LWs examined		
	1. Lalam Ravi, VRO	--	
	2. Marisetti Chandra	Yes	Usha Prime, AKP
	3. Gurram Venkata Sivakumari	Yes	Usha Prime, AKP
	4. Sundarapu Uma Bhawani	Yes	Usha Prime, AKP
	5. Kandregula Vijayakumari	Yes	Usha Prime, AKP
	6. Chukka Madhavi	Yes	Usha Prime, AKP
	7. Gangupakala Lakshmi	Yes	Usha Prime, AKP
	8. Vissarapu Ramalaxmi	Yes	Usha Prime, AKP
	9. Duddupudi Kamakshi	Yes	Usha Prime, AKP
	10. Maturi Lakshmi	Yes	Usha Prime, AKP
	11. Agraharapu Anjali	Yes	NTR Hosp, AKP
	12. Karri Lakshmi	Yes	NTR Hosp, AKP
	13. Dimili Nookaratnam	Yes	NTR Hosp, AKP
	14. Sannela Nagamani	Yes	NTR Hosp, AKP
15. Daki Haimavathy	Yes	NTR Hosp, AKP	
04-08-22	16. Baddi Padma	Yes	NTR Hosp, AKP & Satyadev, AKP
	17. Gandi Bharathi	Yes	NTR Hosp, AKP & Satyadev, AKP
	18. Balireddy Nagamani	Yes	NTR Hosp, AKP & Satyadev, AKP
	19. Mallela Devi	Yes	NTR Hosp, AKP & Satyadev, AKP
	20. Pallakila Jhansi Rani	Yes	NTR Hosp, AKP & Satyadev, AKP
	21. Thotada Venkata Devi	Yes	NTR Hosp, AKP & Satyadev, AKP
	22. Thotada Venkata Devi	Yes	NTR Hosp, AKP & Satyadev, AKP
	23. Puvvala Lakshmi	Yes	Usha Prime, AKP
	24. Kollati Lakshmi	Yes	Usha Prime, AKP
	25. Ponnana Uma	Yes	Usha Prime, AKP
	26. Rajahmundry Bharti	Yes	Usha Prime, AKP
	27. Vasupalli Kasulamma	Yes	Usha Prime, AKP
	28. Kandregula Pavani	Yes	Usha Prime, AKP
	29. Karri Padma	Yes	Usha Prime, AKP
	30. Anguluri Sivalakshmi	Yes	Usha Prime, AKP
	31. Pragada Lakshmi	Yes	NTR Hosp, AKP
	32. Vasupalli Chinni	Yes	NTR Hosp, AKP
	33. Doddi Shanti	Yes	NTR Hosp, AKP
	34. Bommali Lavanya	Yes	NTR Hosp, AKP
	35. Gorantla Venkatalakshmi	Yes	NTR Hosp, AKP
	36. Janapareddy Ramalakshmi	Yes	NTR Hosp, AKP
	37. Mallipati Ramalakshmi	Yes	NTR Hosp, AKP
	38. Allavarapu Ramulamma	Yes	NTR Hosp, AKP
	39. Gorantla Venkatalakshmi	Yes	NTR Hosp, AKP
05-08-22	40. Nakka Venkata Lakshmi	Yes	Usha Prime, AKP
	41. Rajahmundry Sandhya	Yes	Usha Prime, AKP
	42. Takkali Chandrakala	Yes	Usha Prime, AKP
	43. Polamarasetti Mounika	Yes	Usha Prime, AKP
	44. Kanchipati Arjunamma	Yes	Usha Prime, AKP
	45. Madagala Lakshmi	Yes	Usha Prime, AKP
	46. Marapureddi Kumari	Yes	Usha Prime, AKP
	47. Sattada Sai Lakshmi	Yes	Usha Prime, AKP
	48. Yajjala Malleswari	Yes	Usha Prime, AKP
	49. Yelamanchili Devi	Yes	Usha Prime, AKP
	50. Peela Lakshmi	Yes	Usha Prime, AKP

