

**BEFORE THE NATIONAL GREEN TRIBUNAL,
WESTERN ZONE BENCH, AT NAGPUR**

**ORI. APPLICATION NO. 28/2024(WZ)
Earlier Application No. 796/23(WZ)**

[News item titled" Nine workers killed in blast
in an explosives Factory near Nagpur" appearing
in the Hindu Bureau dated 18/12/2023]

APPLICANT : COURT ON ITS OWN MOTION

VS

**RESPONDENTS : MAHARASHTRA POLLUTION
CONTROL BOARD & ORS**

**REPLY ON BEHALF OF THE PETROLEUM &
EXPLOSIVES SAFETY ORGANISATION (PESO)
THE RESPONDENT NO: 4 HEREIN**

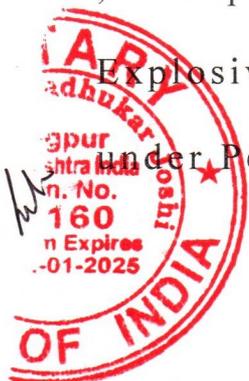
In response to notice dated 12/04/2024 issued
by Hon'ble Green Tribunal Western Zone , bench
at Pune , Maharashtra , the respondent no. 4
namely the Petroleum and Explosives Safety
Organisation (PESO of the sake of brevity) most
humbly submits ;



2. The Answering Respondent the Petroleum and Explosives Safety Organisation(PESO) , is a regulatory authority under the Department of Promotion of Industry and Internal Trade , Ministry of Commerce and Industry , Govt of India

3. The Petroleum and Explosives safety Organisation having head office at 5th floor, A Block, CGO Complex, Seminary Hills, Nagpur headed by the Chief Controller of Explosives (Respondent No 4) is a subordinate office of Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry.

4. PESO administers the Explosives Act, 2008, the Petroleum Act, 1934 and rules framed there under to control the manufacturing ,import , export , transport , storage and use of explosives under Explosives Rules, 2008 and of Petroleum product under Petroleum Rule 2002.



5. It is submitted that M/s Solar Industries India Limited, factory at Chakdoh, Tahsil -Katol, District - Nagpur (Maharashtra) is a private limited company under the company Act and having registered office at Nagpur . The firm is engaged in manufacturing of commercial and defence explosives. The licence number E/HQ/MH/20/98 (E113453) was granted in FORM LE-1 of the Explosives Rules, 2008 issued by the Chief Controller of Explosives, Nagpur , the answering Respondent herein, on receipt of No objection certificate from district authority as required under rule 102 of the Explosives Rules, 2008 and other documents required under Rule 113 of Explosives Rules, 2008.

6. On 17/12/2023 at around 9:00 AM an explosion occurred in the HMX / RDX Compounded Product Pellet Casting House-2 (Process Building No: HR-CPCH-2 which was marked as CBH-2 on site of accident) situated in



the premises of M/s Solar Industries India Limited, Village Chakdoh, District Nagpur, while processing of TNT to obtain the desired size of TNT and packing of the same in bags. The said building was completely razed to ground in the explosion which resulting caused to the death of 9(Nine) workers.

7. A FIR bearing No. 0882/2023 dated 18/12/2023 was lodged at Police Station, Kondhali, District : Nagpur. As per the said FIR, the following 9(nine) employee were found dead and no person was injured in the subject accident.

Sr No	Name	Gender	Age (Yrs)
1	Yuvraj Kishanji Charode	Male	31
2	Omeshwar Kishanlal Machhirke	Male	25
3	Mosam Rajkumar Patle	Male	23
4	Pushpa Shriramji Manapure	Female	37
5	Rumita Vilas Uikey	Female	31
6	Mita Pramod Uikey	Female	27
7	Bhagyashri Sudhakar	Female	23



	Lonare		
8	Swetali Damodar Marbate	Female	22
9	Aarti Nilkanth Sahare	Female	20

8. On 17/12/2023, itself the company officials had intimated the answering respondent over telephone about the accident. On receipt of the same the officials of Respondent no 4 immediately had rushed and reached to the incident place with the help of District Collector. The officials recovered the unexploded explosives and ensured that the accident site is free from any kind of explosives.

9. During accident investigation, it was revealed that the building was approved for the manufacture of HMX / RDX Compounded Product. However as per CCTV footages on the date of accident, sieving operation of TNT which was not the part of process approved in the building was being carried out. It was noted that the said unapproved / unsafe sieving operation was undertaken since 13/12/2023



in order to meet the required specification of export orders of TNT.

10. The License supra which was suspended immediately in the interest of safety and the District Magistrate was also requested to conduct judicial enquiry as per the Explosives Act, 1884. The investigation report dated 28/02/2024 against the investigation carried out by answering respondent is annexed hereto and marked as **ANNEXURE -R4-A.**

11. On receipt of compliance report comprising of building stability certificate issued by M/s DUSON Civil Engineering Services LLP, in house inspection of mechanical equipment & pipeline installation, electrical equipment, integrity of all process instruments, the license of process buildings other than the ill fated building was revoked.



12. The answering respondent further submits that the accident had caused due to unauthorised, unapproved , unsafe operation , handling of explosives in process building.

Hence these submissions

NAGPUR

DATED : 30/06/24

FOR RESPONDENT NO.4


डी. अनुज कुमार
उप मुख्य विस्फोटक नियंत्रक
नापेस अँड टी.एस.,
गोडखैरी, नागपुर

SOLEMN AFFIRMATION

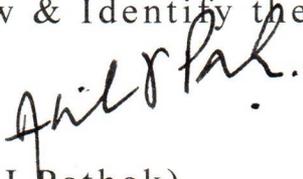
I Anuj Kumar S/o SP Shrivastava , Aged about 52 yrs, Occu : Service , R/o Nagpur do hereby take oath and state on solemn affirmation:

That I am working as a Dy Chief Controller of Explosives with the Petroleum & Explosives Safety Organisation , Nagpur the Respondent No.4 herein. I am conversant with the facts of the present case and therefore able to depose the same.



I say that the Counsel as per my instructions has drafted the above Reply . I have gone through the contents of the above said Reply and understood the same. I say that the contents of the Reply are true to my knowledge and as per the records of the Organisation which I believe to be true. As far as the legal submissions herein are concerned the same are correct as advised by my counsel. The contents of the Reply are explained to me in vernacular which I found to be correct. Hence, signed and verified at Nagpur on this ^u~~29~~ 30 day of JUNE , 2024.

