Hanford Tank Waste Operations & Closure

EVENT SUMMARY

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:*

1. Project: West Area/DFLAW Construction **2. Report Date:** 10/07/2025

3. Investigation Title: C-67 Stronger than normal odor at MO-217G

4. Investigation Report Number: EIR-2025-068

5. Responsible Manager: [redacted]

6. Event Investigator: [redacted]

7. Area / Building / Location: 200 West Area/MO-217G Change Trailer

8. Date and Approximate Time of Event: Date: 08/25/2025 **Time *(military)*:** 1335 hours

9. Associated Action Request (AR) Number: ITDC-AR-2025-2699

10. Associated Occurrence Report Number *(if applicable)*: N/A

11. Event Investigation Meeting Held: Yes [ ] or No [x] **Date:** N/A **Time *(military)*:** N/A

12. Activity in Progress: *(What activity was under way, include procedures and work order numbers, as applicable)*
Two workers were performing laundry duties at MO-217G change trailer in between Basins 43 and 44 at the Liquid Effluent Retention Facility (LERF) when they encountered a stronger-than-normal odors [level 4 work activity].

13. Personnel Involved: *(Job positions, number of personnel, identify any support organizations or subcontractors)*

- H2C Radiological Control Technician (RCT) – 1
- H2C Nuclear Chemical Operator (NCO) - 1

14. What Happened: *(Provide a short discussion of what happened)*
On 08/25/2025, at approximately 1335 hours, 1 NCO and 1 RCT reported smelling stronger than normal "glue," "solvent," "paint thinner," and "a strong smell," odors when arriving to the MO-217G change trailer to perform laundry duties.

At 1430 hours, the Central Shift Manager (CSM) initiated response per TF-OPS-OPER-C-67, *Response to Stronger than Normal Odors*, for odors at the MO-217G change trailer. Access was restricted for the MO-217G change trailer. The two workers reported symptoms of "tingling throat" and "taste in mouth". Both workers were taken to the Inomedic Health Applications clinic for precautionary medical evaluation. The workers were released without restriction from the Site medical provider.

During the field response IHTs identified a garbage can inside the change trailer with adhesive-contaminated material as a potential source of the odor. At approximately 1609 hours, responding IHTs completed their DRI monitoring in the affected and adjacent areas per Industrial Hygiene Sample Plan (IHSP), IHSP-POE-MULTI-TFCOPSOPERC67, *Industrial Hygiene Odor Evaluation*.

At the time of the event work activities associated with repair of the LERF basins 42, 43, and/or 44 cover(s) were being performed in accordance with WO#1244379 *Repair LERF Basin Covers*. The response team's action levels were based on the Safety Data Sheets (SDSs) for the glue used in the repair of the LERF basins. The results of the DRI monitoring indicate that all readings were below action levels. The response team identified an adhesive-contaminated boot and empty glue cans. The response team worked with the ETF Operations to remove garbage.

On 08/26/2025 at 0944 hours response actions for IHSP-POE-MULTI-TFCOPSOPERC67 and TFC-OPSOPER-C-67, *Response to Stronger than Normal Odors* were completed. Access was restored to the MO-217G Change Trailer.

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

- The odor event occurred in the MO-217G Change Trailer in between Basins 43 and 44 at the LERF in the 200 West Area of the Hanford site.
- At the time odors were reported the workers inside the MO-217G change trailer and were wearing standard street clothes and in a work location that was posted as a radiological buffer area. The personnel were not in an area requiring the use of respiratory protection or personal ammonia monitor (e.g., Ventispro or ToxiRAE).
- The Hanford Site Meteorological Station #19 in the 200 West Area and Data Fusion and Advisory System (DFAS) application, powered by SmartSite, were utilized for outdoor weather details at the time odors were reported. The Hanford Site Meteorological Station #19 and DFAS dashboard indicated the following weather conditions at 1335 hours on 08/25/2025:
  - Temperature: 100°F
  - Relative Humidity: 15%
  - Wind Speed: 4 mph
  - Wind Direction: from the east
  - Barometric Pressure: 29.21 inches of mercury and falling

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

There was no impact to the facility.

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

- The CSM restricted access to the MO-217G change trailer.
- The CSM initiated TFC-OPS-OPER-C-67, *Response to Stronger than Normal Odors,*
- *response actions*.
- Industrial Hygiene Technicians (IHTs) took readings inside and outside of MO-217G change tent per IHSP-POE-MULTI-TFCOPSOPERC67.
- The workers were offered precautionary medical evaluation.
- The DOE Facility Representative was notified of the event.
- The CSM made required TFC-OPS-OPER-C-67 notifications.
- The CSM initiated Event Investigation EIR-2025-068, C-67 Stronger than normal odor at MO-217G.

18. Compensatory Actions Taken:

None.

19. Remedial Actions Taken:

None.

20. Key Elements of the Investigation: *(Key investigation points)*

Per TFC-PLN-120, Industrial Hygiene Investigative Response Plan, Industrial Hygiene (IH) documented the event investigation within Industrial Hygiene Event Investigation Report (IHIR) number IHIR-00121, TFC-OPS-OPER-C-67 Response at MO217G (Between Liquid Effluent Retention Facility Basin 43 and 44). DRI monitoring performed during odor investigation and TFC-OPSOPER-C-67 response actions did not indicate further actions were necessary in regard to worker safety and health occupational exposure limits. The following considerations support the IHIR-00121 conclusion.

Direct Reading Instrument Monitoring Results

- IHTs performed DRI monitoring inside and outside of the MO-217G change trailer per IHSP-POE-MULTI-TFCOPSOPERC67. IHTs used a DRI equipped with a Volatile Organic Compounds (VOCs) 10.6 electron-volts(eV) photoionization detector (PID) and VOCs 11.7eV PID. All readings were less than detectable. The instrumentation used for monitoring passed the post-use function check.

Location	VOCs (10.6 eV PID)	VOCs (11.7 eV PID)
Exterior perimeter of MO217G Change Trailer	< 0.010 ppm	< 0.1 ppm
Initial entry into MO217G Change Trailer	4.1 ppm	5.4 ppm
Opening of trash receptacle in MO217G Change Trailer	25.6 ppm	30.2 ppm
Exterior of MO217G Change Trailer after exit	< 0.010 ppm	< 0.1ppm

NOTE: Continuous DRI monitoring was performed for the duration of the field response actions. Results provided are associated with identifiable locations for reference purposes.