Date of examination	Brief work done	Victim Or not	Hospital
03-08-22	Investigation took up by CI, YLM , LWs examined		
	1. Lalam Ravi, VRO	--	
	2. Mariseti Chandra	Yes	Usha Prime, AKP
	3. Gurram Venkata Sivakumari	Yes	Usha Prime, AKP
	4. Sundarapu Uma Bhawani	Yes	Usha Prime, AKP
	5. Kandregula Vijayakumari	Yes	Usha Prime, AKP
	6. Chukka Madhavi	Yes	Usha Prime, AKP
	7. Gangupakala Lakshmi	Yes	Usha Prime, AKP
	8. Vissarapu Ramalaxmi	Yes	Usha Prime, AKP
	9. Duddupudi Kamakshi	Yes	Usha Prime, AKP
	10. Maturi Lakshmi	Yes	Usha Prime, AKP
	11. Agraharapu Anjali	Yes	NTR Hosp, AKP
	12. Karri Lakshmi	Yes	NTR Hosp, AKP
	13. Dimili Nookaratnam	Yes	NTR Hosp, AKP
	14. Sannela Nagamani	Yes	NTR Hosp, AKP
15. Daki Haimavathy	Yes	NTR Hosp, AKP	
04-08-22	16. Baddi Padma	Yes	NTR Hosp, AKP & Satyadev, AKP
	17. Gandhi Bharathi	Yes	NTR Hosp, AKP & Satyadev, AKP
	18. Balireddy Nagamani	Yes	NTR Hosp, AKP & Satyadev, AKP
	19. Mallela Devi	Yes	NTR Hosp, AKP & Satyadev, AKP
	20. Pallakila Jhansi Rani	Yes	NTR Hosp, AKP & Satyadev, AKP
	21. Thotada Venkata Devi	Yes	NTR Hosp, AKP & Satyadev, AKP
	22. Thotada Venkata Devi	Yes	NTR Hosp, AKP & Satyadev, AKP
	23. Puvvala Lakshmi	Yes	Usha Prime, AKP
	24. Kollati Lakshmi	Yes	Usha Prime, AKP
	25. Ponnana Uma	Yes	Usha Prime, AKP
	26. Rajahmundry Bharti	Yes	Usha Prime, AKP
	27. Vasupalli Kasulamma	Yes	Usha Prime, AKP
	28. Kandregula Pavani	Yes	Usha Prime, AKP
	29. Karri Padma	Yes	Usha Prime, AKP
	30. Anguluri Sivalakshmi	Yes	Usha Prime, AKP
	31. Pragada Lakshmi	Yes	NTR Hosp, AKP
	32. Vasupalli Chinni	Yes	NTR Hosp, AKP
	33. Doddi Shanti	Yes	NTR Hosp, AKP
	34. Bommali Lavanya	Yes	NTR Hosp, AKP
	35. Gorantla Venkatalakshmi	Yes	NTR Hosp, AKP
	36. Janapareddy Ramalakshmi	Yes	NTR Hosp, AKP
	37. Mallipati Ramalakshmi	Yes	NTR Hosp, AKP
	38. Allavarapu Ramulamma	Yes	NTR Hosp, AKP
	39. Gorantla Venkatalakshmi	Yes	NTR Hosp, AKP
05-08-22	40. Nakka Venkata Lakshmi	Yes	Usha Prime, AKP
	41. Rajahmundry Sandhya	Yes	Usha Prime, AKP
	42. Takkali Chandrakala	Yes	Usha Prime, AKP
	43. Polamarasetti Mounika	Yes	Usha Prime, AKP
	44. Kanchipati Arjunamma	Yes	Usha Prime, AKP
	45. Madagala Lakshmi	Yes	Usha Prime, AKP
	46. Marapureddi Kumari	Yes	Usha Prime, AKP
	47. Sattada Sai Lakshmi	Yes	Usha Prime, AKP
	48. Yajjala Malleswari	Yes	Usha Prime, AKP
	49. Yelamanchili Devi	Yes	Usha Prime, AKP
	50. Peela Lakshmi	Yes	Usha Prime, AKP

