

Washington River Protection Solutions
EVENT SUMMARY

Check PART 1 box to hide that section of the form. Check PART 2 box it will show that section.

PART 1 (hide)* **PART 2 (show)***

NOTE: This form provides timely notification to management and documents preliminary information of an event that may require a more formal investigation. Details may change upon further examination and analysis. The following is a current status of available information:

Project: TF-AOP-015 in AP Farm Date: 12/28/2022

Area/Building/Location: 200E/241-AP Farm between Primary Exhaust Approximate Time of Event: 1246 Hours

AR Number: WRPS-AR-2023-0556 Responsible Manager: [REDACTED]

EIR Number: WRPS-EIR-2022-106 Event Investigator: [REDACTED]

EVENT SUMMARY PART 1

Activity in Progress (What activity was under way, include procedures and work order numbers, as applicable):

Workers were performing On-the job Evaluation/On-the job Training (OJE/OJT) utilizing TF-OPS-005, "DST Daily CAM and Record Sampler Inspections."

Personnel Involved (Job positions, number of personnel, identify any support organizations or subcontractors directly involved):

- 2 WRPS Health Physics Technicians (HPT)

What Happened (Provide a short discussion of what happened):

On 12/28/2022, two HPTs had finished working to TF-OPS-005, "DST Daily CAM and Record Sampler Inspections," and were in the process of exiting between the Primary Exhauster and the Annulus Exhauster in 241-AP Farm when one of the personal ammonia monitor alarmed and displayed an ammonia concentration spike of 19 ppm then immediately dropped back to 3 ppm. The other ammonia monitor did not register any change.

The workers reported experiencing no symptoms and declined precautionary medical surveillance.

Where Did It Happen (Description of work area and working conditions. Include information on weather conditions, PPE, Postings, etc.):

Workers were exiting the farm walking from the AP VTP skid past the AP VTA.

Workers were within a posted radiological buffer area (RBA) and wearing Respiratory Protection Equipment in accordance with Standing Order Number SO-OPS-17-003.

The Data Fusion and Advisory System (DFAS) application, powered by SmartSite™, was utilized for outdoor weather details at the time of the Ventis Pro personal ammonia monitor alarm. The DFAS dashboard indicated the following weather conditions at 1332 on 12/28/2022:

- Wind Speed: 11.2 mph
- Wind Direction: 248° (out of West Southwest)
- Mixing Height: 1100 feet above grade
- Stability Class: E (slightly stable conditions)

Impact to Facility (Caused by the event or a description of known consequences):

Workers were instructed to leave the area and the area was restricted for approximately 1 hour and 9 minutes. No additional impacts to scheduled 12/28/2022 work evolutions occurred.

Immediate Actions Taken (List immediate actions taken to stabilize the scene or respond to the event):

- Central Shift Manager (CSM) initiated TF-AOP-015, "Response to Personal Ammonia Monitor Alarm," and restricted access to 241-AP Farm.
- CSM made required TF-AOP-015 notifications.
- Production Operations-East Industrial Hygienist provides affected workers Odor/Vapor Response Cards [Odor/Vapor Response Card- 241-AP Farm (A-6006-929)] for population, offers Affected Workers precautionary medical surveillance, both Affected Workers decline.
- Production Operations shift Industrial Hygiene Technician (IHT) initiated TF-AOP-015 response actions and monitoring per IHSP-09001. Direct reading instrument (DRI) area readings indicated a less than detectable (< 1 ppm) ammonia concentration, which is below background levels.
- Event Investigation EIR-2022-106 "TF-AOP-015 Event in AP Farm" was initiated.

Washington River Protection Solutions
EVENT SUMMARY (Continued)

Project: TF-AOP-015 in AP Farm Date: 12/28/2022

Area/Building/Location: 200E/241-AP Farm between Primary Exhaust Approximate Time of Event: 1246 Hours

AR Number: WRPS-AR-2023-0556 Responsible Manager: [REDACTED]

EIR Number: WRPS-EIR-2022-106 Event Investigator: [REDACTED]

Immediate Actions Taken (List immediate actions taken to stabilize the scene or respond to the event):

- Exited TF-AOP-015 Response to Personal Ammonia Monitor Alarm. SOEN sent, Radio announcement complete and notified ORP FR.
- Production Operations-East Industrial Hygienist perform qualitative kinetic function test on event initiating Personal Ammonia Monitor and immediately gets readings of 30 ppm.

