

AOP-015 Event Investigation Reports (Redacted) EIR-2022-059 (07/26/2022)

(Settlement Agreement Deliverable)

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
Office of River Protection under Contract DE-AC27-08RV14800



**P.O. Box 850
Richland, Washington 99352**

AOP-015 Event Investigation Reports (Redacted) EIR-2022-059 (07/26/2022)

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Washington River Protection Solutions

Date Published
August 2022

WRPS

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APPROVED
By Lynn M Ayers at 6:40 am, Aug 11, 2022

Release Approval

Date

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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: Retrieval/Construction Date: 07/26/2022

Area/Building/Location: 200E/241-AX/AX-101 Approximate Time of Event: 1257

AR Number: WRPS-AR-2022-2167 Responsible Manager: [REDACTED]

EIR Number: EIR-2022-059 Event Investigator: [REDACTED]

EVENT SUMMARY PART I

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

Workers were performing scaffolding demobilization in support of the WO# 633221 "AX-101 Install ERSS 003 at Pit AX-01D/Riser 24" work evolution.

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

- 4 American Electric Laborers
- 1 WRPS Industrial Hygiene Technician (IHT)

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

On 07/26/2022, a Retrieval Construction work crew was performing scaffolding demobilization activities along the north side of AX-101 (approximately 10 ft east of the AX-01D Sluice Pit) when a worker's ToxiRAE personal ammonia monitor "Response Level" alarm initiated. The ToxiRAE personal ammonia monitor (# 003005) displayed an ammonia concentration of 6 ppm at the time of the instrument alarm. Four additional workers were in the immediate area of the individual when the ToxiRAE personal ammonia monitor alarmed. None of the other workers' ToxiRAE personal ammonia monitors alarmed or indicated elevated ammonia concentrations. An IHT was supporting the work crew at the time and performed a Direct Reading Instrument (DRI) monitoring sweep of the work area immediately following the instrument alarm. Field response monitoring indicated less than detectable concentrations for ammonia (< 1 ppm) and Volatile Organic Compounds (VOCs) (< 0.01 ppm).

It was also noted that a cool-down area equipped with misters was established at the base of the POR-127 exhauster stairs. The work crew was periodically entering and exiting the cool-down area when individually needed due to the high ambient outdoor temperatures (101°F).

Workers reported they did not smell an odor at the time of the ToxiRAE personal ammonia monitor alarm. In addition, they 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 wearing FF-APR respiratory protection with chemical vapor cartridges as required by Standing Order SO-OPS-17-003 "Use of Respiratory Protection in Tank Farms" and TFC-PLN-173 "Use of FFAPR in Actively Ventilated Tank Farms".

Workers were performing activities within a posted radiological Contamination Area (CA) and were wearing anti-contamination clothing as required by RWP AX-124.

The Data Fusion and Advisory System (DFAS) application, powered by SmartSite™, was utilized for outdoor weather details at the time of the ToxiRAE personal ammonia monitor alarm. The DFAS dashboard indicated the following weather conditions at 1257 on 07/26/2022:

- Wind Speed: 5.8 miles per hour (mph)
- Wind Direction: 108° (out of East/Southeast)
- Mixing Height: 1,100 feet above grade
- Stability Class: D (neutral conditions)

Washington River Protection Solutions
EVENT SUMMARY (Continued)

Project: Retrieval/Construction Date: 07/26/2022

Area/Building/Location: 200E/241-AX/AX-101 Approximate Time of Event: 1257

AR Number: WRPS-AR-2022-2167 Responsible Manager: [REDACTED]

EIR Number: EIR-2022-059 Event Investigator: [REDACTED]

Where Did It Happen (Description of work area and working conditions. Include information on weather conditions, PPE, Postings, etc.):
The DFAS dashboard provides a Exhauster Potential Exposure Zone (PEZ) Model of the exhaust plumes at the reported time of the event based on wind speed, wind direction, mixing height, and stability class. Evaluation of the PEZ Model indicates no exhaust plumes were within the work area location at the reported time of the event, thus determining the cause of the personal ammonia alarm was unlikely to be resultant of Tank Farms exhauster emissions (Refer to Attachment 1).

Impact to Facility (Caused by the event or a description of known consequences):
Access was restricted around AX-101 for approximately 1 hour 40 minutes. Performance of the WO# 633221 work package was delayed. No additional impacts to scheduled 07/26/2022 work evolutions occurred.

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

- CSM initiated TF-AOP-015 and restricted access around AX-101.
- CSM and Industrial Hygienist reviewed the DFAS data and determined mixing height was >100 ft., therefore, no additional access restrictions were required.
- CSM made required TF-AOP-015 notifications.
- CSM offered precautionary medical surveillance to workers. Workers declined medical surveillance.
- CSM requested Odor/Vapor Response Cards from affected workers.
- Production Operations shift Industrial Hygiene Technician (IHT) initiated TF-AOP-015 response actions and monitoring per IHP-09001. Direct reading instrument (DRI) area readings inside AX-Farm indicated a less than detectable (< 1 ppm) ammonia concentration, which is below background levels.
- FWS brought the event initiating ToxiRAE (# 003005) to the shift office. Functionality testing of the initiating ToxiRAE personnel ammonia monitor was performed and did not indicate increased ammonia concentrations or alarms when the instrument inlet was covered. However, the event initiating ToxiRAE (# 003005) did not pass the post-use calibration.
- Event Investigation EIR-2022-059 "TF-AOP-015 Event at AX-Farm" was initiated.

Notifications Already Made (Time and personnel notified):

[1301]- FWS contacted the CSM and informed them a ToxiRAE personal ammonia monitor alarmed at 6 ppm while performing scaffolding demobilization activities near AX-101. The ToxiRAE personal ammonia monitors of 4 other individuals within the immediate work area did not alarm. The CSM instructed the FWS to direct the workers to leave the work area. Workers exited AX Farm through the 217-AX Change Tent.