Field Response Map:

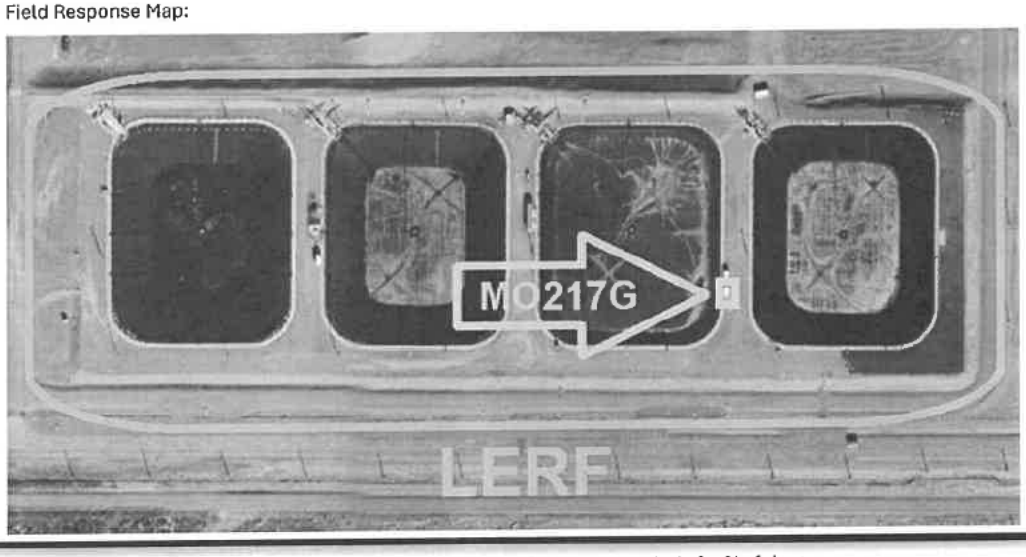


Figure 1- DRI readings acquired during initial field response.

A Review for Tank Waste Chemical Vapors

- The odor description is inconsistent with Tank Waste Chemical Vapors. A review of DFAS, Vapor Monitoring Detection System (VMDS), and Odor/Vapor Response Cards (O/VRC)s provided adequate indication that Tank Waste Chemical Vapors was unlikely to be the cause of reported odors, therefore monitoring for Tank Waste Chemical Vapors was not performed.

- Review of DFAS application dashboard for the approximate time of the odor was encountered:
  - Wind Speed: 3.0 mph (15-minute average)
  - Wind Direction: 42° (out of Northeast)
  - Mixing Height: 1100 feet above grade
  - Stability Class: D (neutral conditions)

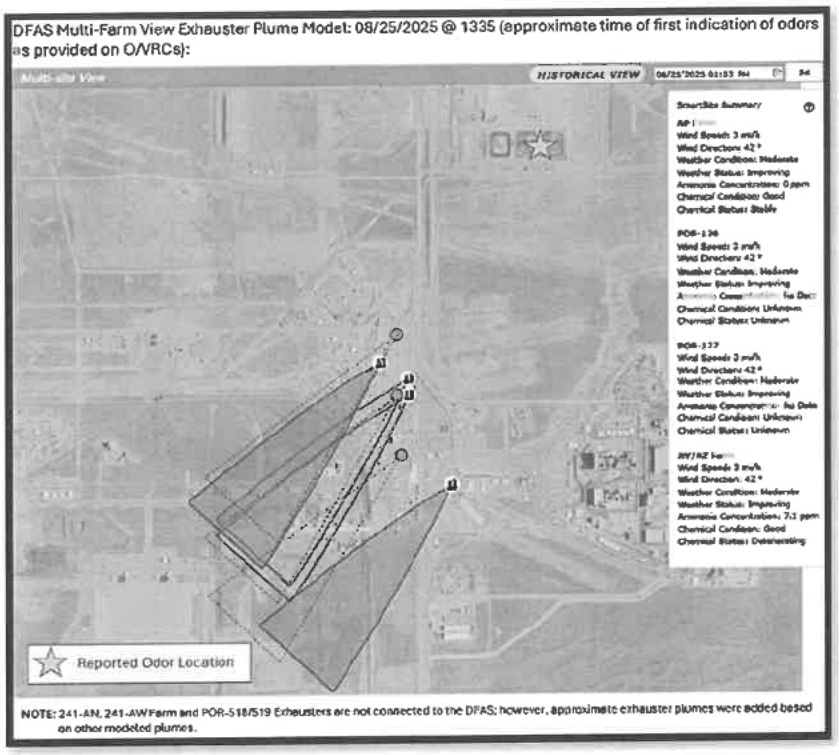


Figure 2- DFAS Multi-Farm View Exhauster Plume model for 8/25/2025 at 1335 hours

- Review of DFAS application dashboard for the approximate time of the field response actions.
  - Wind Speed: 4.7 mph (15-minute average)
  - Wind Direction: 42° (out of West)
  - Mixing Height: 1400 feet above grade
  - Stability Class: D (neutral conditions)

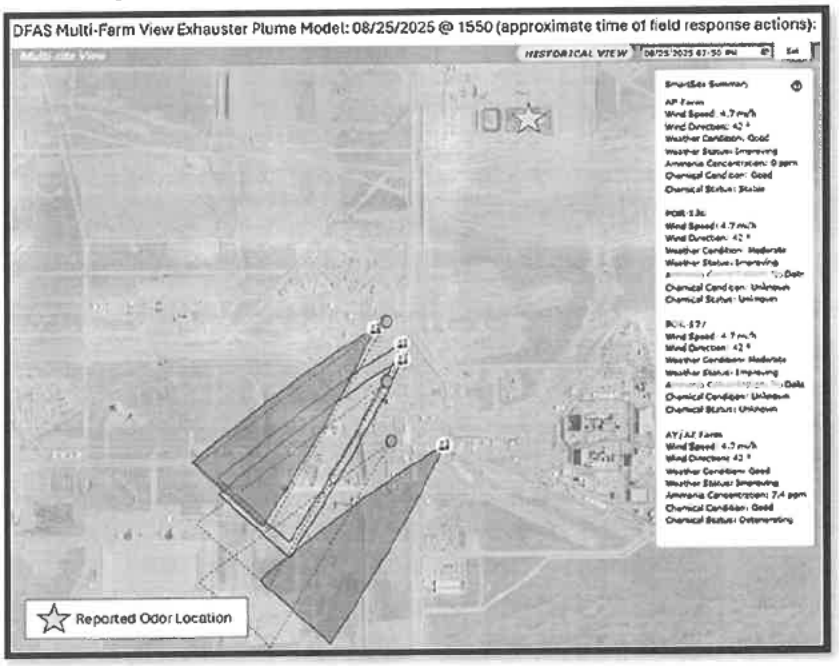


Figure 3- DFAS Multi-Farm View Exhauster Plume model for 8/25/2025 at 1550 hours

- VMDS Active ventilation systems exhaust a mixture of all connected tanks with output through a "stack". The emission of exhaust ventilation systems is monitored either continuously by the VMDS or periodically by alternate monitoring.

    - VMDS exhauster Ammonia readings on 08/25/2025 @ 1335 (approximate time of first indication of odors a provided on O/VRCs):
        - POR518 (241-A): 0 ppm
        - POR519 (241-A): 1.867 ppm
        - 241-AN: 35.198 ppm
        - 241-AW: 0 ppm
        - POR126 (241-AX): N/A
        - POR127 (241-AX): N/A
        - 702AZ (241-AY/AZ): 7.238 ppm
        - 241-AP: 0 ppm
        - 241-SY: 0 ppm

- Odor descriptors provided by Affected Workers are inconsistent with Tank Vapors. Additionally, review of the DFAS application, Weather Details dashboard and VMDS exhauster ammonia readings for the approximate time of the Event, indicate the cause of the odor is unlikely to be from Tank Farm Exhauster emissions; as concentrations at emission points was insufficient to allow for the possibility of notable concentrations at the ground receptor, weather conditions presented low likelihood for ground-plume interaction.