Notifications Already Made (Time and personnel notified):

- 1319 Central Shift Manager contacts Production Operations-East Industrial Hygienist to request support for TF-AOP-015 response actions
- 1321 Production Operations-East Industrial Hygienist contacts Production Operations-East Shift Industrial Hygiene Technician Supervisor to request Industrial Hygiene Technician support for response actions
- 1322 CSM entered TF-AOP-015 Response to Personal Ammonia Monitor Alarm. SOEN sent. Shift Office Event Notification (SOEN): "Entered TF-AOP-015 Response to Personal Ammonia Monitor Alarm for Ventis pro alarm in AP Farm. All personnel exit AP Farm. Access to AP Farm is restricted. CSM". Radio announcement complete. Notified ORP FR.
- 1421 CSM provided TF-AOP-015, Attachment 1- Initial Communication Template to email to distribution list "DL - WRPS Odor/Vapor Event Notification".
- 1431 Shift Office Event Notification (SOEN): "Response actions for the TF-AOP-015 event have been completed and the results are at or below background levels. Exiting TF-AOP-015. CSM"
- 1434 CSM provided TF-AOP-015, Attachment 2- Follow-up Event Summary to email to distribution list "DL - WRPS Odor/Vapor Event Notification".

- This event does not merit an Event Investigation meeting
- This event merits an Event Investigation meeting

Basis for Determination:

Information gathered from interviews and documentation reviews have provided sufficient information regarding this event.

Responsible Manager:

[REDACTED] Digitally signed by [REDACTED]
Date: 2023.01.04 09:04:54 -08'00'
Print First and Last Name Signature / Date

CAS Manager:

[REDACTED] Digitally signed by [REDACTED]
Date: 2023.01.04 13:51:14 -08'00'
Print First and Last Name Signature / Date

EVENT SUMMARY PART 2

Key Elements of the Investigation (Key investigation points):

Conclusions of Industrial Hygiene Event Investigation Report, IHIR-00061, "TF-AOP-015 Response Inside of 241-AP Farm" indicate the cause of the Personal Ammonia Monitor alarm is unlikely to be from Tank Farm Exhauster emissions.

The following considerations support the IHIR-00061 conclusion:

- (1) The Event Initiating Personal Ammonia Monitor (Ventis PRO V 005093) was easily induced to produce false positive results when the sensor was covered and/or bumped. The instrument was conservatively over-responding to non-target chemical stimuli. Direct Reading Instrumentation monitoring performed during response actions did not readily identify a source and indicated further action was not necessary to protect worker safety and health. The Personal Ammonia Monitor's over response to non-target chemical stimuli combined with the response actions' results indicate the Personal Ammonia Monitor alarm was not representative of changing conditions nor an

Washington River Protection Solutions
EVENT SUMMARY (Continued)

Project: TF-AOP-015 in AP Farm Date: 12/28/2022

Area/Building/Location: 200E/241-AP Farm between Primary Exhaust Approximate Time of Event: 1246 Hours

AR Number: WRPS-AR-2023-0556 Responsible Manager: [REDACTED]

EIR Number: WRPS-EIR-2022-106 Event Investigator: [REDACTED]

Key Elements of the Investigation (Key investigation points):

employee chemical exposure event.

(2) The Ventis Pro personal monitor on a worker in the immediate area of the monitor that alarmed did not alarm or indicate ammonia concentrations.

(3) A review of the Data Fusion and Advisor System (DFAS) application, powered by SmartSite™, Weather Details and Chemical Details dashboards for the reported time of the Event, indicate the cause of the Personal Ammonia Monitor alarm is unlikely to be from Tank Farm Exhauster emissions.

(4) Field Response area readings showed Ammonia as "Less than Detectable (< 1 ppm)".