[1305]- CSM initiated TF-AOP-015, restricted access, provided radio announcement, and issued SOEN "Entered TF-AOP-015 Response for Personal Ammonia Monitor Alarm between 6ppm and 12ppm near AX-101. Avoid area around AX-101." CSM contacted the on-call DOE Facility Representative and informed them of TF-AOP-015 event initiation.

[1342]- CSM provided TF-AOP-015, Attachment 1- Initial Communication Template to email to distribution list "DL - WRPS Odor/Vapor Event Notification".

[1418]- CSM notified IHT TF-AOP-015 response monitoring indicates all area readings were at or below background levels.

[1444]- CSM issued SOEN "Exited TF-AOP-015 Response for Personal Ammonia Monitor Alarm near AX-101. Normal access restored." CSM contacted the on-call DOE Facility Representative and informed them TF-AOP-015 response was exited.

[1514]- CSM provided TF-AOP-015, Attachment 2- Follow-up Event Summary to email to distribution list "DL - WRPS Odor/Vapor Event Notification". CSM provided radio announcement and contacted the on-call DOE Facility Representative.

- 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.

Washington River Protection Solutions
EVENT SUMMARY (Continued)

Project: Retrieval/Construction Date: 07/26/2022

Area/Building/Location: 200E/241-AX/AX-101 Approximate Time of Event: 1257

AR Number: WRPS-AR-2022-2167 Responsible Manager: [REDACTED]

EIR Number: EIR-2022-059 Event Investigator: [REDACTED]

Responsible Manager:

[REDACTED] [REDACTED] Digitally signed by [REDACTED]
[REDACTED] Date: 2022.07.27 12:20:49 -0700
Print First and Last Name *Signature / Date*

CAS Manager:

[REDACTED] [REDACTED] 7/27/22
Print First and Last Name *Signature / Date*

EIR-2022-059 Attachment 1

702-AZ Exhauster

DFAS Exhauster Potential Exposure Zone Model

Actual Conditions on 07/26/2022 @1257:

- Wind Speed: 5.8 mph
- Wind Direction: 108°
- Mixing Height: 1,100 feet
- Stability Class: D (neutral)

POR-127 Exhauster

+ Approximate Location of ToxiRAE Alarm

POR-126 Exhauster

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.

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Area/Building/Location: 200E/241-AX/AX-101 Approximate Time of Event: 1257

AR Number: WRPS-AR-2022-2167 Responsible Manager: [REDACTED]

EIR Number: EIR-2022-059 Event Investigator: [REDACTED]

EVENT SUMMARY PART II

Key Elements of the Investigation (Key investigation points):

CORRECTION TO THE EVENT SUMMARY PART I EVENT INVESTIGATION SECTION:
This event does not merit an Event Investigation meeting.

To summarize the conclusions of IHIR-00044 "TF-AOP-015 Event at AX Farm", the ToxiRAE personnel ammonia monitor alarm was resultant of an instrument malfunction and was not indicative of an employee chemical exposure event or changing Tank Farm conditions related to Tank Farm vapors.

The following considerations support the IHIR-00044 conclusion:

(1) The event initiating ToxiRAE (# 003005) did not pass post-use calibration testing, demonstrating there was an instrument malfunction. Event investigation noted the associated ammonia sensor of the event initiating ToxiRAE (# 003005) personnel ammonia monitor had been in service for 1198 days (put into service on 04/15/2019). Instrument/sensor malfunction after ~39 months of service life would not be considered abnormal or unexpected.

(2) Four additional workers were in the immediate area of the individual when the ToxiRAE personal ammonia monitor alarmed. None of the other workers' ToxiRAE personal ammonia monitors alarmed or indicated elevated ammonia concentrations.

(3) Evaluation of the weather details determined the cause of the odor source was unlikely to be resultant of Tank Farms exhauster emissions based on the wind direction, wind speed, mixing height, and stability class at the reported time of event (Refer to Attachment 1 for DFAS PEZ Model).

(4) Memo WRPS-1904672.1, "TANK FARM EXHAUST STACK CONCENTRATION ALARM/ACTION LEVELS FOR AMMONIA" establishes ammonia concentration stack alarm/action set points for tank farm exhausters based on the predicated ammonia concentration at unspecified ground receptors utilizing the Quantitative Risk Assessment (QRA) model. The exhauster high level alarm was established at concentrations where the predicted ground receptor ammonia concentration of 2.5 ppm (or 10% of the established Occupational Exposure Limit for ammonia) could be observed. The exhauster high level alarm conservatively established for A Complex (excluding A farm) is 460 ppm. According to the POR-126 exhauster Vapor Monitoring and Detection System (VMDS), the ammonia concentration observed at the time of event occurrence was 0.351 ppm, whereas, the POR-127 VMDS indicated an ammonia concentration of 0.133 ppm. Conservatively utilizing the higher ammonia concentration observed in the POR-126 exhauster, a predicted ground receptor ammonia concentration of 0.0019 ppm would be expected if tank farm exhauster emissions were present. Providing indication the cause of the personal ammonia alarm was unlikely to be resultant of Tank Farms exhauster emissions.

(5) Ammonia is used as a sentinel tank waste chemical vapor for chemicals of potential concern (COPC), therefore, direct reading instruments (DRIs) equipped with an ammonia sensor are utilized at a minimum when monitoring for tank waste chemical vapors/COPCs. In addition, a 2 ppm volatile organic compound (VOC) action limit was developed as a further indicator for tank waste chemical vapors/COPCs. An IHT supporting the work crew at the time of the event occurrence performed a Direct Reading Instrument (DRI) monitoring sweep of the AX-101, 01D sluice pit and surrounding work area immediately following the ToxiRAE instrument alarm. Field response monitoring indicated less than detectable concentrations for ammonia (< 1 ppm) and Volatile Organic Compounds (VOCs) (< 0.01 ppm). Providing additional indication the cause of the personal ammonia alarm was unlikely to be resultant of Tank Farms exhauster emissions.