Work Associated to Adhesive Odor

- At the time of the odor was encountered work activities associated with repair of the LERF basins 42, 43, and/or 44 cover(s) were being performed in accordance with WO#1244379. Personal Protective Equipment (PPE) and other materials contaminated with Welding Solution (GHSSDS 077209) and/or Xylene (GHS-SDS 079967A) were placed into the garbage receptacle in MO-217G change trailer. MO217G change trailer was likely used as a dress/undress area by workers accessing radiologically controlled areas within and around the LERF basins, which resulted in contaminated PPE and materials being deposited within the facility garbage receptacle rather than a dedicated mixed-waste container as per section 2 of the Waste Planning Checklist (WPC) associated with the work order (WO#1244379).

Conclusion

- Odor descriptors provided by Affected Workers are inconsistent with Tank Vapors. Based on a review of the DFAS application, Weather Details dashboard and VMDS exhauster ammonia readings for the approximate time of the Event, and distance of event location from Tank Farm emission points, the cause of the odor is unlikely to be from Tank Farm Exhauster emissions.

21. Positive Aspects Identified:
Personnel responded promptly to the event, implementing the applicable TFC-OPSOPER-C-67 procedure and response actions.

22. Key Take Aways / Learning Opportunities:

Ongoing work associated with basin liner repair, especially that utilizing chemicals should include removal of trash from receptacles daily after job completion. Waste generated from the work being performed, such as contaminated PPE and materials, should be segregated according to the guidelines specified in the Waste Planning Checklist. An increased emphasis on general housekeeping in and around work areas can help mitigate operational impact resulting from workers encountering unanticipated or otherwise unknown conditions.

Communication that odors are common and expected for maintenance activities that utilize chemical application (e.g., basin liner repair) should be increased. Pertinent Information about potentially odorous activities should be provided so that pre-job briefings can include co-located activities that may produce odors in a work area not related to the specific tasks to reduce the potential for facility impact. Facility culture needs to include knowledge that odors are normal and typical of various operational activities and does not necessarily equate to overexposure.

23. Event Investigation:

[ ] 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.

[x] This event does not require continuation of the Event Investigation process.

Responsible Manager Approval:

[redacted] [redacted] 9/23/2025

Name (First, Middle Initial, Last)

CAS Manager Approval:

[redacted] [redacted] 10/7/25

Name (First, Middle Initial, Last)

INDUSTRIAL HYGIENE EVENT INVESTIGATION REPORT (IHIR)

Event Title:	IHIR Number:
TFC-OPS-OPER-C-67 Response at MO217G (Between Liquid Effluent Retention Facility Basin 43 and 44)	**IHIR-00121 R0**
	IHEI Number: N/A

Table of Contents

Date:	Time:	Location:
08/25/2025	1335	MO217G (between LERF Basin 43 & Basin 44)

Event Summary and Timeline:

Event Summary:

At approximately 1335 on August 25th, 2025 two personnel experienced stronger than normal “glue”, “solvent”, “paint thinner”, “strong smell” odors and experienced “tingling throat” and “taste in mouth” when entering MO217G (located in-between Liquid Effluent Retention Facility [LERF] Basin 43 and Basin 44) to perform laundry duties. Both employees were transported to the occupational medical provider for precautionary medical evaluation.

Field Response Timeline:

08/25/2025 Initial Field Response Actions:

1430 Shift Office Event Notification (SOEN): “Initiating TFC-OPS-OPER-C-67 "Response to Stronger than Normal Odors" for strong odors in change trailer 217-G between [Liquid Effluent Retention Facility (LERF)] Basins 42 and 43. Change trailer has been posted "Restricted Access". [Central Shift Manager (CSM)]”

1432 Production Operations (PO) Industrial Hygienist (IH), Direct Feed Low Activity Waste (DFLAW) IH, and PO Level 3 IH Manager arrive at Central Shift Office (CSO)

1433 CSM briefs PO IH, DFLAW IH, and PO Level 3 S&H Manager on TFC-OPS-OPER-C-67:
- MO217G change trailer (between LERF Basin 42 and Basin 43).
- Two Affected Workers (one with taste in mouth)
- Affected Workers performing laundry
- Encountered strong odor
- Glue work has been on-going on the basin cover
- Odor-Vapor Response Cards (OVRC) in route

1434 PO Level 3 IH Manager notifies PO Shift Industrial Hygiene Technician (IHT) Supervisor of TFC-OPS-OPER-C-67

1435 PO AZ IH arrives at CSO

1436 PO IH and DFLAW IH discuss Data Fusion Advisory & Advisory System (DFAS) with CSM:
- PO/DFLAW IH → CSM: DFAS link is not working
- CSM → PO/DFLAW IH: Odor location inside a building
- PO/DFLAW IH → CSM: Will continue to try and obtain mixing height

1438 PO IH and DFLAW IH request PO Level 3 S&H Manager:
- Notify Effluent Treatment Facility (ETF) IH of TFC-OPS-OPER-C-67
- Request ETF IH reports to CSO to support response

1438 PO Level 3 IH Manager notifies ETF IH of TFC-OPS-OPER-C-67
- Request ETF IH reports to CSO to support response

1440 CSM updated Department of Energy (DOE) Facility Representative (Fac. Rep.) on TFC-OPS-OPER-C-67

1444 PO IH and DFLAW IH check DFAS, powered by Smart Site™, for current mixing height details:
- Mixing height 1300 feet above grade
  - PO IH relays mixing height provided to CSM

1444 Field Work Supervisor (FWS) updates CSM:
- Both Affected Workers experiencing burning nostrils and taste in mouth

1447 PO IH and DFLAW IH check Vapor Monitoring Detection System (VMDS) exhauster ammonia readings:
- POR518 (241-A): 0 ppm
- POR519 (241-A): 2.319 ppm
- 241-AN: 34.993 ppm
- 241-AW: 0 ppm
- POR126 (241-AX): N/A
- POR127 (241-AX): N/A
- 702AZ (241-AY/AZ): 7.165 ppm
- 241-AP: 0 ppm
- 241-SY: N/A

NOTE: Event Timeline continued on next page.

Event Timeline continued:

1448 Performance Assurance (PA) contacts CSM:
- CSM → PA: Update on TFC-OPS-OPER-C-67
- PA → CSM: Assigns PA Point-of-Contact (POC)

1450 PO Level 3 IH Manager updates Level 2 IH Manager, Level 1 Deputy Environmental, Safety, Health, & Quality (ESH&Q) Manager, and Level 1 ESH&Q Manager:
- TFC-OPS-OPER-C-67 at LERF MO217G (between Basins 42 & 42)
- Two Affected Workers performing laundry encountered stronger than normal odors
- Both Affected Workers could taste in mouth and had burning nostrils
  - Both sent for precautionary medical surveillance
- Developing Response Plan in CSO

1453 CSM Shift Relief (SR) assumes TFC-OPS-OPER-C-67 response

1454 ETF IH arrives at CSO

1455 PO IH updates ETF IH on TFC-OPS-OPER-C-67

1457 ETF Operations Manager contacts CSM SR
- ETF Ops. Manager → CSM SR: IH support for response?
- CSM SR → ETF Ops. Manager: Yes. PO, DFLAW, and ETF IHs at CSO

1500 ETF IH attempts to contact ETF Operations Manager to enquire about radiological posting of MO217G

1500 PO IH requests ETF IH contact Projects IH to acquire Safety Data Sheets (SDS) for glue in use at LERF Basins

1501 ETF IH contacts Projects IH and requests SDSs be emailed to DFLAW IH for TFC-OPS-OPER-C-67 response

1502 ETF Operations Manager contacts ETF IH:
- ETF IH → ETF Ops. Manager: MO217G radiological posting?
- ETF IH → ETF Ops. Manager: Radiologic Control (Rad Con) POC?