(5) Memo WRPS-1904672.1, TANK FARM EXHAUST ~ CK CONCENTRATION ALARM/ ACTION LEVELS FOR AMMONIA establishes stack alarm/action set points for Tank Farm Exhausters. The alarm/action set points are based on a linear extrapolation of the Quantitative Risk Assessment (QRA) model prediction; conservatively established at the ammonia stack concentration High Alarm of 460 ppm for Farms that could result in various ammonia concentrations at an unspecified ground receptor in the AP farm. The exhauster High Alarm was established to limit ammonia concentration to 2.5 ppm (10% of the established Occupational Exposure Limit for ammonia) at an unspecified ground receptor site. Vapor Monitoring Detection System (VMDS) observations for the period of 12/21/2022 to 12/28/2022 were 32.3 ppm at the AN exhauster, 0ppm at the AN exhauster, 15.9 ppm at the AX exhauster, and 9.6 ppm at the AX exhauster. Vapor Monitoring Detection System (VMDS) observations for the period of 12/21/2022 to 12/28/2022 show a maximum measurement of 15 ppm at the AP exhauster, 9 ppm at the AW exhauster, and 1ppm at the AX exhauster.

The exhauster ammonia stack concentration High High Alarm of 920 ppm conservatively established an ammonia concentration of 5 ppm at an unspecified ground receptor; since the levels in the exhauster never approached the High High Alarm value, it is unlikely the Ventis PRO monitor was responding to an ammonia peak alarm event of 23 ppm as shown in the 6 second Ventis PRO data log.

Additional Compensatory/Remedial Measures (any additional measures taken if different from immediate actions):

The Ventis Pro V (2203377-358) personal ammonia monitor (#005093) was removed from service.

Lessons Learned or Information That the Work Force Needs Immediately:

None. Per TFC-OPS-OPER-C-28, "Operating Experience/Lessons Learned", this event did not meet the criteria requiring generation of a Lessons Learned.

- An Event Investigation will be completed per [TFC-OPS-OPER-C-14](#)
- This event will be managed by another process, i.e., Operability Evaluation, Engineering Technical Evaluation, etc.
- This event does not require continuation of the Event Investigation process

Basis for Determination:

This event does not require continuation of the event investigation process under TFC-OPS-OPERC-14, "Event Investigation Process". The facts, findings, and comprehensive account captured under this Event Summary and Industrial Hygiene Event Investigation Report, IHIR-00061 "TF-AOP-015 Response Inside of 241-AP Farm" form the basis that further investigation will not provide additional information.

Washington River Protection Solutions
EVENT SUMMARY (Continued)

Project: TF-AOP-015 in AP Farm Date: 12/28/2022

Area/Building/Location: 200E/241-AP Farm between Primary Exhaust Approximate Time of Event: 1246 Hours

AR Number: WRPS-AR-2023-0556 Responsible Manager: [REDACTED]

EIR Number: WRPS-EIR-2022-106 Event Investigator: [REDACTED]

Responsible Manager:

[REDACTED] [REDACTED] Digitally signed by [REDACTED]
Date: 2023.01.04 09:05:54 -08'00'
Print First and Last Name *Signature / Date*

CAS Manager:

[REDACTED] [REDACTED] Digitally signed by [REDACTED]
Date: 2023.01.04 13:51:33 -08'00'
Print First and Last Name *Signature / Date*

Washington River Protection Solutions
INDUSTRIAL HYGIENE EVENT INVESTIGATION REPORT

Event Title: TF-AOP-015 Response Inside of 241-AP Farm	PER Number: N/A
IHIR Number: IHIR-00061	

Date: 12/28/2022	Time: 1246	Location: 241-AP Farm between Primary Exhauster and Annulus Exhauster
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Event Summary and Timeline:

Event Summary:

A Personal Ammonia Monitor alarmed and indicated greater than 12 ppm ammonia inside of 241-AP Farm, between Primary Exhauster and Annulus Exhauster. Two workers were present at the time of personal ammonia monitor alarm.

Field Response Timeline:

- 1319 Central Shift Manager contacts Production Operations-East Industrial Hygienist to request support for TF-AOP-015 response actions
- 1321 Production Operations-East Industrial Hygienist contacts Production Operations-East Shift Industrial Hygiene Technician Supervisor to request Industrial Hygiene Technician support for response actions
- 1324 Production Operations-East Industrial Hygienist arrives at Central Shift Office
- 1325 Central Shift Manager briefs Production Operations-East Industrial Hygienist:
 - Two workers present
 - Only one Personal Ammonia Monitor alarmed
 - Peak reading reported at 19 ppm
 - Reading quickly dropped to 3 ppm
 - Workers were between Primary Exhauster and Annulus Exhauster, heading North to exit the farm
- 1328 Shift Office Event Notification (SOEN): "Entered TF-AOP-015 Response to Personal Ammonia Monitor Alarm for ventis pro alarm in AP Farm. All personnel exit AP Farm. Access to AP Farm is restricted. CSM"
- 1329 Affected Workers and Production Operations-East Industrial Hygienist arrive at Central Shift Office
- 1332 Production Operations-East Industrial Hygienists check Data Fusion Advisory System (DFAS), powered Smart Site™, for current weather details:
 - Wind Speed: 11.2 mph
 - Wind Direction: 248° (out of West Southwest)
 - Mixing Height: 1100 feet above grade
 - Stability Class: E (slightly stable conditions)
- 1333 Production Operations-East Industrial Hygienist provides affected workers Odor/Vapor Response Cards [Odor/Vapor Response Card- 241-AP Farm (A-6006-929)] for population, offers Affected Workers precautionary medical surveillance, both Affected Workers decline
- 1336 Production Operations-East Shift Industrial Hygiene Technician arrives at Central Shift Office
- 1336 Production Operations-East Industrial Hygienist briefs Production Operations-East Shift Industrial Hygiene Technician on required Respiratory Protection Equipment for response actions
 - Respiratory Protection Equipment required as per TF-AOP-015 Respiratory Protection Form Task 1, acquire Respiratory Protection Equipment as per Respiratory Protection Form MDRPF-PLN-173 Task 1 as it is equivalent
- 1336 Production Operations-East Shift Industrial Hygiene Technician departs to acquire Respiratory Protection Equipment

NOTE: Field Response Timeline continued on next page.

Washington River Protection Solutions
INDUSTRIAL HYGIENE EVENT INVESTIGATION REPORT(Continued)

Event Summary and Timeline:

Field Response Timeline continued:

1337 Production Operations-East Industrial Hygienists check Vapor Monitoring Detection System:

- POR518 (241-A): 1.556 ppm
- POR519 (241-A): 1.974 ppm
- 241-AN: 16.077 ppm
- 241-AP: N/A
- 241-AW: 0 ppm (exhauster not operating)
- POR126 (241-AX): N/A
- POR127 (241-AX): 0 ppm
- 702AZ (241-AY/AZ): 4.175 ppm

All available readings << High Alarm set point

1339 Production Operations-East Industrial Hygienist perform qualitative kinetic function test on event initiating Personal Ammonia Monitor and immediately gets readings of 30 ppm

1340 Affected Workers submit Odor/Vapor Response Cards [Odor/Vapor Response Cards- 241-AP Farm (A-6006-929)] to Production Operations-East Industrial Hygienists for review

1344 Production Operations-East Industrial Hygienist briefs Production Operations-East Shift Industrial Hygiene Technician on response actions:

- Monitor affected for Ammonia in accordance with Industrial Hygiene Sample Plan IHP-09001
- Respiratory Protection Equipment required as per TF-AOP-015 Respiratory Protection Form Task 1 (Respiratory Protection Form MDRPF-PLN-173 Task 1 is equivalent)
- Monitor in and around Affected Area, Map of Affected Area provided

1346 Production Operations-East Shift Industrial Hygiene Technician departs Central Shift Office to perform response actions

1409 Production Operations-East Shift Industrial Hygiene Technician notifies Production Operations-East Shift Industrial Hygiene Technician Supervisor, who notifies Production Operations-East Industrial Hygienist, that all readings are less than detectable (< 1 ppm ammonia)

1419 Production Operations-East Shift Industrial Hygiene Technician notifies Production Operations-East Shift Industrial Hygiene Technician Supervisor, who notifies Production Operations-East Industrial Hygienist, that Direct Reading Instrument has passed Post-Use Function Test

1429 Shift Office Event Notification (SOEN): "Response actions for the TF-AOP-015 event have been completed and the results are at or below background levels. Exiting TF-AOP-015. CSM"

Sampling/Monitoring Results:

Field Response area readings:

- Ammonia: Less than Detectable (< 1 ppm)

Ventis PRO V 005093 (2203377-358) (Event Initiating Personal Ammonia Monitor):

- Ammonia: Peak of 19 ppm on instrument display reported by Affected Worker
- Ammonia: Peak of 23 ppm on data log (duration of 6 seconds)
 - o Ammonia @ 12:46:25- 0 ppm
 - o Ammonia @ 12:46:33- 23 ppm
 - o Ammonia @ 12:46:35- 11 ppm
 - o Ammonia @ 12:46:45- 2 ppm
 - o Ammonia @ 12:46:55- 0 ppm