	51.	Gedi Nookaratnam	Yes	Usha Prime, AKP
	52.	Teku Kumari	Yes	Usha Prime, AKP
	53.	Karukonda Vara Lakshmi	Yes	Usha Prime, AKP
	54.	Yajjala Rajamma	Yes	Usha Prime, AKP
	55.	Lalam Seetha	Yes	Usha Prime, AKP
	56.	Gangupamu Lakshmi	Yes	Usha Prime, AKP
	57.	Janapareddi Nookaratnam	Yes	Usha Prime, AKP
	58.	Chodipalli Padmavathi	Yes	Usha Prime, AKP
	59.	Rongali Devi	Yes	NTR Hosp, AKP
	60.	Amalakanti Jhansi	Yes	Usha Prime, AKP
06-08-22	61.	Puthi Eswari	Yes	Usha Prime, AKP
	62.	Gurram Naga Lakshmi	Yes	NTR Hosp, AKP
	63.	Verupalli Chinnaari	Yes	NTR Hosp, AKP
	64.	Mamidi Rama Lakshmi	Yes	NTR Hosp, AKP
	65.	Rangala Venkata Lakshmi	Yes	NTR Hosp, AKP
	66.	Elubandi Nagamani	Yes	NTR Hosp, AKP
	67.	Nammi Lakshmi	Yes	NTR Hosp, AKP
	68.	Mada Kumari	Yes	NTR Hosp, AKP
	69.	Urukuti Aswani	Yes	NTR Hosp, AKP
	70.	Pentakota Tri Lakshmi	Yes	NTR Hosp, AKP
	71.	Kalaga Devi	Yes	NTR Hosp, AKP
	72.	Kattumuri Nookaratnam	Yes	NTR Hosp, AKP
	73.	Karu Ramanamma	Yes	NTR Hosp, AKP
	74.	Sesetti Lakshmi	Yes	NTR Hosp, AKP
	75.	Marturu Jaya	Yes	NTR Hosp, AKP
	76.	Gandem Lakshmi	Yes	NTR Hosp, AKP
	77.	Kandregula Annapurna	Yes	NTR Hosp, AKP
	78.	Bandam Nookaratnam	Yes	NTR Hosp, AKP
	79.	Chodipalli Nookaratnam	Yes	NTR Hosp, AKP
	80.	Annamdevara Varalakshmi	Yes	NTR Hosp, AKP
07-08-22	81.	Villuri Janaki	Yes	NTR Hosp, AKP
	82.	Nalamari Kothaven	Yes	NTR Hosp, AKP
	83.	Ganagalla Rajeshwari	Yes	NTR Hosp, AKP
	84.	Bhishetti Sujatha	Yes	NTR Hosp, AKP
	85.	Korada Shanti	Yes	Usha Prime, AKP
	86.	Gandi Nagamani	Yes	NTR Hosp, AKP
	87.	Karanam Nagamani	Yes	NTR Hosp, AKP
	88.	Karanam Jayalakshmi	Yes	NTR Hosp, AKP
	89.	Senapathy Swathi	Yes	NTR Hosp, AKP
	90.	Neerukundi Lakshmi	Yes	Usha Prime, AKP
	91.	Baddi Ammaji	Yes	Usha Prime, AKP
08-08-22	92.	Reddi Manga	Yes	Medirise Hospital, ATP
	93.	Singamapalli Taarakeswari	Yes	Medirise Hospital, ATP
	94.	Maavuri Suryakumaari	Yes	Vaibhav Hospital, ATP
	95.	Kandukuri Ammaji	Yes	Vaibhav Hospital, ATP
	96.	Kosireddi Vani	Yes	Vaibhav Hospital, ATP
	97.	Pentakota Durga	Yes	Usha Prime, AKP
	98.	Chitti Shyamala	Yes	Medirise Hospital, ATP
	99.	Panduri Lavanya	Yes	Vaibhav Hospital, ATP
	100.	Anakapalli Shanthi	Yes	Medirise Hospital, ATP
	101.	Danda Bhagyalakshmi	Yes	Medirise Hospital, ATP
	102.	Chodipalli Shanthi	Yes	Medirise Hospital, ATP
	103.	Muvvala Varalakshmi	Yes	NTR Hosp, AKP
	104.	Kalukurasa Tulasi	Yes	NTR Hosp, AKP
	105.	Gathada Latha	Yes	Medirise Hospital, ATP
	106.	Karanam Lakshmi	Yes	Medirise Hospital, ATP
09-08-22	107.	Marthi Sridevi	Yes	Satyadev, AKP
	108.	Baliya Tejasri	Yes	NTR Hosp, AKP
	109.	Kolli Devi	Yes	Medirise Hospital, ATP
	110.	Dabburi Nagamani	Yes	Usha Prime, AKP