I know & Identify the Deponent


(Atul J Pathak)
Advocate


Deponent

डॉ. अनुज कुमार
उप मुख्य विस्फोटक नियंत्रक
नापेस अँड टी.एस.,
गोंडखैरी, नागपुर

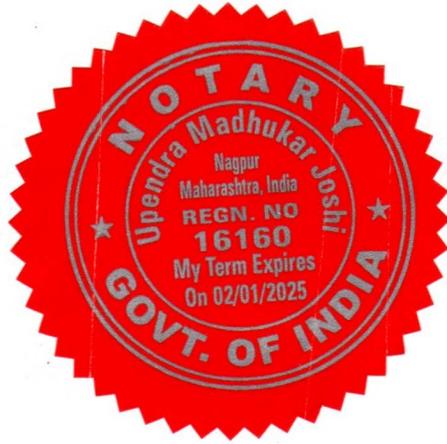




Sworn before me on this 30th day of June 2024 at Nagpur by Shri/Smt./Ku. Anuj Kumar Shirvankar R/o. Nagan who has been identified by Shri/Smt. Atul J. Patil Advocate, Nagpur.

Upendra Madhukar Joshi
30/6/2024
NOTARY
GOVT. OF INDIA
Nagpur (M.S.) INDIA

NOTARIAL REG.
ENTRY NO. 237
DATE 30/06/2024



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ANNEXURE - R4 - A.

Website : <http://peso.gov.in>
Email: explosives@explosives.gov.in
दूरभाष/Telephone : 0712-2510248

फैक्स/FAX : 2510577

कार्यालयीन उद्देश्य के सभी पत्रादि
"मुख्य विस्फोटक नियंत्रक" के पदनाम से
भेजे जाए उनके व्यक्तिगत नाम से नहीं.

All communications intended for
this Office should be addressed to the
'Chief Controller of Explosives' and
NOT to him by name.



भारत सरकार

GOVERNMENT OF INDIA

पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन

Petroleum and Explosives Safety Organisation

(पूर्व नाम - विस्फोटक विभाग)

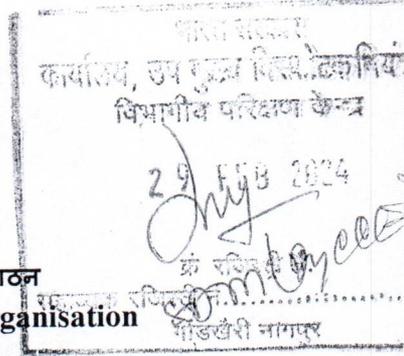
(Formerly- Department of Explosives)

"ए-ब्लॉक, पाँचवा तल, केन्द्रीय कार्यालय परिसर,

"A" Block, 5th Floor, CGO Complex,

सेमिनरी हिल्स, नागपूर - 440 006 (महा)

Seminary Hills, Nagpur- 440006



संख्या /No. E(WC)Accdt/210/23

दिनांक/Nagpur, dated 28th February 2024

To

The Collector and District Magistrate
Civil Lines,
Nagpur (M.S.)

29 FEB 2024

Sub: Explosion occurred on 17/12/2023 at 9.00 am in the explosives manufacturing unit of M/s Solar Industries India Ltd, located at Survey No. 75, 78, 79, 81, 82, 83, 39, 40, 71, 38, 1, 3, 8/1, 8/2, 31, 37,70,72,73/1 in HMX/RDX Compounded Product Pellet Casting House (HR-CPCH-2), Chakdoh & Bazardgaon, Nagpur, Maharashtra covered under licence No. E/HQ/MH/20/98(E113453) in Form LE-1 of the Explosives Rules, 2008, Killed - 9; Injured - Nil, Final Accident Investigation Report-reg.

Dear Sir,

A copy of the Final Investigation Report on the subject accident is being forwarded for taking further necessary action as required under 130 of Explosives Rules, 2008. The action taken may please be communicated to this office. The above said Rule 130 of Explosives Rules, 2008 is reproduced below for ready reference.

"the District Magistrate shall take immediate action and shall inform the Chief Controller or the Controller, as the case may be, of the action taken by him on such report."

Encl : As above.

Yours faithfully,

(V.B.Borgaonkar)

Jt. Chief Controller of Explosives
For Chief Controller of Explosives

Copy to : The Dy. Chief Controller of Explosives, NAPES & TS, Gondkhairy, Nagpur, for information.

For Chief Controller of Explosives

CONFIDENTIAL

No. ACC/TS/24/1

dated: 28/02/2024

From,

S. D. Mishra, (IPESS)
B.E. (Chemical Eng), Master in Chemical Engg
Dy Chief Controller of Explosives
National Academy of Petroleum and Explosives Safety- Testing Station
Gondkhairy, Nagpur.

To,

The Chief Controller of Explosives
Nagpur.

Sub: Explosion occurred on 17/12/2023 at 9.00 AM in the explosives manufacturing unit of M/s Solar Industries India Ltd. located at Survey No: 75, 78, 79, 81, 82, 83, 39, 40, 71, 38, 1, 3, 8/1, 8/2, 31, 37, 70, 72, 73/1 in HMX / RDX Compounded Product Pellet Casting House (HR-CPCH-2), Chakdoh & Bazargaon, Nagpur, Maharashtra covered under licence No. E/HQ/MH/20/98 (E113453) in Form LE-1 of the Explosives Rules, 2008, Killed: 9, Injured: Nil, Accident Investigation- Regarding.

Sir,

Further, to my preliminary accident investigation report number ACC/TS/24/1 dated 08/01/2024, the following is my final accident investigation report.

1. Accident Occurred at:

HMX / RDX Compounded Product Pellet Casting House-2 (Process Building No: HR-CPCH-2 which was marked as CBH-2 on site of accident) situated in the explosives manufacturing premises of M/s Solar Industries India Limited, Chakdoh, Tahsil -Katol, District – Nagpur (Maharashtra) covered under licence number E/HQ/MH/20/98 (E113453) issued in FORM LE-1 of the Explosives Rules, 2008.

2. Brief Description of the Accident:

An explosion occurred at about 9:00 AM on 17/12/2023 in the HMX / RDX Compounded Product Pellet Casting House-2 (Process Building No: HR-CPCH-2 which was marked as CBH-2 on site of accident) situated in the premises of M/s Solar Industries India Limited, Village Chakdoh, District Nagpur, while processing of TNT to obtain the desired size of TNT and packing of the same in boxes. The said building was completely razed to ground in the explosion. As a result of explosion, 9 workers lost their lives. The Police Station Kondhali has lodged FIR number 0882/2023 dated 18/12/2023 with regard to subject accident. (Copy enclosed as **Annexure-1**)



3. Intimation of accident and visit to site:

On 17/12/2023, the officials of the company intimated over telephone to the officials in the O/o Chief Controller of Explosives, Nagpur who in turn informed to the Dy Chief Controller of Explosives, National Academy of Petroleum and Explosives Safety- Testing Station (NAPES-TS), Gondkhairy, Nagpur.