1506 DFLAW IH contacts ETF Rad Con
- DFLAW IH → ETF Rad Con: Radiological Work Permit (RWP) for TFC-OPS-OPER-C-67 at MO217G?
- ETF Rad Con → DFLAW IH: RWP LE-003 Task 1
- ETF Rad Con → DFLAW IH: Have Rad Con support on stand-by

1507 PO IH requests PO Shift IHT Supervisor:
- Contact ETF Operations Manager
- Ensure Rad Con waits for IHTs before approaching MO217G

1507 DFLAW IH receives SDS from Projects IH 1
- Hanford GHS #079967A
- Hanford GHS #063042

1511 PO Level 3 S&H Manager contact PO Shift IHT
- Update on TFC-OPS-OPER-C-67

NOTE: Event Timeline continued on next page.

Event Timeline continued:

1511 PO IH and DFLAW IH reviews SDSs and develop response Action Limits (AL)

- Referenced TOC-IH-58956 and Honeywell TN-106
- Product composition, Honeywell photo-ionization detector (PID) correction factors (CF), and occupational exposure limits (OEL):

Chemical	10.6 eV CF	11.7 eV CF	OEL	Product %Wt
Acetone	0.9	1.4	250 ppm	100%
Cumene	0.54	0.4	50 ppm	≤ 0.3%
Ethylbenzene	0.47	0.51	20 ppm	≥ 10 - ≤ 25%
Toluene	0.45	0.51	20 ppm	≤ 0.3%
Xylenes	0.45	0.43	100 ppm	≥ 75 - ≤ 90%

(ACGIH, 2016; OSHA, n.d. a; OSHA, n.d. b)

- Equation 1. Adjusted PID Reading Display for Specific Compound

$$Adjusted\ Reading = X\ ppm\ (display)\ x\ CF$$

- Equation 2. Adjusted AL for Specific Compound (weighted)
  - Highest %Wt utilized for calculations
  - Chemical adjusted AL calculated for all chemicals listed above
  - AL set at lowest chemical adjusted AL

$$Adjusted\ Action\ Limit\ (display) = \frac{\left(\frac{X\ ppm\ (OEL)}{2}\right)}{CF} x\ \frac{1}{\%Wt}$$

$$Ethylbenzene\ Adjusted\ AL\ (10.6\ display) = \left(\frac{10\ ppm}{0.47}\right) x\ \frac{1}{0.25} = 8\underline{5}.106\ ppm$$

$$Ethylbenzene\ Adjusted\ AL\ (11.7\ display) = \left(\frac{10\ ppm}{0.51}\right) x\ \frac{1}{0.25} = 7\underline{8}.431\ ppm$$

- Response 10.6 eV PID AL: 85 ppm
- Response 11.7 eV PID AL: 78 ppm

1518 PO Shift IHT arrives at CSO

1521 CSM updates PO IH and DFLAW IH

- MO217G is located between LERF Basin 43 and Basin 44

1522 PO Level 3 IH Manager updates Level 2 IH Manager, Level 1 Deputy ESH&Q Manager, and Level 1 ESH&Q Manager:

- MO217G is located between LERF Basin 43 and Basin 44

1531 PO IH and DFLAW IH review OVRCs

1539 CSM SR, DFLAW IH, and Rad Con (per telecom to DFLAW IH) sign TFC-OPS-OPER-C-67 Attachment A Sheet 1 of 2

NOTE: Event Timeline continued on next page.

Event Timeline continued:

1539 PO IH provides ETF IH and PO Shift IHT briefing on response:
- Monitor per IHSP-POE-MULTI-TFCOPSOPERC67:
  - Direct Reading Instrument (DRI) equipped with the following sensors:
    - Volatile Organic Compound (VOC) 10.6 eV PID
    - VOC 11.7 eV PID
  - Response ALs based on SDSs:
    - VOC 10.6 eV: 85 ppm
    - VOC 11.7 eV: 78 ppm
- Monitor perimeter of MO217G, IF readings are less than ALs, proceed inside MO217G
- Respiratory Protection Equipment not required, Voluntary Use
- RWP LE-003 Task 1
- Rad Con waiting to assist down at LERF

1541 ETF IH and PO Shift IHT depart CSO

1551 Projects IH 2 provides DFLAW IH another SDS for product in use at LERF Basins
- Hanford GHS #077209

1551 PO IH and DFLAW IH review SDS
- Product composition, Honeywell PID CFs, and OEL:

Chemical	10.6 eV CF	11.7 eV CF	OEL	Product %Wt
Xylenes	0.45	0.43	100 ppm	75 - 100%

(ACGIH, 2016; OSHA, n.d. a; OSHA, n.d. b)

- Response ALs adjustment not required

1604 ETF IH updates DFLAW IH on response:
- Glue on boot
- Glue cans in trash
- Peak readings inside MO217G:
  - 10.6 eV PID: 25.6 ppm
  - 11.7 eV PID: 32 ppm
- Peak readings outside MO217G:
  - 10.6 eV PID: 0 ppm
  - 11.7 eV PID: 0 ppm
- Leaving MO217G door open to vent

1609 CSM SR updates ETF Operations Manager:
- Field response complete, awaiting DRI post-use function test
- Plan to empty trash from MO217G:
  - Meet at 1730
  - IHT, Nuclear Chemical Operators (NCO), and Radiological Control Technicians (RCT)

1617 ETF IH returns to CSO

1621 PO Level 3 IH Manager updates Level 2 IH Manager, Level 1 Deputy ESH&Q Manager, and Level 1 ESH&Q Manager:
- Field response complete
- Found garbage cans with adhesive waste from Projects work at LERF Basins
- Projects IHs provided SDSs prior to response plan
- Response ALs based on SDSs
- Elevated VOC readings, but less than ALs
- Working with ETF Operations to remove garbage
- Awaiting DRI post-use function test

1633 DRI 10.6 eV PID passed post-use function test

1634 CSM SR and DFLAW IH sign TFC-OPS-OPER-C-67 Attachment A Sheet 2 of 2

NOTE: Event Timeline continued on next page.