	111.	Jagarapu Venkatalaxmi	Yes	Usha Prime, AKP
	112.	Majji Ram Devi	Yes	Medirise Hospital, ATP
	113.	Baddi Bhavani	Yes	Medirise Hospital, ATP
	114.	Marapureddi Anjali	Yes	NTR Hosp, AKP
	115.	Adari Nagamani	Yes	Vaibhav Hospital, ATP
	116.	Gadala Pavani	Yes	NTR Hosp, AKP
	117.	Kalluri Satyanarayan Murthy	production supervisor	
10-08-22	118.	I.V.Rao	General Manager in Pest Cure Solutions & Fumigation	
	119.	Koviri Mutyalu	pest control operator	
	120.	Nadiminti Narasinga Rao	pest control operator	
	121.	Gavara Srinivasa Durga	Asst. Manager HR in Brandix	
	122.	Karri Kasi Rao	Executive Safety in charge in Brandix	
	123.	Kolli Raj Kumar,	Senior Executive Administrative in Brandix	
	124.	Nagamantri Sri Rama Chandra Murthy	Admin Head in Unit-1 in Brandix	
	125.	Kuppili Sesha Vardhan,	HR Manager in Brandix	
	126.	Pathangi Bala Krishna	Health & Safety In charge in Brandix	
13-08-22	127.	Voota Naga Mani	Yes	Satyadev, AKP
	128.	Sundarapu Jyothi	Yes	Medirise Hospital, ATP
	129.	Senapathi Prasanna Rama	Yes	Medirise Hospital, ATP
	130.	Shaik Ayeshaa Baby	Yes	NTR Hosp, AKP
	131.	Adari Hyma	--	--
14-08-22	132.	Madaka Siva Naga Ganesh	Security head in Seeds Company	
	133.	Maredupudi Raju	Security guard in Seeds Company	
	134.	Kodela Appala Naidu	Security guard in Seeds Company	
	135.	Mariseti Ganga Devi	Woman Security guard in Seeds Company	
	136.	Eswarapu Jyothi	Woman Security guard in Seeds Company	
	137.	Sypureddi Padma	Woman Security guard in Seeds Company	
	138.	Pathri Girija	Woman Security guard in Seeds Company	
15-08-22	139.	Karu Sanyasamma	Yes (victim)	Star Zen Hosp, Atchutapuram
	140.	Pulaga Radha	Yes	Satyadev Hosp, Anakapalli
	141.	Lalam Devi	Yes	Vaibhav Hosp, Atchutapuram
	142.	Kuramdasu Venkatalaxmi	Yes	Medirise Hosp, Atchutapuram
	143.	Kasireddi Gudupamma	Yes	NTR Hosp, Anakapalli
	144.	Karanam Naga Mani	Yes	NTR Hosp, Anakapalli

During their examination, they have clearly stated about the incident and how they effected from the toxic gas and also stated that no suspicion persons came to their company premises and cause sabotage anything for the above incident.

During course of investigation, I have has collected following CC footages from the Seeds Company on the day of incident i.e. on 02-08-2022 and on verification following is the observations:

Some of the Observations from CCTV footages Dt 02-08-2022- Channel-4, M2 back side:

- ✓ 19:17 hrs- Some of the ladies ladies who clad green colour jackets are going to outside and then coming to inside.
- ✓ 19:36 hrs- Ladies who clad green colour jackets carrying away two ladies
- ✓ 19:38 hrs- Ladies who clad green colour is running.
- ✓ 19:40 hrs- 1 car and 2 ambulances have come.
- ✓ Three persons taking away one person who sat in a trolley very fast
- ✓ The workers shifting one lady from trolley to ambulance.

- ✓ Mini Bus took away some of the workers.
- ✓ 19:58 hrs- One person running by carrying trolley
- ✓ 19:59 hrs- One lady was shifting in to car
- ✓ 20:20 hrs- Workers came outside and washing their faces with water.
- ✓ 20:28 hrs- One lady who clad green colour jacket fell down and remaining ladies caught her.
- ✓ 20:33 hrs- Some of the ladies came out side and stood there.
- ✓ 20:33 hrs- Ladies who clad green colour jackets are gathered and discussing something.
- ✓ 20:58 hrs- Ambulance came and went away.

Dt 02-08-2022- Channel-5, M2 back side:

- ✓ 19:20 hrs- Some of the ladies who clad green colour jackets are running to outside.
- ✓ 19:20 hrs- One lady who clad merune colour chuddidar went inside of the company in hurry mood.
- ✓ 19:26:20 hrs- One of company worker came outside and fell down and then some of the workers caught her.
- ✓ 19:27 hrs- One person who clad green T-shirt is running by carrying wheel chair.
- ✓ 19:30 hrs- Several male persons who clad white coloured shirts are gathered there and discussing something.
- ✓ 19:36 hrs- Two laddies carrying one lady
- ✓ 19:41 hrs- Several workers came outside suddenly and running .
- ✓ 19:47 hrs- Some workers taking away one lady by wheel chair very fast.
- ✓ 21:12 hrs- All the workers came out side of the company suddenly at a time
- ✓ 22:29 hrs- Several ladies and gents are discussing something.