Enhanced Monitoring Shift Routine Readings (performed prior to the initiating event):

- 4th Street Loop @ 0902
 - o Ammonia: Less than detectable (< 1 ppm)
 - o Volatile Organic Compounds: Less than detectable (< 0.010 ppm)

SWIHD References:

- Event Response Site Wide Industrial Hygiene Database Direct Reading Instrument Survey #22-07680 "TF-AOP-015 response at 241-AP Farm"
- Enhanced Monitoring Site Wide Industrial Hygiene Database Direct Reading Instrument Survey #22-07673 "Enhanced Monitoring of A-Complex Perimeter"

Washington River Protection Solutions
INDUSTRIAL HYGIENE EVENT INVESTIGATION REPORT(Continued)

Additional Information:

At the time of the initiating event the Affected Personnel were wearing Respiratory Protection Equipment in accordance with Standing Order Number SO-OPS-17-003. Respiratory Protection Equipment was prescribed for the field response actions in accordance with TF-AOP-015 3.2.10.2.

Review of the Data Fusion and Advisor System (DFAS) application, powered by SmartSite™, Weather Details and Chemical Details dashboards around the reported time of the Event indicate the cause of the Personal Ammonia Monitor alarm is unlikely to be from Tank Farm Exhauster emissions based on:

12/28/2022 @ 1230 (16 minutes prior to event)

- Wind Speed: 11.2 mph
- Wind Direction: 243.4° (out of West Southwest)
- Mixing Height: 1100 feet above grade
- Stability Class: E (Slightly Stable conditions)

12/28/2022 @ 1245 (1 minute prior to event)

- Wind Speed: 10.9 mph
- Wind Direction: 240.8° (out of West Southwest)
- Mixing Height: 1100 feet above grade
- Stability Class: E (Slightly Stable conditions)

Meteorological information from the Hanford Weather Station for Station #6 @ 1245:

- Barometric Pressure: 29.042" Hg and rising
- Wind speed and direction: 15.6 mph out of West
- Temperature: 48°F
- Relative Humidity: 44.26%

Memo WRPS-1904672.1, TANK FARM EXHAUST ~ CK CONCENTRATION ALARM/ ACTION LEVELS FOR AMMONIA establishes stack alarm/action set points for Tank Farm Exhausters. The alarm/action set points are based on a linear extrapolation of the Quantitative Risk Assessment (QRA) model prediction; conservatively established at the ammonia stack concentration that could result in various ammonia concentrations at an unspecified ground receptor.

- High Alarm → ammonia concentration of 2.5 ppm at an unspecified ground receptor
- High High Alarm → ammonia concentration of 5 ppm at an unspecified ground receptor

Memo WRPS-1904672.1, TANK FARM EXHAUST ~ CK CONCENTRATION ALARM/ ACTION LEVELS FOR AMMONIA:

Tank Farm	Exhauster	High Alarm	High High Alarm
241-A	POR518/POR519	160 ppm	320 ppm
241-AN	Primary		
241-AP	Primary		
241-AW	Primary	460 ppm	920 ppm
241-AX	POR126/POR127		
241-AY/AZ	702AZ		

NOTE: Additional Information continued on next page.

Washington River Protection Solutions
INDUSTRIAL HYGIENE EVENT INVESTIGATION REPORT(Continued)

Additional Information:

Additional Information (continued):

Vapor Monitoring Detection System (VMDS) 12/21/2022 to 12/28/2022:

Tank Farm	Exhauster	Minimum	Maximum
241-A	POR518/POR519	0.918 ppm	2.618 ppm
241-AN	Primary	-0.851 ppm	32.311 ppm
241-AW	Primary	0 ppm*	0 ppm**
241-AX	POR126/POR127	0 ppm	15.901 ppm
241-AY/AZ	702AZ	0 ppm	9.629 ppm

* VMDS Alternate Real Time Monitoring performed 12/21/2022 to 12/26/2022 & 12/28/2022.

** Shift Office Event Notification (SOEN) 12/27/2022 @ 1506- "Entered TF-AOP-021 Response to Tank Farm Ventilation Upset for unplanned shutdown of AW Farm primary ventilation. All personnel exit AW Farm. Access to AW Farm is restricted. CSM".