Washington River Protection Solutions
EVENT SUMMARY (Continued)

Project: Retrieval/Construction Date: 07/26/2022

Area/Building/Location: 200E/241-AX/AX-101 Approximate Time of Event: 1257

AR Number: WRPS-AR-2022-2167 Responsible Manager: [REDACTED]

EIR Number: EIR-2022-059 Event Investigator: [REDACTED]

Key Elements of the Investigation (Key investigation points):

(6) Field response DRI monitoring, following initiation of TF-AOP-015, indicated area readings of less than detectable concentrations for ammonia (< 1 ppm) and Volatile Organic Compounds (VOCs) (< 0.01 ppm). Providing further indication the cause of the odor source was unlikely to be resultant of Tank Farms exhauster emissions.

(7) It was verified AX farm maintained negative tank pressures at the time of event occurrence, with the POR-126 exhauster indicating -0.555 inches water column and POR-127 exhauster indicating -0.552 inches water column. Additionally, there were no intrusive work activities being performed within the AX Tank Farm systems at the time of the event occurrence. Providing further indication the cause of the personal ammonia alarm was unlikely to be resultant of Tank Farm vapor emissions.

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

None.

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-OPER-C-14, "Event Investigation Process". The facts, findings, and comprehensive account captured under this Event Summary and the Industrial Hygiene Event Investigation Report, IHIR-00044 "TF-AOP-015 Event at AX Farm", form the basis that further investigation will provide no additional information or operational benefit. Further actions will be managed under WRPS-AR-2022-2167 in the iCAS system.

Responsible Manager:

[REDACTED]

Print First and Last Name

[REDACTED] Digitally signed by [REDACTED]
Date: 2022.08.03 04:54:01 -07'00'

Signature / Date

CAS Manager:

[REDACTED]

Print First and Last Name

[REDACTED] Digitally signed by [REDACTED]
Date: 2022.08.02 16:40:11 -07'00'

Signature / Date

EIR-2022-059 Attachment 1

702-AZ Exhauster

DFAS Exhauster Potential Exposure Zone Model

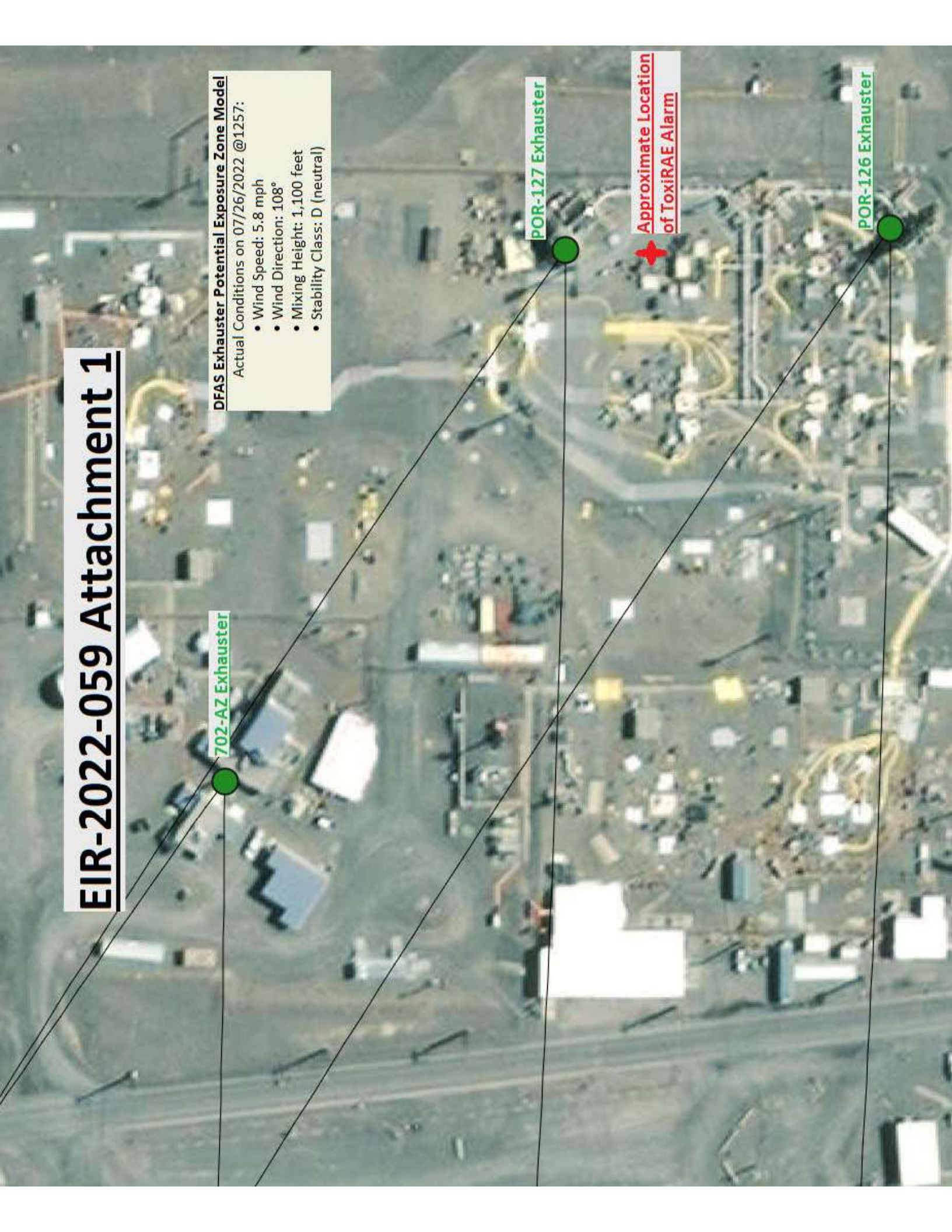
Actual Conditions on 07/26/2022 @1257:

- Wind Speed: 5.8 mph
- Wind Direction: 108°
- Mixing Height: 1,100 feet
- Stability Class: D (neutral)

POR-127 Exhauster

**Approximate Location
of ToxiRAE Alarm**

POR-126 Exhauster



Washington River Protection Solutions
INDUSTRIAL HYGIENE EVENT INVESTIGATION REPORT

Event Title: <p style="text-align: center;">TF-AOP-015 Event at AX Farm</p>		PER Number: <p style="text-align: center;">N/A</p>
		IHIR Number: <p style="text-align: center;">IHIR-00044</p>
Date:	Time:	Location:
07/26/2022	1257	241-AX Farm AX-101 D Pit

Event Summary and Timeline:

Event Summary:

A ToxiRAE personal ammonia monitor (PAM) alarmed at 6 parts per million (ppm) inside 241-AX-Farm. At the time of the event, five workers were present in the work area performing modifying scaffolding at AX-101, 01D pit. The pit had a cover plate in place. One worker's PAM alarmed while modifying scaffolding. An IHT performing heat stress monitoring of the work crew in the field responded to the PAM alarm by retrieving a MultiRAE Direct Reading Instrument (DRI) quickly and the Field Work Supervisor (FWS) notified Central Shift Manager (CSM). The IHT performed monitoring for potential sources of ammonia and/or tank vapors at AX-101, 01D pit and the surrounding area. There were no known sources or elevated readings identified. The CSM directed the work crew to exit the farm and entered AOP-015.

Field Response Timeline:

1257 Approximate Time of Event - PAM alarm.
1303 CSM calls Production Operations (P/O) Industrial Hygienist (IH).
1304 P/O IH arrives at Central Shift Office (CSO).
1307 P/O IH reviews Data Fusion Advisory System (DFAS), powered Smart Site™, for current weather details:

- Wind Speed: 5.6 miles per hour (mph)
- Wind Direction: East
- Mixing Height: 1400 feet above grade
- Stability Class: D (neutral)

1308 SOEN: "Entered TF-AOP-015 Response to Personal Ammonia Monitor Alarm between 6ppm and 12ppm near AX-101. Avoid area around AX-101. CSM"
1310 Additional P/O IHs arrive at CSO for support.
1313 P/O Industrial Hygiene Technician (IHT) Supervisor contacts Shift IHT support.
1315 P/O IH request weather information from Hanford Meteorological Information Station (HMIS) via email.
1322 CSM call with Performance Assurance (P/A).
1323 P/O IH reviews AX Farm Vapor Monitoring Detection System (VMDS), for ammonia readings at the time the PAM alarmed.

- POR126: 0.351 ppm
- POR127: 0.133 ppm

1324 CSM notifies DOE Facility Representative of AOP-15 via phone.
1329 P/A calls P/O IH and request update.
1330 CSM request Odor Response Cards (ORCs) and the PAM that alarmed on the phone.
1333 Shift IHTs arrives at CSO.
1334 Retrieval Closure (R/C) IH arrives at CSO.
1336 R/C IH and P/O IH briefs Shift IHTs on field response.

- Monitor per IHP-09001 "Response to Ammonia Monitor Alarm"
- Respiratory Protection Form "TF-AOP-015" Task 4 (Voluntary Use)
- If not voluntarily used, then "MDRPF-PLN-173" Task 1

1345 FWS arrives at CSO with the PAM that alarmed and an additional PAM.

- Confirmed PAM (ToxiRAE 003005) that alarmed had a peak reading at 6 parts-per-million (ppm)
- Odor/Vapor Response Cards reporting no odors or symptoms, and that the worker whose PAM alarmed and additional workers in the immediate area all declined medical.
- Additional PAM (ToxiRAE 002886) had a peak reading at 4 ppm on the display screen. However, review of data-log reported 1 ppm ammonia at the time of the PAM alarm and the peak reading of 4 ppm ammonia reported at 0935.

1346 P/O IHT Supervisor departs CSO to download data-log from PAMs.

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

Event Summary and Timeline:

1350 Responding R/C IH and Shift IHTs leave CSO to perform response.
1410 R/C IH and Shift IHTs enter AX Farm.
1411 P/A request Event Investigation Report (EIR) number.
 • EIR-2022-059
1418 R/C IH notifies P/O IH that ammonia readings were less than detectable (less than 1 ppm).
1420 R/C IH and Shift IHTs exit AX Farm.
1445 Shift IHTs notify P/O IH that Direct Reading Instrumentation (DRI) passed Post-Use-Function-Test.
1448 SOEN: "Exited TF-AOP-015 Response for Personal Ammonia Monitor Alarm near AX-101. Normal access is restored. CSM".

Sampling/Monitoring Results:

Field Response Area Readings:

- Ammonia: Less than detectable (less than 1 ppm)
- Volatile Organic Compounds (VOCs): Less than detectable (less than 1 parts per billion (ppb))

During the response, one IH accompanied two IHTs into AX Farm to perform DRI monitoring with the MultiRAE. Monitoring was performed for potential sources of ammonia and/or tank vapors at AX-101, 01D pit and the surrounding area. DRI monitoring and observations made by the IH and IHTs demonstrated conditions which caused the alarm were no longer present.