Dt 02-08-2022- Channel-10 (M1, M2 corridor):

- ✓ 19:06 hrs- 5 male persons who clad white colour shirt, blue colour shirt, pink colour shirt are observing something and discussing with each other.
- ✓ 19:20 hrs- Ladies who clad green colour jackets are stopped and observing something in front of them.
- ✓ 19:37 hrs- One lady who was carrying away by wheel chair by the other workers and that lady is crying.
- ✓ 19:37 hrs- Another lady was also shifting in the same manner.
- ✓ 19:37 hrs- Two person carrying away one lady in hurry mood.
- ✓ 20:01 hrs- 4 persons who clad their clothes (in-shirt) and discussing something
- ✓ 20:02:55 hrs- One lady was taking away by wheel chair.

Dt 02-08-2022- Channel-12, M2 canteen corridor:

- ✓ 19:22 hrs- Three persons taking away one lady in wheel chair.
- ✓ 19:44 hrs- One lady was carrying by the workers.
- ✓ 19:45 hrs- One lady who clad green colour jacket, came out side and caught hold her head and suffering with vomiting.
- ✓ The lady was taking away by foot by the other workers.
- ✓ 19:50 hrs- One lady was carrying away by other workers in wheel chair and that lady caught hold her head.
- ✓ One lady who clad green colour jacket came out side and herself caught hold her head.
- ✓ 19:54 hrs- One person who clad cream colour jacket is running by carrying wheel chair
- ✓ 19:55 hrs- One lady was taking away by the workers by wheel chair.
- ✓ 19:56 hrs- One lady came outside and herself caught hold her head she suffering with vomittings.
- ✓ Several lady workers are running.
- ✓ 20:00 hrs- One lady was taking away by wheel chair
- ✓ 20:00:52 hrs- Two parsons carrying away one lady.
- ✓ 21:10 hrs- All the workers came out side at a time.

- ✓ Mini Bus took away some of the workers.
- ✓ 19:58 hrs- One person running by carrying trolley
- ✓ 19:59 hrs- One lady was shifting in to car
- ✓ 20:20 hrs- Workers came outside and washing their faces with water.
- ✓ 20:28 hrs- One lady who clad green colour jacket fell down and remaining ladies caught her.
- ✓ 20:33 hrs- Some of the ladies came out side and stood there.
- ✓ 20:33 hrs- Ladies who clad green colour jackets are gathered and discussing something.
- ✓ 20:58 hrs- Ambulance came and went away.

Dt 02-08-2022- Channel-5, M2 back side:

- ✓ 19:20 hrs- Some of the ladies who clad green colour jackets are running to outside.
- ✓ 19:20 hrs- One lady who clad merune colour chuddidar went inside of the company in hurry mood.
- ✓ 19:26:20 hrs- One of company worker came outside and fell down and then some of the workers caught her.
- ✓ 19:27 hrs- One person who clad green T-shirt is running by carrying wheel chair.
- ✓ 19:30 hrs- Several male persons who clad white coloured shirts are gathered there and discussing something.
- ✓ 19:36 hrs- Two laddies carrying one lady
- ✓ 19:41 hrs- Several workers came outside suddenly and running .
- ✓ 19:47 hrs- Some workers taking away one lady by wheel chair very fast.
- ✓ 21:12 hrs- All the workers came out side of the company suddenly at a time
- ✓ 22:29 hrs- Several ladies and gents are discussing something.

Dt 02-08-2022- Channel-10 (M1, M2 corridor):

- ✓ 19:06 hrs- 5 male persons who clad white colour shirt, blue colour shirt, pink colour shirt are observing something and discussing with each other.
- ✓ 19:20 hrs- Ladies who clad green colour jackets are stopped and observing something in front of them.
- ✓ 19:37 hrs- One lady who was carrying away by wheel chair by the other workers and that lady is crying.
- ✓ 19:37 hrs- Another lady was also shifting in the same manner.
- ✓ 19:37 hrs- Two person carrying away one lady in hurry mood.
- ✓ 20:01 hrs- 4 persons who clad their clothes (in-shirt) and discussing something
- ✓ 20:02:55 hrs- One lady was taking away by wheel chair.