** Shift Office Event Notification (SOEN) 12/28/2022 @ 1655- "Exited TF-AOP-021 Response to Tank Farm Ventilation Upset. Normal access to AW Farm is restored. Access to AW Farm requires "Respiratory Protection". CSM".

The 241-AP Primary Exhauster is not currently connected to Vapor Monitoring Detection System (VMDS). Readings are acquired in accordance with TF-OPS-IHT-037 when Stack Monitoring for Ammonia via the Vapor Monitoring Detection System (VMDS) is unavailable. Stack readings are required once per calendar day in accordance with ARP-T-041-00002.

Vapor Monitoring Detection System (VMDS) Alternate Monitoring 12/21/2022 to 12/28/2022:

Tank Farm	Exhauster	Minimum	Maximum
241-AP	Primary	2 ppm	15 ppm
241-AW	Primary	2 ppm	9 ppm
241-AX	POR126/POR127	0 ppm*	1 ppm*

* VMDS Alternate Real Time Monitoring performed 12/21/2022 & 12/26/2022 to 12/28/2022.

Monitoring for Tank Waste Chemical Vapors:

Ammonia is used as a sentinel Tank Waste Chemical Vapor for chemicals of potential concern (COPC). Each Hanford production process had different feedstock chemicals and generated different waste streams. Hanford production processes were also separated temporally, with different processes being performed at different times in the history of Hanford production (1943 - 1986). Some chemicals are common to all processes/waste streams (e.g., nitric acid), while others are specific to particular processes/waste streams. Some in-tank waste treatment processes (e.g., neutralization and de-nitrification) used the same chemical feed stocks (e.g., sodium hydroxide solution) in most, if not all Tank Farms. The chemistry and radiochemistry of these compounds result in waste stream similarities across all tank farms. Because nitric acid was common to nearly all processes that generated tank waste and the most common result of those processes was reduction of nitrate ion to ammonia during the dissolution (oxidation) of irradiated fuel, ammonia is the most common chemical of potential concern (COPC) and is found in all tanks. It is logical to choose ammonia for the sentinel as it is a byproduct of all production processes and found in all tanks. Therefore, when monitoring for Tank Waste Chemical Vapors/chemicals of potential concern (COPC), Direct Reading Instrumentation (DRI) equipped with an ammonia sensor is utilized at a minimum.

Recommendations/Conclusions:

Recommendations:

N/A

NOTE: Recommendation/Conclusion continued on next page.

Washington River Protection Solutions
INDUSTRIAL HYGIENE EVENT INVESTIGATION REPORT(Continued)

Recommendations/Conclusions:

Conclusions:

Review of the Data Fusion and Advisor System (DFAS) application, powered by SmartSite™, Weather Details and Chemical Details dashboards for the reported time of the Event, indicate the cause of the Personal Ammonia Monitor alarm is unlikely to be from Tank Farm Exhauster emissions.

Washington River Protection Solutions (WRPS) Industrial Hygiene Department has established a conservative, reasonable, and data-derived response level (RL) of 6 ppm for Personal Ammonia Monitor concentrations associated with tank waste gases/vapors in the Hanford Tank Farms. The intent of this response level is to enhance the safety of Hanford Tank Farm workers by establishing a conservative and timely indicator of potential changing conditions in Tank Farm gas/vapor conditions, at which prudent and protective investigative measures may be taken.

The Event Initiating Personal Ammonia Monitor (Ventis PRO V 005093) was easily induced to produce false positive results when the sensor was covered and/or bumped. The instrument was conservatively over-responding to non-target chemical stimuli. Direct Reading Instrumentation monitoring performed during response actions did not readily identify a source and indicated further action was not necessary to protect worker safety and health. As a result the area was released from restricted access and work was allowed to continue. The Personal Ammonia Monitor's over response to non-target chemical stimuli combined with the response actions' results indicate the Personal Ammonia Monitor alarm was not representative of changing conditions nor an employee chemical exposure event.

Other:

- Affected Personnel were offered precautionary medical surveillance, and all declined.
- Event Investigation Report #2022-106

Industrial Hygienist:

Print First and Last Name

Signature / Date

Industrial Hygiene Level 2 Manager:

Print First and Last Name

Signature / Date

Digitally signed by _____