ToxiRAE 003005 (Event Initiation ToxiRAE):

- Ammonia: Peak reading of 6 ppm on instrument display
- Ammonia: Peak reading of 6 ppm on data-log at 1257.

Data points on the ToxiRAE are saved at one-minute increments. Review of the ToxiRAE data-log indicated that ammonia levels gradually increased leading up to the PAM alarm. According to the data-log, ammonia was not detected on the PAM until 1252, with a recorded reading of 1 ppm for approximately 2 minutes. At 1254, ammonia was detected at 3 ppm. At 1255, ammonia was detected at 4 ppm. At 1256, ammonia was detected at 5 ppm. At 1257, the ToxiRAE alarmed at the response level of 6 ppm for two minutes. At 1259, ammonia dropped below the response limit with a recorded reading of 5 ppm. The PAM was not operating correctly as indicated by the failed post bump test.

SWIHD References:

Field Response Site Wide Industrial Hygiene Database Direct Reading Instrumentation Survey:
 • #22-04747, "TF-AOP-015 Field Response Actions 241-AX-101"

Additional Information:

At the time of the initiating event, the worker whose PAM alarmed was wearing respiratory protection equipment in accordance with the Management Directed Respiratory Protection Form, "MDRPF-PLN-173" Task 1: Full Face Air Purifying Respirator (FF-APR) with Gas/Vapor cartridges (MSA GME Chemical Vapor).

Exhauster stacks in AX Farm have enhanced monitoring, Vapor Monitoring and Detection System (VMDS) that can be used to detect elevated readings and provide further warnings of unexpected conditions. The AX-Farm exhausters POR126 and POR127 were operational at the time of the event. At 1257, VMDS at POR126 and POR127 had peak readings less than 1 ppm ammonia. Additionally, negative tank pressure was maintained at AX-101 and was -0.555 inches water column (in WC) (POR126) and -0.552 in WC (POR127).

Exhauster stack occupational exposure level (OEL) concentrations to reach ground level were calculated from Computation Fluid Dynamics (CFD) modeling and is reported in 62043-000-SUB-033-001-02, "Quantitative Risk Analysis (QRA) Coverage Mapping, 241-AX Tank Farm". Table 3.3.2, "Theoretical Minimum Exhauster Stack Concentrations of COPCs Required for PAC-1 Concentrations at Ground Level" states that to reach an action level at ground level in AX Farm the exhauster stack concentration for ammonia would need to be 2,300 ppm. If such conditions do occur, they are rare and/or of short duration and will vary with different meteorological conditions.

Additionally, a more conservative approach was established for High Alarm and High High Alarm set points for the exhausters per the Interoffice Memorandum WRPS-1904672.1. To reach predicted ground receptor ammonia concentrations of 2.5 ppm and 5 ppm, the following set alarms at the exhaust stacks would need to be 460 ppm (High Alarm) and 920 ppm (High High Alarm), respectively.

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

Additional Information:

Furthermore, the review of VMDS data concludes that there was very low potential for ground level exposure from AX-Farm exhausters.

Recommendations/Conclusions:

It appears that the PAM (ToxiRAE 003005) that alarmed was a result from instrument malfunction because it was not operating correctly or within specifications as indicated by the failed bump test after the initiating event. A thorough review was performed of the event and of environmental conditions related to worker location, wind direction, available monitoring data, and the event initiation PAM data-log. It is unlikely that the PAM alarm was caused by Tank Farm vapors.

Additionally, there were no intrusive work activities being performed within AX Tank Farm systems at the time of the event and all other PAMs in the surrounding area were below the Low-Level Alarm of 6 ppm. At the time of the event, an IHT present in the field was performing heat stress monitoring and was able to retrieve a MultiRAE quickly to perform DRI monitoring for potential sources of ammonia and/or tank vapors at AX-101, 01D Pit and the surrounding area. All DRI readings were less than detectable limits. After entering AOP-015 and the crew exited the farm, DRI monitoring was performed by the responding IH and two IHTs. DRI monitoring and observations made by the IH and IHT during the event response demonstrated conditions which caused the alarm were no longer present, allowing the exit of AOP-015.

It is recommended that the Event Investigator and the Industrial Hygienist review the results from the investigation report with the work crew.

Other:

N/A

Industrial Hygienist:

 _____  _____
Print First and Last Name *Signature / Date*

Industrial Hygiene Level 2 Manager:

 _____  _____
Print First and Last Name *Signature / Date*

ODORVAPOR RESPONSE CARD - 241 AX FARM

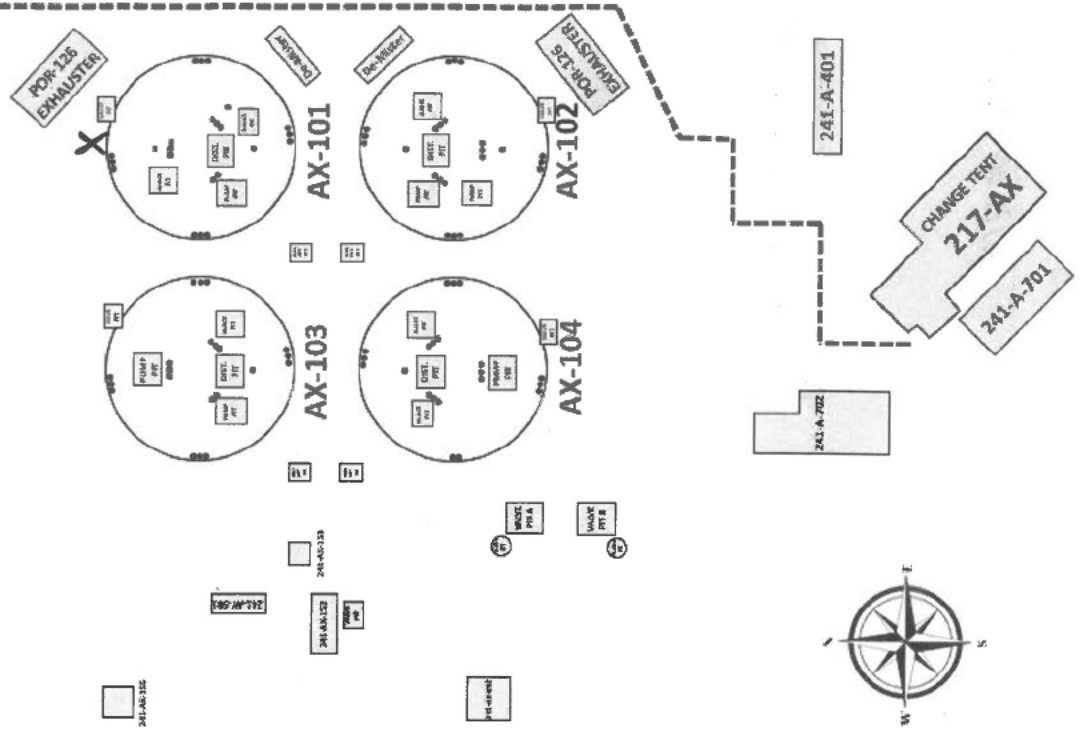
Instructions:

1. Notify Immediate Supervisor.
2. Contact Central Shift Manager (CSM), at [REDACTED]
3. Complete both pages of this form and include as many details as possible, including:
 - a. Approximate location, see map at right;
 - b. Wind direction, speed and description, such as stable or gusty wind;
 - c. Environmental conditions, such as hot, cold, windy, rainy;
 - d. Other work or contractors in the area;
 - e. Anything else you think is relevant.

4. Provide the completed card to your Supervisor*, Industrial Hygiene*, Union Safety Representative* or the CSM.

* If received by Supervisor, IH, or Union Safety Representative, the Supervisor/IH/ Union-SR will ensure card it is provided to the CSM.

AX FARM



ODOR/VAPOR RESPONSE CARD - 241 AX FARM

1. Complete below information and map (Page 1).

- Date and time of event: 7.26.22
- Check Applicable:
 - Odor
 - Ammonia Alarm (6 ppm)
 - Ammonia Alarm (12 ppm)
 - Alarm (other - describe): No Alarm yet ppm

Your name and the work you were performing:

[Redacted] Scaffolding

Other Work Underway? Describe:

Disable Scaffold

Location of event (mark area on map and wind direction):

Ten feet East of D-pit

Name(s) of others in or near the affected area:

[Redacted]

Was Industrial Hygiene present, who?

[Redacted]

Describe the odor:

- Sweet
- Sour
- Smoky
- Musty
- Rotten
- Metallic
- Onion
- Earthy
- Citrus
- Solvent
- Other (describe): None

Is source known/likely? Describe:

None

Your symptoms? None

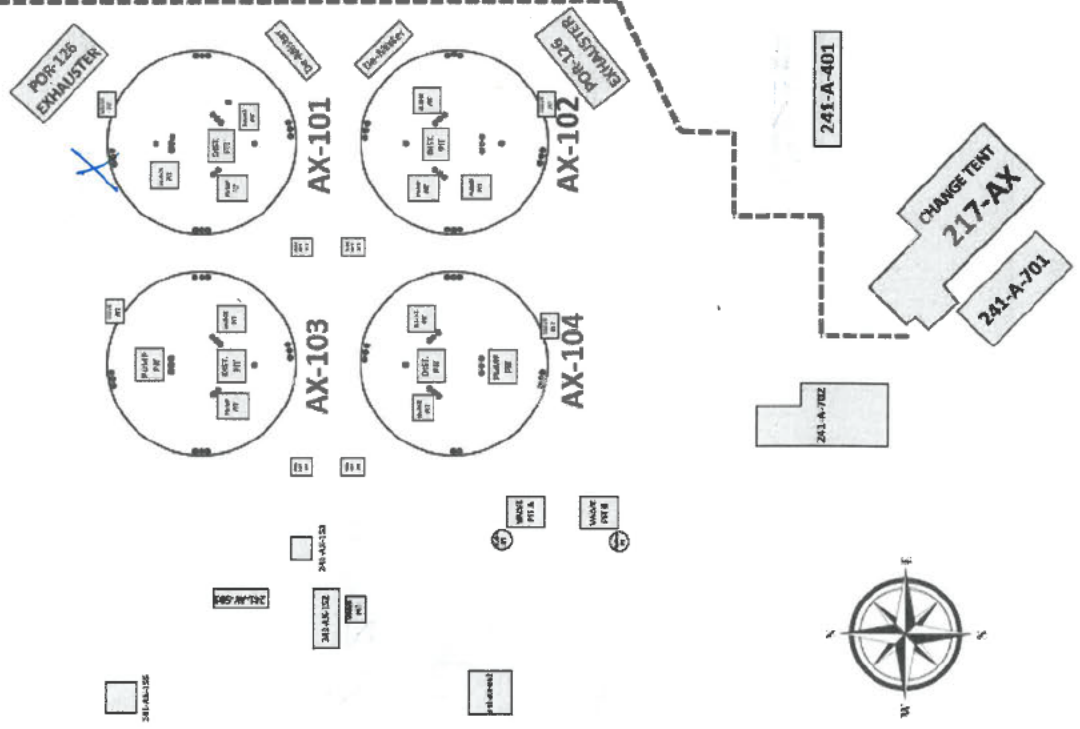
- Headache
- Dizziness
- Nausea
- Cough
- Fatigue
- Weakness
- Sore Throat
- Difficulty Breathing
- Eye Irritation
- Rash
- Itch
- Tingling
- Numbness
- Taste
- Other (describe):

2. Provide this completed card (Page 1 & 2) to Supervisor, Industrial Hygiene, your Union Safety Representative or the CSM.