The undersigned along with other officials of the O/o Dy Chief Controller of Explosives, NAPES&TS, Gondkhairy, Nagpur immediately rushed and reached to the factory at about 11.00 AM on 17/12/2023. The undersigned and other officials accompanying me could not enter into the factory premises due to blockage of access to the factory premises by angry mob. Afterwards, the District Collector had arranged safe entry of the officials of O/o Dy Chief Controller of Explosives, NAPES-TS, Gondkhairy, Nagpur into the factory premises.

The undersigned and other officials again visited the accident site on 18/12/2023 and 19/12/2023 for recovery of unexploded explosives and for ensuring that the accident site is free from any kind of explosives. Further, the undersigned also visited the accident site on 20/12/2023, 04/01/2024, 12/01/2024 and 31/01/2024 for accident investigation.

4. **Injured Persons** : Nil

5. **Dead Persons** : Nine

As per FIR, the following employees were found dead

Sr No	Name	Gender	Age (Years)
1	Yuvraj Kishanji Charode	Male	31
2	Omeshwar Kishanlal Machhirke	Male	25
3	Mosam Rajkumar Patle	Male	23
4	Pushpa Shriramji Manapure	Female	37
5	Rumita Vilas Uikey	Female	31
6	Mita Pramod Uikey	Female	27
7	Bhagyashri Sudhakar Lonare	Female	23
8	Swetali Damodar Marbate	Female	22
9	Aarti Nilkanth Sahare	Female	20

6. Details of the process building where accident occurred:

The building in which the accident occurred was approved for the manufacture of HMX / RDX Compounded Product. The said building was surrounded by the following process buildings.

East side: PD-2
 West side: PD-6
 North side: Open forest land
 South side: HR-CPCH, PD and TPHOS

The building in which the accident occurred comprised of three rooms for carrying out following operations:-

Room	Purpose	Process
Room A	HMX, RDX and TNT weighing and store room	Weighing and inspection of TNT, HMX or RDX.
Room B	Supervisor room	---
Room C	Melting, Mixing and Casting room	<ul style="list-style-type: none"> • Melting of TNT in steam jacketed vessels (3 Numbers). • Mixing of HMX or RDX with molten TNT. • Pouring of molten mass in shells and cooling the filled shells. • Packing of casted shells and transfer to magazine.

The building was surrounded by mounds on all the four sides. The mounds were vertical inner face traverse (VIFT) type. Another building comprising of store, packing material room and utility was found constructed at a distance of three meters from the outer edge of the mound on west side of the building.

7. Description of the scene of occurrence (During Visit):

The accident site was found barricaded by District Administration & Police Authorities. Water was sprayed over the accident site to cool the debris. Bomb Detection and Disposal Squad (BDDS) conducted examination of the accident site. PESO officials assisted BDDS squad & State Disaster Rescue Force to assess the location of unexploded explosives and dead bodies from the building.

The entire building was found razed to ground in the explosion. Mangled machinery and debris was found scattered within the radius of approximately 500 meters. The internal walls of the mounds on the sides other than north side were found partially damaged. The mound on the north side of the building was found completely damaged. The machinery provided in the building was found in mangled state and scattered all around the accident site. Utility pipelines near the building as well as those entering into the building including steam pipelines were found damaged. A building located at a distance of three meters from the outer edge of the mound on west direction was also found damaged.

Unexploded TNT was observed approximately two meters inside from entrance of the building near the mound of north direction. Fire marks were also noticed on the inner wall of the mound and black soot was found deposited on the wall underneath of which unexploded TNT was observed. Two dead bodies & some body parts were also observed near the said entrance.

The critical observations made during the visit to the accident site are as follows:-

- No crater was observed on the floor of the building.
- The mound on the north side was completely damaged and debris was thrown in north direction.
- The roof over room C of the building (main process area) was blown off and beams were found collapsed.
- The roof over room A and B of building was found collapsed and damaged slab was found lying over the same place.
- Internal walls of mounds in east, west and south directions found partially collapsed.
- Unexploded TNT was found approximately two meters away from the entrance on the north side of the building.

- The debris including RCC beams of the building were found lying on the north and east sides where the entry passage to the building was located.

On enquiring, the officials of the company informed that out of total eight numbers of CCTV cameras installed in the premises, only five numbers were working and the CCTV footages have been seized by the police authority. The CCTV footages of the dates 16/12/2023 and 17/12/2023 were provided by the company officials for examination to the undersigned vide letter No SIIL/CCEOFFICE/2023-24/23 dated 09/01/2024. The photographs of the accident site are enclosed as **Annexure-2**

After recovery of unexploded TNT mixed with debris of the building from 17/12/2023 to 19/12/2023, the site was handed over to BDDS on 19/12/2023 to ensure that the site is free from explosives. The BDDS carried out the search operation and declared that the site was free from explosives.

8. Particulars of material exhibit collected, if any:

Recovery of unexploded TNT and debris removal work was carried out from 17/12/2023 to 19/12/2023. The damaged, mangled equipments & machinery were handpicked and kept aside for further investigation.

Approximately 1935.4 kg of debris mixed with unexploded TNT was recovered from the accident site along with 35 Kgs of TNT contaminated water with the help of technical team of M/s Solar Industries India Ltd. The report is enclosed as **Annexure-3**.

The police authorities and officials of Regional Forensic Science Laboratory, Government of Maharashtra collected the samples at various stages during rescue operations. The report is enclosed as **Annexure-4**.

9. Circumstances leading to the accident:

As per the attendance sheet submitted by M/s Solar Industries India Ltd, two supervisors namely, Shri Pradip Dadarao Ambole and Shri Mosam Rajkumar Patle along with nine other workers were deployed in the morning shift in the building. All the employees except Shri Pradip Dadarao Ambole (Supervisor) and Shri Sanjay Gulabrao Aade (Worker) lost their lives in the accident.

Shri Pradip Dadarao Ambole and Shri Sanjay Gulabrao Aade were not present inside the building. Shri Pradip Dadarao Ambole had gone to washroom. Shri Sanjay Gulabrao Aade had gone to other building to collect TNT.

During interrogation Shri Pradip Dadarao Ambole (Supervisor) informed that:

- He was deployed in morning shift of 16/12/2023 and 17/12/2023.
- The operation seen in the CCTV footages is of the day on which accident occurred.
- The sieving operation visible in the CCTV footages was also being carried out on the other table.
- He was in washroom at the time of accident.