Event Timeline continued:

08/26/2025 Follow-Up Response Actions:

0733 PO Level 3 IH Manager contacts CSM to determine if additional support is needed to conclude TFC-OPS-OPER-C-67 event

0735 PO IH briefs ETF IHTs on DRI monitoring requirements:

- Direct Reading Instrument (DRI) equipped with the following sensors:
  - VOC 10.6 eV PID
  - VOC 11.7 eV PID
- Response ALs based on SDSs:
  - VOC 10.6 eV: 85 ppm
  - VOC 11.7 eV: 78 ppm
- IHSP N/A as per IH direction

0737 CSM confirms MiniRAE 3000 qualification equivalency with ppbRAE 3000 with IH Training Supervisor

0738 ETF IHTs depart MO267 to acquire DRI

0850 ETF IHT notifies PO IH of peak readings acquired during trash can removal:

- 10.6 eV PID: 0.84 ppm
- 11.7 eV PID: 2.0 ppm
- No additional items of concern were identified

0944 SOEN: “Completed TFC-OPS-OPER-C-67 "Response to Stronger than Normal Odors" for strong odors in change trailer 217-G between LERF Basins 42 and 43. All readings were/are below action limits. Access to 217-G change trailer has been restored. CSM”

Field Response Timeline Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists		
AL	Action Limit	LERF	Liquid Effluent Retention Facility
CSM	Central Shift Manager	NCO	Nuclear Chemical Operator
CSM SR	Central Shift Manager Shift Relief	OEL	Occupational Exposure Limit
CSO	Central Shift Office	OVRC	Odor/Vapor Response Card
DFAS	Data Fusion & Advisory System	OSHA	Occupational Safety & Health Administration
DFLAW	Direct-Feed Low-Activity Waste	PA	Performance Assurance
DOE	Department of Energy	PID	photoionization detector
DRI	direct reading instrument	PO	Production Operations
ESH&Q	Environmental, Safety, Health, & Quality	POC	point-of-contact
ETF	Effluent Treatment Facility	ppm	parts per million
eV	electron-volts	RCT	Radiological Control Technician
FWS	Field Work Supervisor	RWP	Radiological Work Permit
GHS	Globally Harmonized System	S&H	Safety & Health
IH	Industrial Hygienist	SOEN	Shift Office Event Notification
IHSP	Industrial Hygiene Sample Plan	VMDS	Vapor Monitoring Detection System
IHT	Industrial Hygiene Technician	VOC	Volatile Organic Compound

Sampling/Monitoring Results:

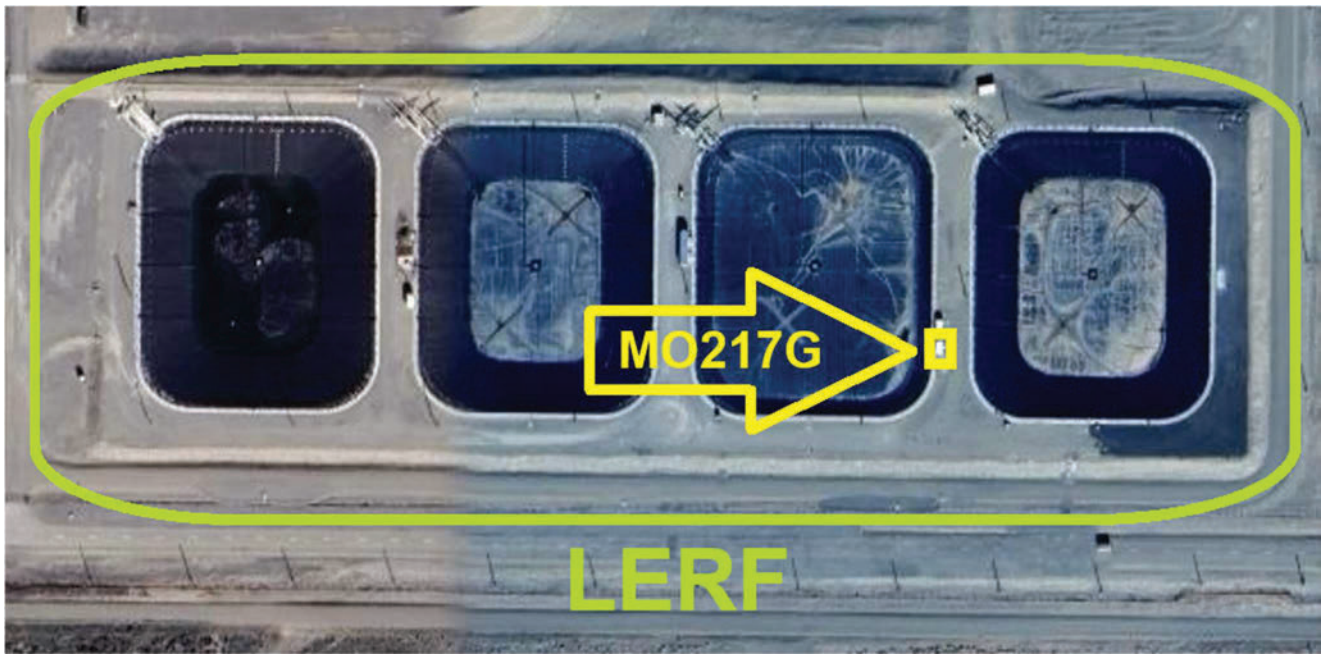
Direct Reading Instrument Monitoring Results:

- DRI readings acquired during initial field response:

Location	VOCs (10.6 eV PID)	VOCs (11.7 eV PID)
Exterior perimeter of MO217G Change Trailer	< 0.010 ppm	< 0.1 ppm
Initial entry into MO217G Change Trailer	4.1 ppm	5.4 ppm
Opening of trash receptacle in MO217G Change Trailer	25.6 ppm	30.2 ppm
Exterior of MO217G Change Trailer after exit	< 0.010 ppm	< 0.1ppm

NOTE: Continuous DRI monitoring was performed for the duration of the field response actions. Results provided are associated with identifiable locations for reference purposes.

- Field Response Map:



Sampling Results:

- Grab samples were not collected for analysis during field response actions.

Sampling/Monitoring Results Acronyms:

DRI	Direct Reading Instrumentation
eV	Electron Volts
PID	Photo Ionization Detector
ppm	Parts Per Million
VOCs	Volatile Organic Compounds

SWIHD References:

Event Response Site Wide Industrial Hygiene Database DRI and Air Surveys:

- DRI # 25-05988 "TFC-OPS-OPER-C67 field response at LERF MO217G"
- DRI# 25-06009 "ETF: Monitored for Odors in MO217-G"