If received by Supervisor/IH/U-SR, Supervisor/IH/U-SR will ensure card is provided to the CSM.

ODOR/VAPOR RESPONSE CARD - 241 AX FARM

AX FARM



Instructions:

1. Notify Immediate Supervisor.
2. Contact Central Shift Manager (CSM), at [REDACTED]
3. Complete both pages of this form and include as many details as possible, including:
 - a. Approximate location, see map at right;
 - b. Wind direction, speed and description, such as stable or gusty wind;
 - c. Environmental conditions, such as hot, cold, windy, rainy;
 - d. Other work or contractors in the area;
 - e. Anything else you think is relevant.
4. Provide the completed card to your Supervisor*, Industrial Hygiene*, Union Safety Representative* or the CSM.

* If received by Supervisor, IH, or Union Safety Representative, the Supervisor/IH/ Union-SR will ensure card it is provided to the CSM.

ODOR/VAPOR RESPONSE CARD - 241 AX FARM

1. Complete below information and map (Page 1).

- Date and time of event: 7/26 12:45
- Check Applicable:
 - Odor
 - Ammonia Alarm (6 ppm)
 - Ammonia Alarm (12 ppm)
 - Alarm (other - describe):
- Your name and the work you were performing: [Redacted]
- Other Work Underway? Describe: Disassemble Scaffolding
- Location of event (mark area on map and wind direction): AX-101

Name(s) of others in or near the affected area:

Was Industrial Hygiene present, who?

Describe the odor:

- Sweet
- Sour
- Musty
- Rotten
- Metallic
- Onion
- Citrus
- Solvent
- Other (describe): none
- Septic/Sewer
- Ammonia

Is source known/likely? Describe: No

Your symptoms? None

- Headache
- Dizziness
- Nausea
- Cough
- Fatigue
- Weakness
- Sore Throat
- Difficulty Breathing
- Eye Irritation
- Rash
- Itch
- Tingling
- Numbness
- Taste
- Other (describe):

2. Provide this completed card (Page 1 & 2) to Supervisor, Industrial Hygiene, your Union Safety Representative or the CSM. If received by Supervisor/IH/U-SR, Supervisor/IH/U-SR will ensure card is provided to the CSM.

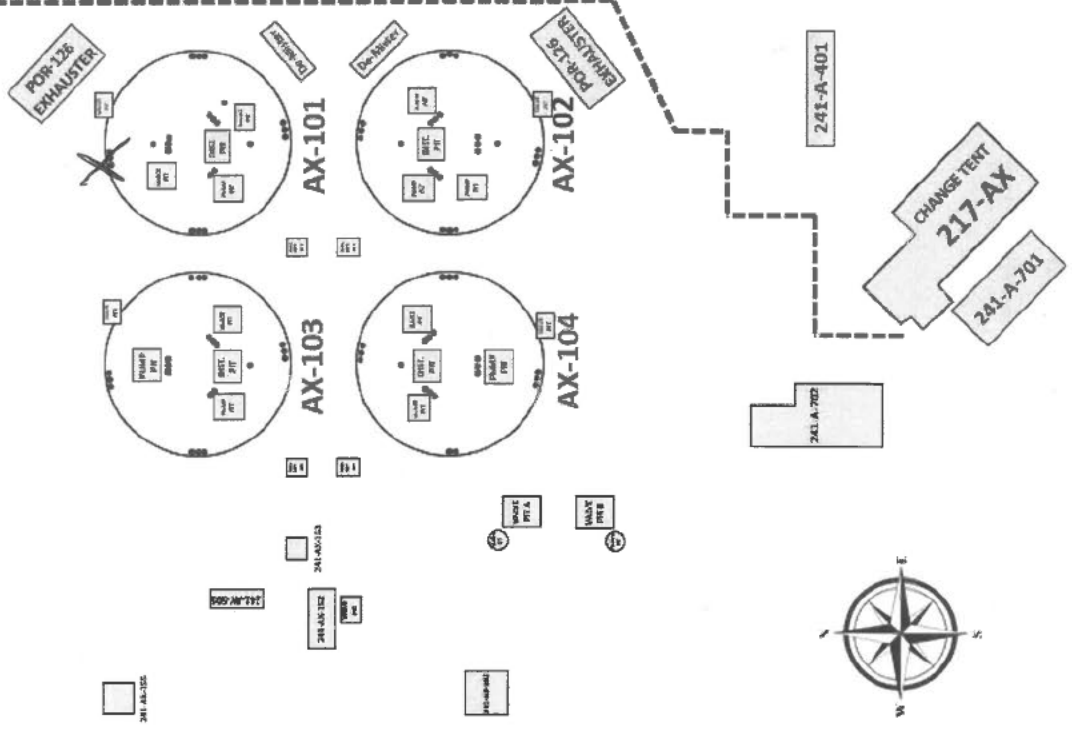
ODOR/VAPOR RESPONSE CARD - 241 AX FARM

Instructions:

1. Notify Immediate Supervisor.
2. Contact Central Shift Manager (CSM),
at [REDACTED]
3. Complete both pages of this form and include as many details as possible, including:
 - a. Approximate location, see map at right;
 - b. Wind direction, speed and description, such as stable or gusty wind;
 - c. Environmental conditions, such as hot, cold, windy, rainy;
 - d. Other work or contractors in the area;
 - e. Anything else you think is relevant.
4. Provide the completed card to your Supervisor*, Industrial Hygiene*, Union Safety Representative* or the CSM.

* If received by Supervisor, IH, or Union Safety Representative, the Supervisor/IH/ Union-SR will ensure card it is provided to the CSM.