Shri Sanjay Gulabrao Aade (Worker) informed that:

- He was deployed in the morning shift on the day of accident for shifting of boxes and crates filled with TNT and cleaning activities in the building.
- The building was not in operation for last 4 months and operation in the building started on 13/12/2023.
- From CCTV footages, he identified the workers engaged in the building.
- The operation seen in the CCTV footages is of the day on which accident occurred.
- The boxes and crates filled with TNT were brought from building number PP 18
- The boxes filled with sieved TNT were transferred to storage magazine.

The CCTV footages were examined in the presence of Police Authorities and officials / employees of the company were interrogated. The main observations of the CCTV footages are as follows:

1. A metal table having a flat portion on one side and a sieving mesh on other half portion of the table with a hopper below it, was observed in the building.
2. A flexible metal braided hose was found in the building. The officials of the firm informed that the said hose was being used to suck the dust generated during sieving operation. The officials also intimated that one end of the metal braided hose was firmly connected to the header of the scrubber. The other end of the hose was hanged with a hook welded on a hopper below the sieve.
3. The flat portion of the table was being used for placing plastic crates and corrugated boxes filled with TNT.
4. Empty corrugated boxes with liner were observed stacked near the wall.
5. Two vessels covered with a sheet were observed near the wall.
6. Plastic crates filled with TNT were observed on and around the sieving table.
7. Two female workers were found standing on a platform and working on the sieve provided on the table.
8. It is observed that the female workers were manually pressing and rubbing TNT over the surface of the sieve. The fine-sieved TNT was being collected in a liner placed in a corrugated box below the hopper of the sieve.
9. TNT was found spilled on the floor near the sieving table where the workers were working.
10. A worker is seen pulling the TNT filled crate on the floor.
11. Workers were seen putting two types of liners (transparent and light brown colour) in the boxes for packing of sieved TNT.
12. It is observed that the workers were handling the filled TNT boxes and crates during shifting from one place to other in a rough manner.
13. In the CCTV footage, a worker is seen working on another table. Officials of the company confirmed that activity similar to the one which was being carried out on the table visible in the CCTV footage was also in progress on other table.
14. Two male workers were also observed shifting the crates and boxes.
15. The CCTV footage of the operation carried out in the building stopped and further footage was not available for examination.

During accident investigation, it was observed that the bodies of the two male workers found intact near the entrance of the building and torso of one woman was found on roof top of nearby building. Body parts of one male worker and five female workers were found in pieces scattered here and there. The deceased were identified on the basis of DNA analysis.



Further, on perusal of test reports of the Regional Forensic Science Laboratory, Government of Maharashtra, it is observed that TNT was present in the building. It is also observed from the said report that the RDX and PETN were not present. The report is enclosed as **Annexure-4**.

10. Cause of Accident:

Based on the observations mentioned in circumstances leading to accident, the following assumptions are considered to ascertain the probable causes of the accident.

a) Sabotage:

As per discussion held with the officials of the company as well as in-charge of the private security deployed by the company, it is observed that

- The visitor and the vehicles are checked at the time of entry from the main gate to ensure entry of only authorised persons / employees / vehicles.
- The employees are also frisked for presence of any prohibited items before entry into the factory premises.
- Security guards are also deployed at strategic locations to prevent entry of unauthorised persons into the manufacturing area.
- On the day of accident no visitor or unauthorised person other than company employees entered into the premises.

Therefore, the possibility of any kind of sabotage is ruled out.

b) Effect of weather:

The accident occurred in the month of December which was winter season. On the ill fated day of accident, rains or thundering or lightning were not reported.

Therefore, the occurrence of accident due to lightning or thunder is ruled out.

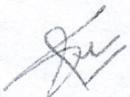
c) Presence of a cat:

On careful examination of the CCTV footage, it was observed that a cat was walking over the extended portion of the slab and later near the entrance of the building. During removal of debris, dead body of the cat was found intact lying near the entrance of the building. This indicates that the cat was not in the zone of explosion at the time of accident.

Therefore, explosion due to involvement of cat's fur carrying significant static charge is ruled out

d) Accumulation of explosive dust in the building:

As per CCTV footage, it was observed that at the time of accident two female workers were working on the sieving table. The TNT was being crushed and rubbed over the sieve by the female workers to obtain desired size of TNT. The similar type of operation or handling of TNT appears to be carried out on the other table which is partially visible in the footage. Shri Pradip Dadarao Ambole (Supervisor) and Shri Sanjay Gulabrao Aade (Worker) also confirmed the same.



One end of the metal braided flexible hose was firmly connected to the header of the scrubber and the other end of the hose was hanged with a hook welded on a hopper below the sieve. The header of the scrubber was modified to connect a flexible metallic hose. The hose was being used to suck the TNT dust generated during the sieving operation. The header and scrubber were primarily designed for scrubbing of fumes generated during melting of TNT or during mixing of RDX or HMX with molten TNT. The same was not designed for scrubbing the explosive dust generated during sieving of TNT.

Apart from this, the explosives manufacturing process needs proper earthing of equipment and machinery to earth the static charge generated during the operation. The generated static charge will get accumulated on the equipment and machinery if not properly earthed or the electrical continuity was not properly maintained.

It is evident from the CCTV footage that the female workers working in the building were standing on a non conductive surface i.e. wooden platform. They were using rubber gloves for pressing and rubbing the TNT over the sieve. Due to this, there is a possibility that static charge accumulated over the body of the workers or the equipment. The discharge of static charge might have initiated the explosive dust accumulated in and around the hopper. This possibility is supported by the fact that on the ill fated day, the humidity was very low due to winter season which prevented the easy dissipation of the static charges.

e) Mishandling of explosives:

In the CCTV footage, it is observed that:-

- TNT was found spilled on the floor near the sieving table where the workers were working.
- A worker is seen pulling the TNT filled crate on the floor.
- The workers were found handling filled TNT boxes and crates during shifting from one place to other in a rough manner.

In view of the above, there is a possibility that during pulling the filled box or crate of TNT, the TNT lying on the floor might have rubbed and got initiated due to friction which led to mass explosion of TNT available in the building. However, no crater was found on the floor of the building. It reveals that the explosion has not taken place in the crates filled with TNT during pulling the same over the surface of the floor.

Therefore, the possibility of explosion due to friction is ruled out.

f) Unauthorised process in the building:

The building was approved for the manufacture of HMX / RDX Compounded Product. The sieving operation of TNT reflected in CCTV footages was not the part of process approved in the building. During discussion with the technical team of the company, it is noted that the said sieving operation was undertaken since 13/12/2023. M/s Solar Industries India Ltd had export orders in hand for export of TNT as per required specifications (granular size). In order to meet the required specification, the sieving operation was being carried out to meet the specifications of the overseas consignment.