Dt 02-08-2022- Channel-12, M2 canteen corridor:

- ✓ 19:22 hrs- Three persons taking away one lady in wheel chair.
- ✓ 19:44 hrs- One lady was carrying by the workers.
- ✓ 19:45 hrs- One lady who clad green colour jacket, came out side and caught hold her head and suffering with vomiting.
- ✓ The lady was taking away by foot by the other workers.
- ✓ 19:50 hrs- One lady was carrying away by other workers in wheel chair and that lady caught hold her head.
- ✓ One lady who clad green colour jacket came out side and herself caught hold her head.
- ✓ 19:54 hrs- One person who clad cream colour jacket is running by carrying wheel chair
- ✓ 19:55 hrs- One lady was taking away by the workers by wheel chair.
- ✓ 19:56 hrs- One lady came outside and herself caught hold her head she suffering with vomittings.
- ✓ Several lady workers are running.
- ✓ 20:00 hrs- One lady was taking away by wheel chair
- ✓ 20:00:52 hrs- Two parsons carrying away one lady.
- ✓ 21:10 hrs- All the workers came out side at a time.

Dt 02-08-2022- Channel-45, M1 area:

- ✓ 19:21 hrs- Workers raised up and observing something.
- ✓ 19:22 hrs- One lady was taking to outside.
- ✓ 19:37 hrs- All the workers stand up from the machine and going to outside.
- ✓ One person who clad white colour shirt and going to inside by talking in cell phone.
- ✓ 20:00 hrs- One lady sat inside and caught hold her head and feeling uncomfortable.
- ✓ 20:27 hrs- Inside company workers are all are going to outside.
- ✓ 21:00 hrs- 4 ladies sat inside and discussing something with each other.
- ✓ 22:00 hrs- Two male workers came there and chatting with each other.
- ✓ Video ending time- 22:29:57 hrs.

On verification of CC footages, it is clear that no person is found on suspicious manner in the premises of Seeds Intimate Apparel India Pvt Ltd on the day of incident.

1. During the course of investigation, IO has addressed a letter to Pollution Control Board, Visakhapatnam with a request to visit the company and furnish information and their enquiry report on the above incident.
2. IO has addressed a letter to Inspector of Factories, Visakhapatnam with a request to visit the company and furnish information and their enquiry report on the above incident.
3. IO has addressed letters to Medical Officers of various hospitals who treated the victims with a request to furnish information about type of gas and their treatment and medical report on the above incident.
4. During Course of Investigation, IO has collected some sample food materials from the Seeds Company Canteen which food was eaten by the workers of the Seeds Company and send the same to the Asst. Director, RFSL, Visakhapatnam with a request to analysis the food material.
5. IO has addressed a letter to Food & safety Department, Visakhapatnam with a request to analysis the food which was seized by them on the day of incident and their report.
6. IO has addressed a letter to Joint Director, Agricultural Department, Anakapalli District for their report on above chemical used for pest control.
7. IO has addressed a Letter to the Director, IICT, Hyderabad with a request to furnish information and their findings on the above incident.
8. IO has sent the material objects i.e food material seized in the canteen were sent to RFSL, Visakhapatnam vide RFSL(VSP)/1633/TX/1068/22 dtd 06-08-2022., and analysis report is awaited.

In this case, investigation is not yet completed and reports are awaited from Pollution control Board, Factories Deputy Chief and District Food Safety Officer, Visakhapatnam and report from the Joint Director, Agricultural Department, Anakapalli District and medical certificates of the victim and from the Director, IICT, Hyderabad are awaited and analysis report also awaited. Notices were issued U/s 91 Cr.P.C to Pollution control Board, Factories Deputy Chief and District Food Safety Officer, Visakhapatnam with a request to furnish their reports about the incident to finalize this case.

So far in my investigation, I have verified CCTV Footages at the company, examined witnesses and made confidential enquiries about the incident and did not find any evidence to suggest sabotage.

The exact reason for the above toxic gas incident is to be established basing on the reports given by the Pollution control Board, Factories Deputy Chief and District Food Safety Officer, Visakhapatnam and report from the Joint Director, Agricultural Department, Anakapalli District.

Anyway, soon after receipt of information from the concerned departments, further investigation will be continued accordingly and necessary action will be taken after the outcome of the investigation.

This is submitted for kind perusal and favour of information.

Yours faithfully,

Ganesh 16/11/22

Inspector of Police,
Yelamanchili Circle,
Anakapalli District.

INSPECTOR OF POLICE
YELAMANCHILI CIRCLE