AX FARM



ODOR/VAPOR RESPONSE CARD - 241 AX FARM

1. Complete below information and map (Page 1).

Date and time of event: 7.26.22 12:45

Check Applicable:

Odor Ammonia Alarm (6 ppm) Ammonia Alarm (12 ppm) Alarm (other - describe):

no alarm 1 ppm reading

Your name and the work you were performing:

[redacted] (Scaffolding)

1 ppm reading

Other Work Underway? Describe:

none

Location of event (mark area on map and wind direction):

10 ft. East of D pit

Name(s) of others in or near the affected area:

[redacted]

Was Industrial Hygiene present, who?

[redacted]

Describe the odor:

- Sweet Sour Smoky Septic/Sewer Musty Rotten
- Metallic Onion Earthy Ammonia Citrus Solvent

Other (describe): no smell - in mask

Is source known/likely? Describe:

no

Your symptoms? None

- Headache Dizziness Nausea Cough Fatigue
- Weakness Sore Throat Difficulty Breathing Eye Irritation Rash
- Itch Tingling Numbness Taste
- Other (describe):

2. Provide this completed card (Page 1 & 2) to Supervisor, Industrial Hygiene, your Union Safety Representative or the CSM.

If received by Supervisor/IH/U-SR, Supervisor/IH/U-SR will ensure card is provided to the CSM.

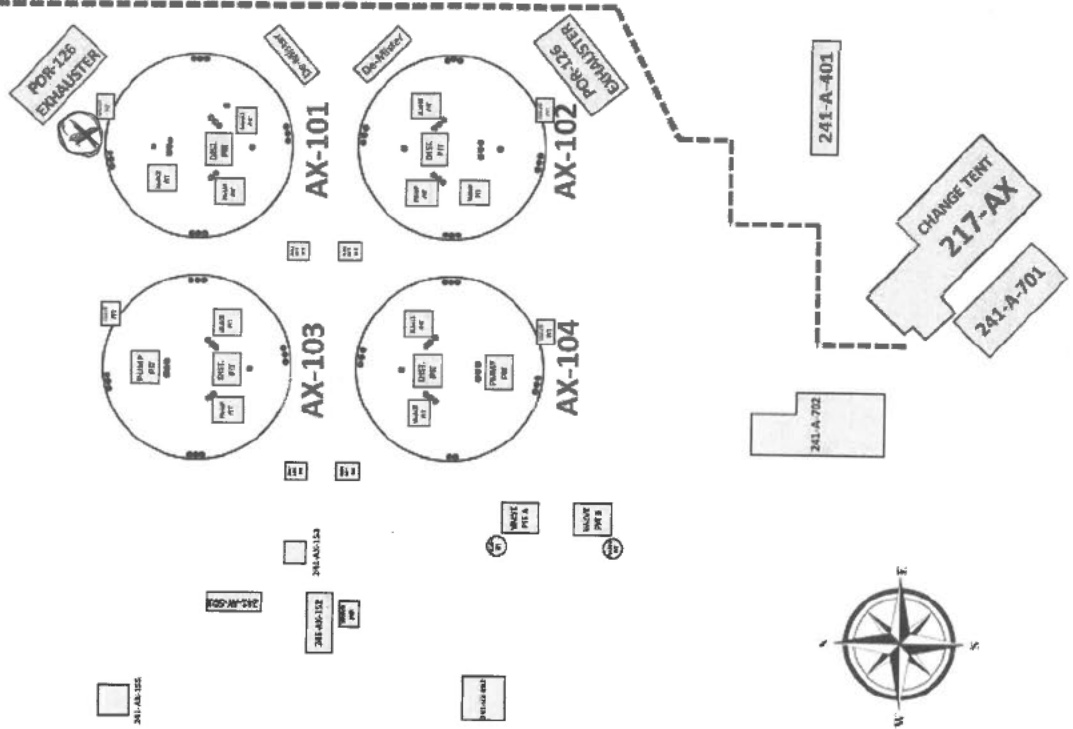
ODOR/VAPOR RESPONSE CARD - 241 AX FARM

Instructions:

1. Notify Immediate Supervisor.
2. Contact Central Shift Manager (CSM),
at [REDACTED]
3. Complete both pages of this form and include as many details as possible, including:
 - a. Approximate location, see map at right;
 - b. Wind direction, speed and description, such as stable or gusty wind;
 - c. Environmental conditions, such as hot, cold, windy, rainy;
 - d. Other work or contractors in the area;
 - e. Anything else you think is relevant.
4. Provide the completed card to your Supervisor*, Industrial Hygiene*, Union Safety Representative* or the CSM.

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AX FARM



ODOR/VAPOR RESPONSE CARD - 241 AX FARM



1. Complete below information and map (Page 1).

- Date and time of event: 7-26-22, 12:59 pm
- Check Applicable:
 - Odor
 - Ammonia Alarm (6 ppm)
 - Ammonia Alarm (12 ppm)
 - Alarm (other - describe):

Your name and the work you were performing:

[Redacted] Scaffold Tear down

Other Work Underway? Describe:

Tearing down scaffolding on (AX) farm

Location of event (mark area on map and wind direction):

100ft East of D pit in (AX) farm

Name(s) of others in or near the affected area:

[Redacted]

Was Industrial Hygiene present, who?

[Redacted]

Describe the odor:

- Sweet
- Sour
- Musty
- Rotten
- Metallic
- Onion
- Citrus
- Solvent
- Other (describe): None
- Septic/Sewer
- Ammonia

Is source known/likely? Describe:

None

Your symptoms? None

- Headache
- Weakness
- Itch
- Other (describe):
- Dizziness
- Sore Throat
- Tingling
- Nausea
- Difficulty Breathing
- Numbness
- Cough
- Eye Irritation
- Taste
- Fatigue
- Rash

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