Therefore, there is a possibility that the unauthorized sieving activity in the building might have caused the accident due to unsafe sieving operation of TNT.



g) Lack of awareness for safe operation:

It is evident from the CCTV footage that adequate precautions were not followed by the workers deployed in the building. It appears that the workers were not adequately trained for the hazards associated with the TNT sieving operation as well as handling of TNT. There is a possibility that the mis-handling of TNT such as rough handling of TNT filled boxes, pulling of crates filled with TNT on the floor, discharge of accumulated static charge before entering into the building, spillage of TNT on the floor, etc might be one of the probable causes of the accident.

Conclusion:

On careful examination of the reports of Regional Forensic Science Laboratory, post mortem reports, scene of occurrence, circumstances leading to the accident, CCTV footages, and information gathered from employees & officials, it is believed that accident might have occurred due to initiation of accumulated TNT dust in and around the hopper of one of the sieving table. The source of initiation in TNT dust might be generation of spark due to discharge of accumulated static charges through the bodies of the workers or machinery.

This possibility is supported by the fact that the bodies of the female workers working on the sieving tables were not found intact. Body parts of one male worker and five female workers were found in pieces scattered here and there. Further, the torso of one of the woman was also found on roof top of nearby building. This reveals that the explosion might have taken place very close to the female workers working on the sieving table and most probably in and around the hopper of the sieve.

11. Violations:

Sr No	Description	Specific Rule	Specific Condition	Rules / License FORM
1	<p>In the CCTV footage, it is observed that:-</p> <ul style="list-style-type: none"> • The female workers were manually pressing and rubbing TNT over the surface of the sieve. • TNT was found spilled on the floor near the sieving table where the workers were working. • A worker is seen pulling the TNT filled crate on the floor. • The workers were found handling filled TNT boxes and crates during shifting from one place to other in a rough manner. <p>The above mentioned activities indicate that the special precautions to prevent occurrence of accident have not been taken.</p>	19 (1)	--	Explosives Rules, 2008



2	The sieving operation of TNT reflected in CCTV footage was not the part of process approved in the building. The above mentioned activity amounts to violation of change in the process and specification without prior approval of the licensing authority.	26 (5)	Condition 5 (Set VI) of license FORM LE-1	Explosives Rules, 2008 and condition of license FORM LE-1
3	The building in which the accident occurred was approved for the manufacture of HMX / RDX Compounded Product which was not approved to carry out TNT sieving operation. The above mentioned activity amounts to violation of use of the process building for the purpose not specified in the licence.	28	--	Explosives Rules, 2008
4	The facilities in the existing building were modified for TNT sieving and packing operation without approval of the licensing authority. This amounts to violation of provision of amendment of license in respect of alteration or change in the premises.	109	Condition 5 (Set VI) of license FORM LE-1	Explosives Rules, 2008 and condition of license FORM LE-1

12. Nature of action:

License No E/HQ/MH/20/98 (E113453) and E/HQ/MH/20/90 (E89848) were suspended in the interest of safety.

13. Additional Information/Remarks, if any- Nil.

Date: 28/02/2024



(S.D. Mishra)

Dy Chief Controller of Explosives
National Academy of Petroleum and Explosives Safety- Testing Station
Petroleum and Explosives Safety Organisation
Gondkhairy, Nagpur.

उप मुख्य विस्फोटक

Dy. Chief Controller of Explosives,

N.C.R.B (एन.सी.आर)

I.I.F.-1 (एकीकृत अन्वेषण फॉर्म)

FIRST INFORMATION REPORT
(Under Section 154 Cr.P.C.)

प्रथम खबर अहवाल
(कलम १५४ फौजदारी प्रक्रिया संहिता)

1. District (जिल्हा): नागपुर गामीण P.S.(ठाणे): कोंदाली
FIR No.(प्रथम खबर क्र.): 0882 Year (वर्ष): 2023
Date and Time of FIR (प. ख. दिनांक आणि वेळ): 18/12/2023 01:27

2. S.No. Acts (अधिनियम) Sections (कलम)
(अ.क्र.)

1	भारतीय दंड संहिता १८६०	304-A
2	भारतीय दंड संहिता १८६०	२८६

3. (a) Occurrence of offence (गुन्ह्याची घटना):

1. Day(दिवस): राधेवार Date From (दिनांक पासून): 17/12/2023
Time Period (जातावधी): पहर 3 Date To (दिनांक पर्यंत): 17/12/2023
(जालावधी): Time From (वेळेपासून): 08:45 बजे
Time To (वेळेपर्यंत): 08:45 बजे

(b) Information received at P.S. (माहिती मिळालेले पोलीस ठाणे):

Date (दिनांक): 18/12/2023 Time (वेळ): 01:23 बजे

(c) General Diary Reference (रोजनामचा संदर्भ):

Entry No. (नोंद क्र.): 003
Date & Time (दिनांक आणि वेळ): 18/12/2023 01:23 बजे

4. Type of Information (माहितीचा प्रकार): लेखी

5. Place of Occurrence (घटनास्थळ):

1.(a) Direction and distance from P.S.(पोलीस ठाण्यापासून दिशा व अंतर):

दुई, 14 किमी

Beat No. (बिट क्र.):

(b) Address (पत्ता): सोलार एक्सप्लोझिव्ह कंपनी चा

(c) In case, outside the limit of this Police Station, then

(या पोलीस ठाण्याच्या हद्दीबाहेर असल्यास):

Name of P.S.(पोलीस ठाण्याचे नाव):

District(State) (जिल्हा(राज्य)):

6. Complainant / Informant (तक्रारदार/माहिती देणारा):

(a) Name (नाम): सरतके सगोनी पकरा मजानन वाघोडे

(b) Father's/Husband's Name (पत्नीत / पती चे नाम) :

(c) Date Year of Birth (जन्म तारीख/वर्ष): 1983

(d) Nationality (राष्ट्रीयत्व): भारत

(e) UID No. (यू.आय.डी. नं.):

(f) Passport No. (पासपोर्ट नं.):

Date of Issue (देण्याची तारीख):

Place of Issue (देण्याचे ठिकाण):

(g) ID details (Ration Card, Voter ID Card, Passport, UID No., Driving License, PAN) ओळखपत्र विवरण (राशन कार्ड, मतदाता कार्ड, पासपोर्ट, यूआयडी नं., ड्राइविंग लाइसेंस, पॅन)

S.No. (अ.क्र.) ID Type (ओळखपत्राचा प्रकार)