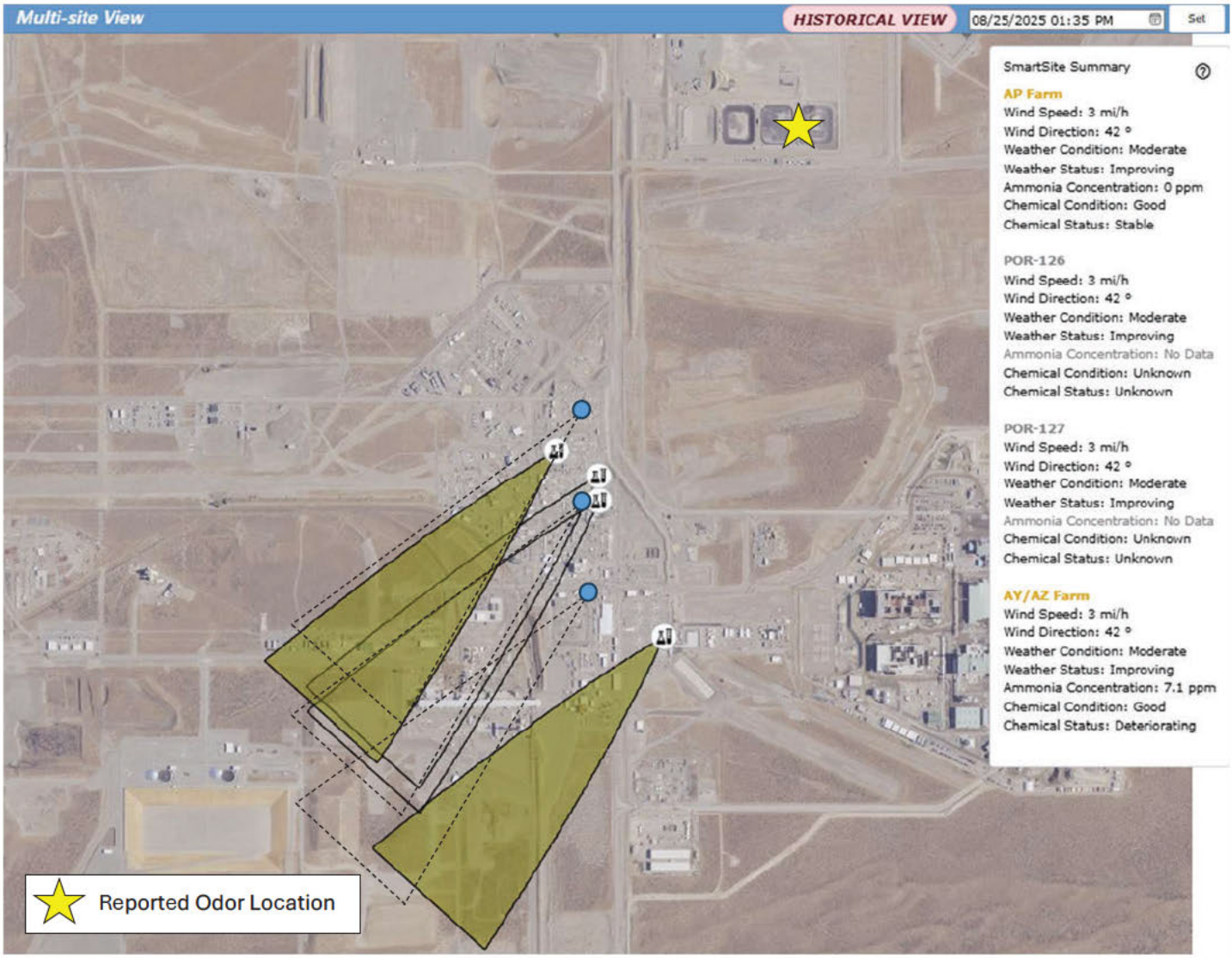
Additional Information:

Respiratory Protection Equipment was not prescribed for the Initiating Event. Accordingly, at the time of the Initiating Event, the Affected Workers were not wearing Respiratory Protection Equipment. Respiratory Protection Equipment was not required, nor worn, for Response Actions. Voluntary-use of Respiratory Protection Equipment was offered to event response participants, but was declined.

The odor description is inconsistent with Tank Waste Chemical Vapors. A review of DFAS, VMDS, and O/VRCs provided adequate indication that Tank Waste Chemical Vapors was unlikely to be the cause of reported odors, therefore monitoring for Tank Waste Chemical Vapors was not performed:

Review of the Data Fusion & Advisory System (DFAS) application, powered by SmartSite™, dashboard for the approximate time of the Event:

DFAS Multi-Farm View Exhauster Plume Model: 08/25/2025 @ 1335 (approximate time of first indication of odors as provided on O/VRCs):



NOTE: 241-AN, 241-AW Farm and POR-518/519 Exhausters are not connected to the DFAS; however, approximate exhauster plumes were added based on other modeled plumes.

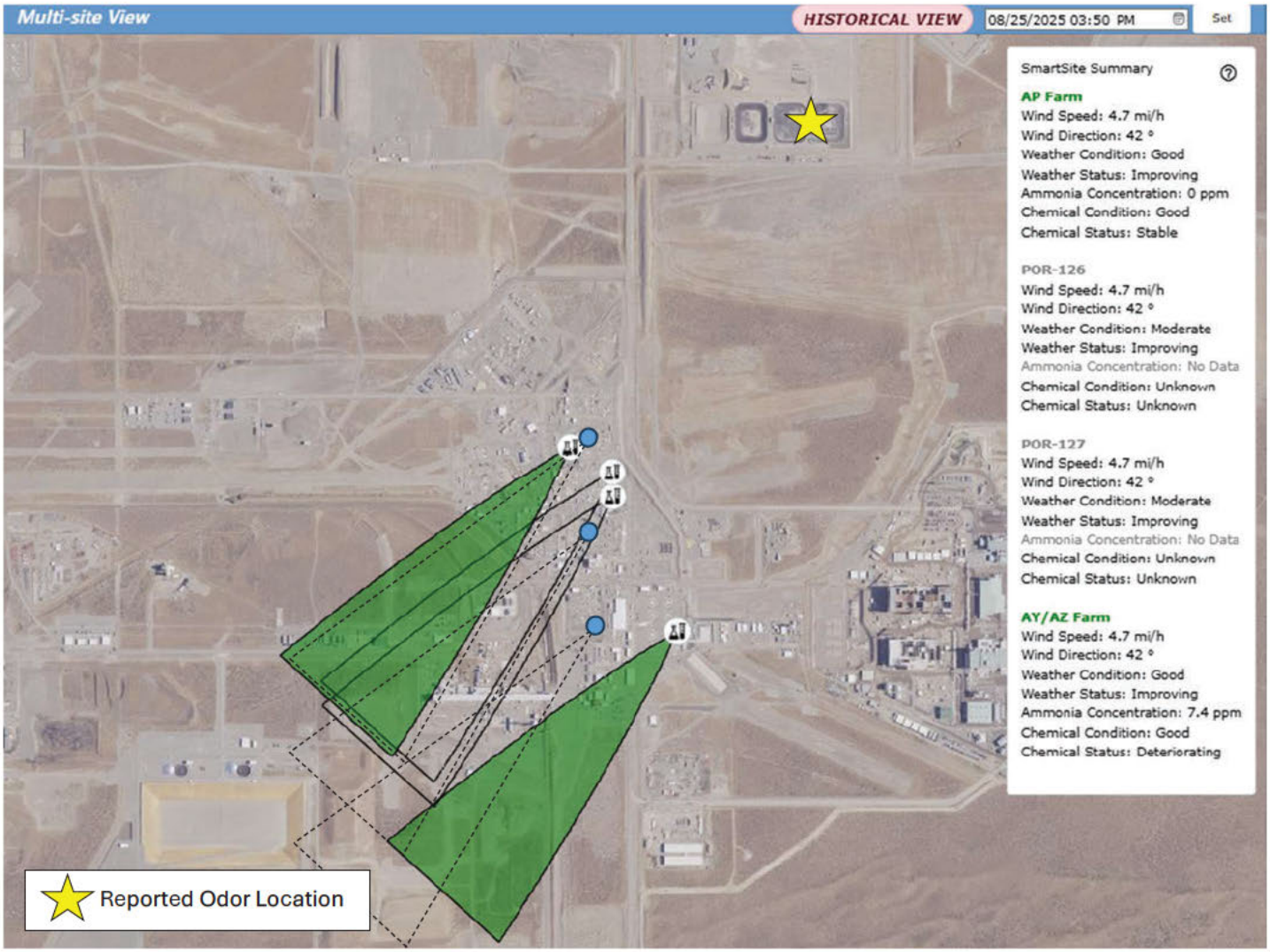
NOTE: Additional Information continued on next page.

Additional Information continued:

DFAS Weather Conditions: 08/25/2025 @ 1335 (approximate time of first indication of odors as provided on O/VRCs):

- Wind Speed: 3.0 mph (15-minute average)
- Wind Direction: 42° (out of Northeast)
- Mixing Height: 1100 feet above grade
- Stability Class: D (neutral conditions)

DFAS Multi-Farm View Exhauster Plume Model: 08/25/2025 @ 1550 (approximate time of field response actions):



DFAS Weather Conditions: 04/25/2025 @ 1550 (approximate time of field response actions):

- Wind Speed: 4.7 mph (15-minute average)
- Wind Direction: 42° (out of West)
- Mixing Height: 1400 feet above grade
- Stability Class: D (neutral conditions)

NOTE: Additional Information continued on next page.

Additional Information continued:

The atmospheric stability is the tendency of the atmosphere to increase or decrease the vertical displacement of air through mode of force such as the wind. This function is closely related to the ability of the atmosphere to disperse pollutants. Atmospheric stability cannot be measured directly. Rather, it is generally estimated based on the wind velocity and the solar radiation (Casal, 2008). The stability is also impacted by the slope of the temperature relative to altitude (environmental lapse rate) (CushmanRoisin, 2012). The National Oceanic and Atmospheric Administration (NOAA) Pasquill stability classes are denoted by 7 letters ranging from A (extremely unstable conditions) to G (extremely stable conditions). An unstable atmosphere is characterized by significant vertical displacement of air, a negative vertical temperature gradient (the temperature decreases with height), along with frequent fluctuations in wind direction and strong solar radiation. A stable atmosphere has low turbulence, positive vertical temperature (temperature increases with height), little fluctuation in the wind direction, and limited solar radiation (Casal, 2008). Exhauster plumes may move horizontally (stability classes A, B, C, and D) or vertical (stability classes E, F, and G). Horizontal plumes found during unstable and neutral states are further characterized by their pattern: fanning, fumigation, coning, looping, and lofting. At Hanford Tank Farms exhauster plumes may interact with ground level during stability class A conditions if the Mixing Height constricts plume dispersion at sufficiently low levels (typically less than 100 ft. above grade). The concentration of plume-borne contaminants at the ground level receptor is dependent on the concentration of the emission and the factor of dilution occurring through dispersion as the plume emission moves away from the emission point.

References:

- Casal, J. (2008). Chapter 6 Atmospheric dispersion of toxic or flammable clouds. Industrial Safety Series, 8, 195-248. Retrieved from https://doi.org/10.1016/S0921-9110(08)80008-0
- Cushman-Roisin, B. (2012). Environmental Transport and Fate- Smokestack Plumes (lecture slides). Dartmouth College: Thayer School of Engineering. Retrieved from https://cushman.host.dartmouth.edu/courses/engs43/Smokestack-plumes.pdf

Vapor Monitoring Detection System (VMDS)

Active ventilation systems exhaust a mixture of all connected tanks with output through a “stack”. The emission of exhaust ventilation systems is monitored either continuously by the VMDS or periodically by alternate monitoring.

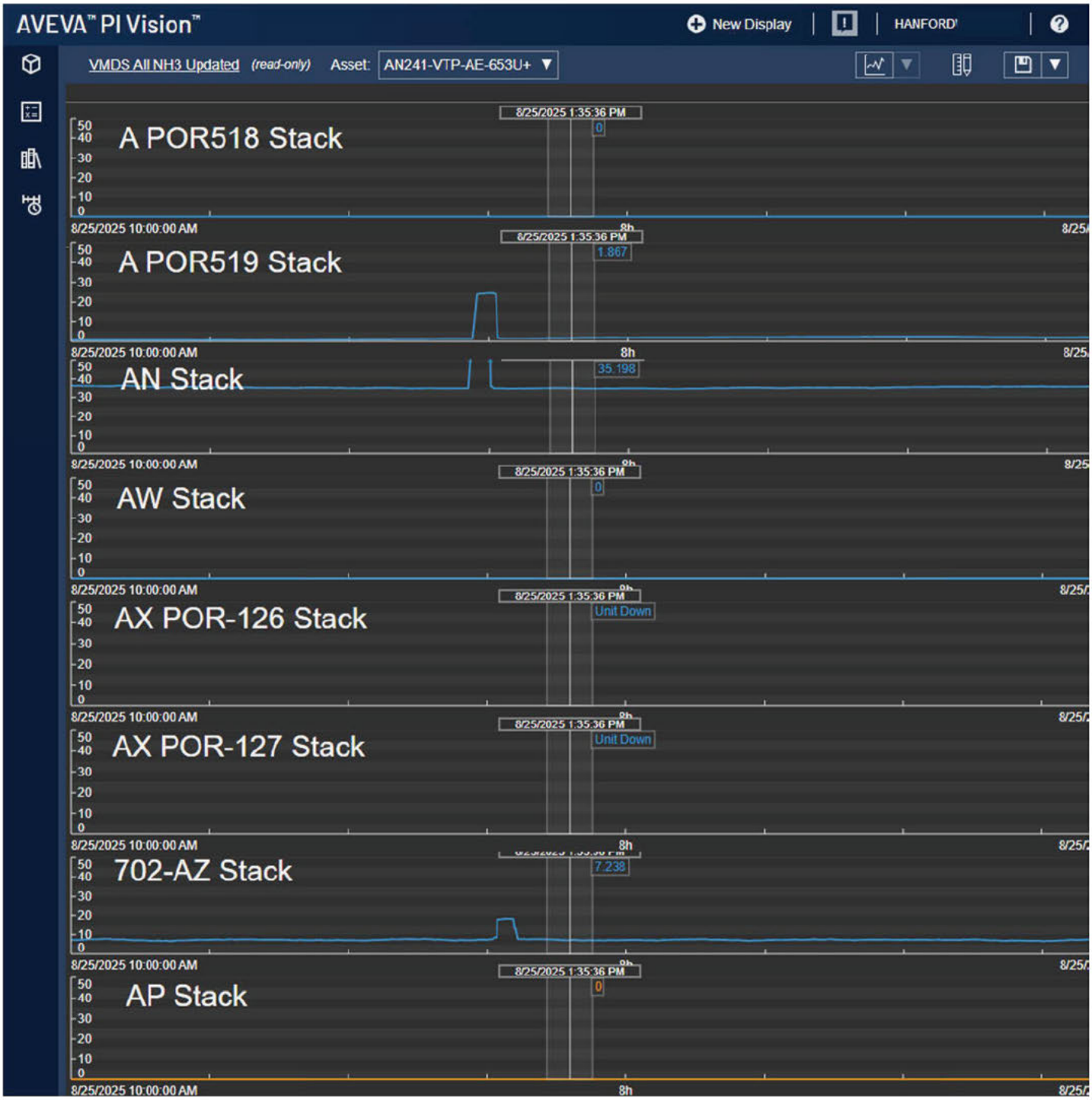
VMDS exhauster Ammonia readings on 08/25/2025 @ 1335 (approximate time of first indication of odors as provided on O/VRCs):

- POR518 (241-A): 0 ppm
- POR519 (241-A): 1.867 ppm
- 241-AN: 35.198 ppm
- 241-AW: 0 ppm
- POR126 (241-AX): N/A
- POR127 (241-AX): N/A
- 702AZ (241-AY/AZ): 7.238 ppm
- 241-AP: 0 ppm
- 241-SY: 0 ppm

NOTE: Additional Information continued on next page.