ID Number (ओळखपत्राचा क्रमांक)

1

(h) Address (पत्ता):

S.No. (अ.क्र.) Address Type (पत्त्याचा प्रकार)

Address (पत्ता)

1

वर्तमान पत्ता

रा पोलीस स्टेशन कोण्डाली, कोण्डाली, नागपुर ग्रामीण, महाराष्ट्र, भारत

2

स्थायी पत्ता

रा पोलीस स्टेशन कोण्डाली, कोण्डाली, नागपुर ग्रामीण, महाराष्ट्र, भारत

(i) Occupation (व्यवसाय):

(j) Phone number (फोन नं.):

Mobile (मोबाइल नं.):

7. Details of known/suspected/unknown accused with full particulars (माहित असलेल्या / संशयित / अनोळखी आरोपीचा संपूर्ण पत्ता):

S.No. (अ.क्र.) Name (नाव)

Alias (उर्फनाव)

Relative's Name (नातेवाईकाचे नाव) Present Address (वर्तमान पत्ता)

1 अनोळखी 1

8. Reasons for delay in reporting by the complainant/informant (तक्रारदार/माहिती देणाराकडून तक्रार करण्यातील विलंबाची कारणे):

9. Particulars of properties of interest (संबंधीत मालमत्तेचा तपशील):

S.No. (अ.क्र.) Property Category (मालमत्ता वर्ग) Property Type (मालमत्ता प्रकार)

Description (वर्णन)

Value (In Rs/-) (मुल्य (रु.))

total value of property (In Rs/-)
(घोरीत मालाच्या मालमतीचे एकूण मूल्य (रु. ना.ये)):

11. Inquest Report / U.D. case No., if any
(इन्क्वेस्ट अहवाल/ अकरस्मात मृत्यू प्रकरण क्र., जर असल्यास):
- S.No. UIDB Number
(अ.क्र.) (यु.आय.डी.बी.क्र.)

12. First Information contents (प्रथम खबर हकीकत):

क्र.क्र. - 58/23 कलम 304(अ), 286 भा.द.वी.

स्थान - सरतर्फ सपोनी पंजज गजानन वाघोडे वय 40 वर्ष रा पोलीस स्टेशन कोंढाळी

अचानक - अज्ञात

घटनास्थळ - सोलार एक्सप्लोझिव्ह कंपनी चाकडोह 14 किमी पुर्व

घटना ना वेळ दिनांक - दि.17/12/23 चे 08/45 वा दर

नी पंजज गजानन वाघोडे स.पो.नी./ठाणेदार पो.स्टे.कोंढाळी शासनतर्फे तक्रार देतो की, मी पोलीस स्टेशन कोंढाळी

येथे दि.08/06/22 पासून कार्यरत आहे. सोलार एक्सप्लोझिव्ह कंपनी चाकडोह येथे दि.17/12/23 रोजी

झालेल्या स्फोटातील मृत महीला व ईरम नामे 1) मोसम राजकुमार पटले वय 23 वर्ष रा.नेहरु वार्ड पो.पाचगाव ता.

मोहली जि.भंडारा 2) युवराज कीसनाजी चारोडे वय 31 वर्ष रा.बाजारगाव ता.जि.नागपुर 3) ओमेश्वर कीसनलाल

मच्छीरके वय 25 वर्ष रा.चाकडोह ता.जि.नागपुर 4) मिता प्रमोद उईके वय 27 वर्ष रा.अंबाडासोनक ता.काटोल

जि.नागपुर 5) आरती निळकंठ सहारे वय 20 वर्ष रा.कामठी पो.मारसोद ता.काटोल जि.नागपुर 6) श्वेताली दामोदर

मारबते वय 22 वर्ष रा.कन्नमवार ग्राम जि.वर्धा 7) पुष्पा श्रीरामजी मानापुणे वय 37 वर्ष रा.श्रीरामजी मानापुणे तेलीपुरा

शिराला अमरावती 8) भाग्यश्री सुधाकर लोनारे वय 23 वर्ष रा.भुज तुकुम मुडझा ब्रम्हपुरी जि.चंद्रपुर 9) रुमीता

विलास उईके वय 31 वर्ष रा.ढगा ता.कारंजा जि.वर्धा. याचे मृत्यू समधात पो.स्टे.कोंढाळी येथे अकरस्मात मृत्यू क्र.

58/23 कलम 174 जा.फौ.अन्वये दि.17/12/23 रोजी दाखल आहे सदर अकरस्मात मृत्यू समधात

घटनास्थळाचा पंचनामा कार्यवाही व घटनास्थळावरील पुरावे जप्त करण्यात आले असून तसेच मृत व्यक्ती व महीलांचे

मृतदेहाचा इन्क्वेस्ट पंचनामा कार्यवाही झाली असून मृतदेह उत्तरीय तपासणी करिता मेडीकल कॉलेज नागपुर येथे

रवाना करण्यात आले आहे. सदर अकरस्मात मृत्यू चौकशी संबंधात सोलार एक्सप्लोझिव्ह कंपनी चाकडोह येथे

प्रॉडक्शन डीपार्टमेंट मध्ये काम करणारा सुपरवायझर श्री प्रदीप दादाराव अंबोले वय 30 वर्ष रा.प्रीयदर्शनी एन आय

टी गार्डन च्या मागे त्रीमूर्ती नगर नागपुर याचे घटनेसंबंधात बयाण नोंद केले असता त्याने आपले बयाणात तो व वरील

मृतक तसेच पॅकींग व लोडींग ऑपरेटर श्री आडे व श्री लांजेवार असे दि.17/12/23 रोजी कास्ट बुस्टर हाऊस

मध्ये स्फोटक पदार्थ टी.एन.टी.चाळणीचे कामावर सकाळी 06/00 वा पासून होते. अंदाजे 08/45 वा.दरम्यान तो

कास्ट बुस्टर हाऊस चे रुममधुन बाहेर टॉयलेटला गेलो होता. त्यापुर्वीच पॅकींग व लोडींग ऑपरेटर श्री आडे व

लांजेवार हे दोघेही कास्ट बुस्टर हाऊस मधुन खाली बॉक्स टी.एन.टी.ऑफीसमध्ये ठेवण्याकरीता गेले होते. बाकी

सर्व कामगार व शिकावु सुपरवायझर हे कास्ट बुस्टरहाऊसमध्ये टी.एन.टी.स्फोटक चाळणीचे काम करीत होते तो

टॉयलेटला गेलो त्याच वेळी कास्ट बुस्टर हाऊसमध्ये अचानक जोराचा स्फोट झाल्याचा आवाज त्यास ऐकु आल्याने

तो लगेच टॉयलेटरुम चे बाहेर येवुन बघीतले असता त्यास झालेल्या स्फोटमुळे कास्ट बुस्टर हाऊसची इमारत

उद्ध्वस्त झालेली दिसले. व धुर निघत असलेला दिसला. त्यामुळे कास्ट बुस्टर हाऊस इमारतीमध्ये काम करणारे

कामगार 1) कामगार युवराज कीसनाजी चारोडे वय 31 वर्ष रा.बाजारगाव ता.जि.नागपुर 2) कामगार ओमेश्वर

कीसनलाल मच्छीरके वय 25 वर्ष रा.चाकडोह ता.जि.नागपुर 3) कामगार मिता प्रमोद उईके वय 27 वर्ष रा.

अंबाडासोनक ता.काटोल जि.नागपुर 4) कामगार आरती निळकंठ सहारे वय 20 वर्ष रा.कामठी पो.मारसोद ता.

काटोल जि.नागपुर 5) कामगार श्वेताली दामोदर मारबते वय 22 वर्ष रा.कन्नमवार ग्राम जि.वर्धा 6) कामगार पुष्पा

श्रीरामजी मानापुणे वय 37 वर्ष रा.श्रीरामजी मानापुणे तेलीपुरा शिराला अमरावती 7) कामगार भाग्यश्री सुधाकर लोनारे

वय 23 वर्ष रा.भुज तुकुम मुडझा ब्रम्हपुरी जि.चंद्रपुर 8) कामगार रुमीता विलास उईके वय 31 वर्ष रा.ढगा ता.

कारंजा जि.वर्धा व 9) शिकावु सुपरवायझर मोसम राजकुमार पटले वय 23 वर्ष रा.नेहरु वार्ड पो.पाचगाव ता.मोहली

जि.भंडारा अस स्फोट झाल्याने स्फोटातमध्ये मरण पावले आहे.सदरचा स्फोट कोणाच्या व कोणत्या

निष्काळजीपणामुळे झाला आहे. हे मला सांगता येत नाही. सोलार एक्सप्लोझिव्ह कंपनी चाकडोह मध्ये काम करणारे

वरील कामगार यांचे मृत्यू हे स्फोटकांच्या बाबतीत हलगर्जीपणा व निष्काळजीपणा केल्यामुळे झाला आहे.असे

N.C.R.B (एन.सी.आर.)

I.I.F.-I (एकीकृत अन्वेषण फॉर्म -

आपले वरिष्ठात सांगितले आहे. आकरमात मृत्यु क्र.58/23 कलम 174 जा.फौ.चे एकंदरीत चौकशीत असं दिसून येतं की, दि. 17/12/23 रोजी 08/45 वा दरम्यान सोलार एक्सप्लोझिव कंपनी चाकडोह येथे झालेल्या स्फोटामध्ये वरील महिला व पुरुष कामगार मरण पावले आहे. सोलार एक्सप्लोझिव कंपनी चाकडोहमध्ये काम करणारे वरील कामगार या मृत्यु हे रपॉर्टकाच्या बाबतीत हलगर्जीपणा व निष्काळजीपणा केल्यामुळे झाला आहे. करीता माझी सदर निष्काळजीपणा व हलगर्जीपणा करणा-या ईसमाविरुद्ध कलम 304 (अ) 286 भा.द.वी. अन्वये गुन्हा दाखल होण्यास जायदेशीर फियॉद आहे. अशा अर्जादाराच्या लेखी रिपोर्ट वरून सदरचा गुन्हा नोंद करून तपासात घेतला.

13. Action taken: Since the above information reveals commission of offence(s) u/s as mentioned at Item No. 2. (केलेली कारवाई: बाब क्र. 2 मध्ये नमूद केलेल्या कलमान्वये वरील अहवालावरून अपराध घडल्याचे.)

(1) Registered the case and took up the investigation:
(प्रकरण नोंदविले आणि तपासाचे काम हाती घेतले):

pankaj gajanan waghode(I (Inspector)) /

or (किंवा)

(2) Directed (Name of I.O.) (तपास अधिका-याचे नाव):

Rank (पद):

No.(क्र.):

to take up the investigation (ला तपास करण्याचे अधिकार दिले) or (किंवा)

(3) Refused investigation due to (ज्या कारणामुळे तपास करण्यास नकार दिला):

or (ज्या कारणामुळे तपास करण्यास नकार दिला)

(4) Transferred to P.S.

(गुन्हा दुरादीकडे पाठविला असल्यास त्या पोलीस ठाण्याचे नाव):

District (जिल्हा):

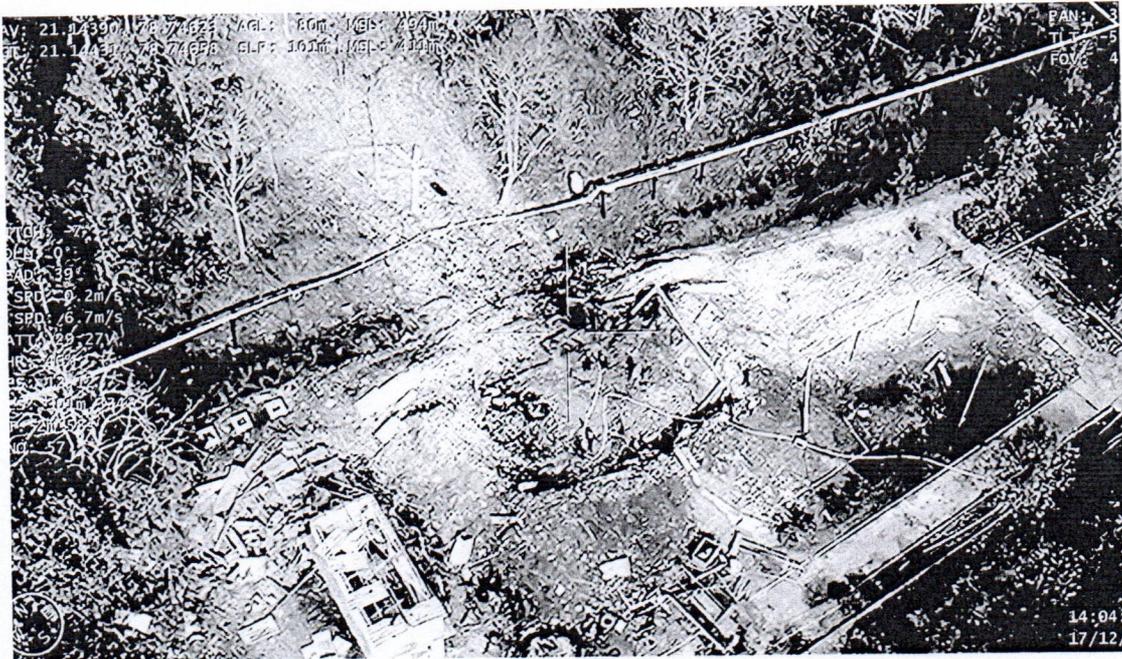
on point of jurisdiction (को क्षेत्राधिकार के कारण हस्तांतरित) .

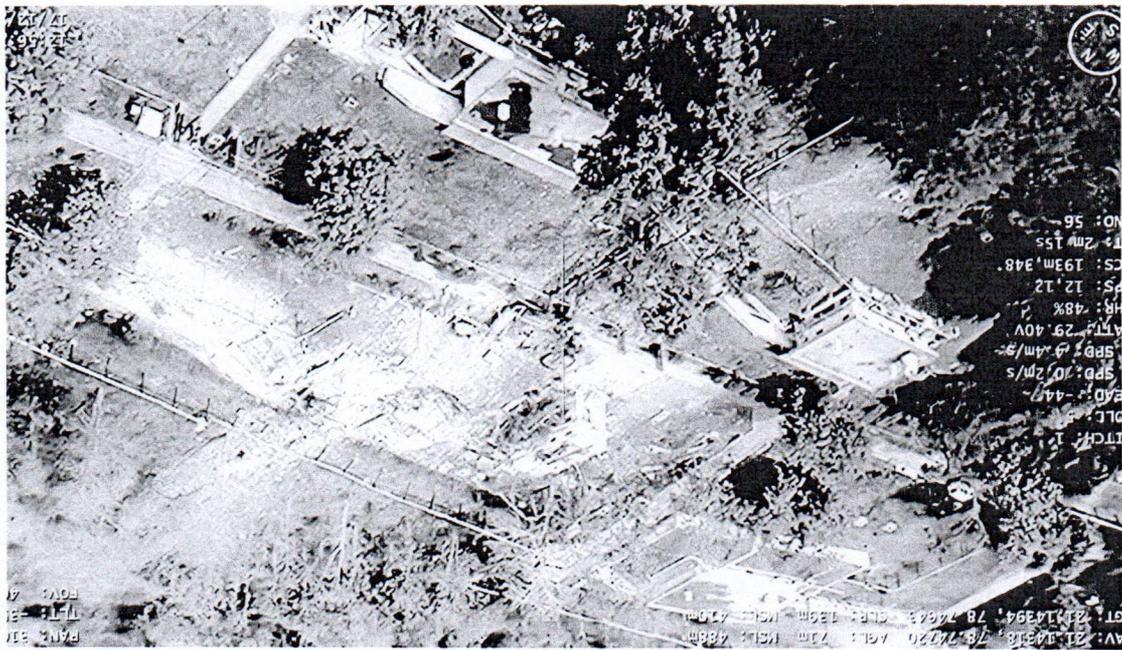
F.I.R. read over to the complainant / informant, admitted to be correctly recorded and a copy given to the complainant / informant free of cost. (प्रथम खबर तक्रारदाराला/खबरीला वाचून दाखविली, बरोबर नोंदविली असल्याचे त्याने मान्य केले आणि तक्रारदाराला/खबरीला खबरीची प्रत मोफत दिली.)

R.O.A.C.(आर. ओ .ए. सी.)

Annexure-2 The photographs of the Accident Site. **469**

-25-







Annexure-3

- 24-

HRCPPH-2 PLANT TNT CONTAMINATED WASTE BURNING DETAIL

Sr. No	Type of Waste (Cat.)	Date of Drying	Date of Burning	No. of Bags	Wt. of waste collected (kg)	Wt. of unburnt material (kg)
1	TNT Contaminated Soil	18.12.2023	18.12.2023	17	102.5	70
	TNT Contaminated Soil	28.12.2023	31.12.2023	22	250.2	150
2	TNT Contaminated Soil	27.01.2024	31.01.2024	28	333.8	255
3	TNT Contaminated Soil	31.01.2024	05.02.2024	28	362.9	290
4	TNT Contaminated Soil	01.02.2024	06.02.2024	27	337	260
5	TNT Contaminated Soil	06.02.2024	10.02.2024	22	287.4	400
6	TNT Contaminated Soil	07.02.2024	11.02.2024	22	261.6	
	Total				1935.4	1425

Note: 1 no. Drum of Water Contaminated with TNT material (35 kg) disposed and treated in ETP.

- 28 -

Analysis of moisture content

Date of drying	27.01.2024				31.01.2024				01.02.2024				06.02.2024				07.02.2024			
Bag No.	33	53	71	21	51	60	47	61	72	83	91	100	117	138	145					
Weight of wet material (kg)	7.4	14	20.5	9.3	20.2	11.7	10.5	19	6.4	6.9	13	17.1	16.3	20.7	6.8					
Weight of dried material (kg)	6.00	10.81	15.73	7.37	15.36	9.15	8.40	14.41	5.23	5.60	10.03	13.14	12.68	15.71	5.63					
Amount of moisture loss (kg)	1.40	3.19	4.77	1.93	4.84	2.55	2.10	4.59	1.17	1.30	2.91	3.96	3.62	4.99	1.17					
Percentage moisture present	18.90%	22.76%	23.28%	20.76%	23.96%	21.82%	19.96%	24.16%	18.23%	18.90%	22.41%	23.15%	22.21%	24.10%	17.20%					

(Average Moisture content in 15 nos. samples = 21.45%)

Summary sheet

Sr. No.	Name of material	Weight material
1	Total weight of the material	1935.4 kg
2	Moisture (@ Avg of 21.45%)	415 kg
3	Ash	1425 kg
4	Organic matter	95.4 kg

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Date: 19.12.2023

Weight of a drum having contaminated water = 35 kg

Date: 18.12.2023

Weight of the bags having contaminated TNT sample = $12 + 90.5 = 102.5$ kg

Date: 19.12.2023

Weight of the bags having contaminated TNT sample = 234.4 kg

Date: 20.12.2023

Weight of the bags having contaminated TNT sample collected on 19.12.2023

$$292.1 \text{ kg} + 331.4 \text{ kg} + 301.4 \text{ kg} \\ + 259.6 \text{ kg} + 261.1 \text{ kg} + 152.9 \text{ kg} \\ = 1598.5 \text{ kg}$$

These sample bags having the contaminated TNT mixed with sand, clay, wooden & metal pieces, paper and plastic pieces

[Signature]
20.12.2023

Dr. Kumaraswarao Kumar
(Mr. Lab. SILL)