Additional Information continued:

AVEVA™ PI Vision™ Exhauster Stack Ammonia Concentrations: 08/25/2025 @ 1550 (approximate time of field response actions):



NOTE: Additional Information continued on next page.

Additional Information continued:

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		
241-SY	Primary	310 ppm	620 ppm

Vapor Monitoring Detection System (VMDS) summary: 08/18/2025 @ 1335 to 08/25/2025 @ 1335:

Tank Farm	Exhauster	Minimum*[A]	Maximum*[A]
241-A	POR518/POR519	0.000 ppm	5.357 ppm
241-AN	Primary	35.562 ppm	42.538 ppm
241-AP	Primary	N/A	0.000 ppm
241-AW	Primary	0.000 ppm	11.973 ppm
241-AX	POR126/POR127	N/A	N/A
241-AY/AZ	702AZ	7.115 ppm	11.884 ppm
241-SY	Primary	0 ppm	132.3 ppm

*[A] VMDS Alternate Real Time Monitoring performed 04/19/2025 to 04/26/2025 for 241-AN, 241-AP, 241-AW, 241-AX (POR126/POR127), and 241-AZ (702AZ) Primary Exhausters.

When stack monitoring via the VMDS is unavailable, and ventilation is operating, IH will conduct alternate monitoring for ammonia. Report TOC-IH-RPT-50042, Ammonia Monitoring- Rate of Change of Tank Vapor Source Concentration and Monitoring Frequency, recommends measuring the exhaust ventilation systems once every 4 days. Conservatively, stack readings are required once per calendar day, in accordance with ARP-T-041-00002 and are acquired in accordance with TF-OPS-IHT-037.

Applicable SWIHD surveys:

Survey #	Title	Date
25-05794	VMDS Alternate Real Time Monitoring	08/19/2025
25-05847	VMDS Alternate Real Time Monitoring	08/20/2025
25-05884	VMDS Alternate Real Time Monitoring	08/21/2025
25-05921	VMDS Alternate Real Time Monitoring	08/22/2025
25-05935	VMDS Alternate Real Time Monitoring	08/23/2025
25-05941	VMDS Alternate Real Time Monitoring	08/24/2025
25-05951	VMDS Alternate Real Time Monitoring	08/25/2025

NOTE: Additional Information continued on next page.

Additional Information continued:

Vapor Monitoring Detection System (VMDS) Alternate Monitoring 08/18/2025 to 08/25/2025:

Tank Farm	Exhauster	Minimum	Maximum
241-A	POR518/POR519	N/A	N/A
241-AN	Primary	19 ppm	21 ppm
241-AP	Primary	16 ppm	32 ppm
241-AW	Primary	4 ppm	7 ppm
241-AX	POR126/POR127	0 ppm	0 ppm
241-AY/AZ	702AZ	N/A	N/A
241-SY	Primary	N/A	N/A

Odor descriptors provided by Affected Workers are inconsistent with Tank Vapors. Additionally, review of the DFAS application, powered by SmartSite™, Weather Details dashboard and VMDS exhauster ammonia readings for the approximate time of the Event, indicate the cause of the odor is unlikely to be from Tank Farm Exhauster emissions; as concentrations at emission points was insufficient to allow for the possibility of notable concentrations at the ground receptor, weather conditions presented low likelihood for ground-plume interaction.

Monitoring Selections Based on Information Provided by Affected Workers:

Based on the odor descriptors provided upon submission of the Odor/Vapor Response Cards and GHS-SDSs for chemicals used during co-located work activity, DRI monitoring for VOCs by 10.6 eV PID and 11.7 eV PID was performed:

Chemical Use Vapors:

If chemical use is the suspected source of odors, a review of the applicable MSDS/GHS-SDS will be conducted to determine the appropriate DRI and applicable manufacturer's correction factor (CF). The development of a compound specific AL will be performed on a case-by-case and documented on the Response Plan.

Monitoring Strategy References:

- Refer to TOC-IH-58956 for more detail on the monitoring strategy for response to odors.

NOTE: Additional Information continued on next page.

Additional Information continued:

Chemicals associated with Odor Descriptors provided by O/VRCs and Associated Odor Thresholds:

The American Industrial Hygiene Association "Odor Thresholds for Chemicals with Established Health Standards" (2nd Edition) and the American Industrial Hygiene Association "Odor Thresholds for Chemicals" (4th Edition) provides a reference list of chemicals associated with typical odor descriptors. Below is the reference list of chemicals associated with odor descriptors provided by O/VRCs and their applicable OELs. Chemicals where the odor detection concentration is similar to or greater than the associated OEL are notated in gray.

NOTE: Odor descriptors for "Paint-Thinner" and "Strong Smell" were not provided by either referenced AIHA Odor Threshold publication or the ATSDR Odor Library.

Odor Descriptor	Chemical	Lowest Detection Concentration	Lowest Recognition Concentration	Applicable OEL
"Solvent"	Benzene	0.020 ppm	0.6 ppm	0.5 ppm TWA (ACGIH TLV
	n-Butyl Acetate	0.002 ppm	0.0093 ppm	50 ppm TWA (ACGIH TLV)
	sec-Butyl Acetate	0.002 ppm	0.0093 ppm	50 ppm TWA (ACGIH TLV)
	Ethyl Acetate	0.24 ppm	1 ppm	400 ppm TWA (ACGIH TLV)
	Ethyl Benzene	0.002 ppm	-	20 ppm TWA (ACGIH TLV)
	Ethyl Isoamyl Ketone	-	5.9 ppm	10 ppm TWA (ACGIH TLV)
	Isoamyl Acetate	0.0034 ppm	0.0028 ppm	100 ppm TWA (NIOSH REL)
	Isobutyl Alcohol (Isobutyl Cellosolve)	0.019 ppm	0.11 ppm	50 ppm TWA (ACGIH TLV)
	2-Methyl Butyl Acetate	0.026 ppm	-	N/A
	Methyl Isobutyl Ketone	0.024 ppm	0.15 ppm	20 ppm TWA (ACGIH TLV)
	Perchloroethylene	0.767 ppm	5 ppm	25 ppm TWA (ACGIH TLV)
	Propionaldehyde (Propanal)	0.001 ppm	0.015 ppm	100 ppm TWA (ACGIH TLV)
	n-Propyl Acetate	0.084 ppm	0.084 ppm	200 ppm TWA (ACGIH TLV)
	Pyridine	0.007 ppm	0.021 ppm	1 ppm TWA (ACGIH TLV)
	Styrene	0.016 ppm	0.047 ppm	20 ppm TWA (ACGIH TLV)
	1,1,2,2-Tetrachloroethane	0.77 ppm	-	1 ppm TWA (ACGIH TLV)
	Trichloroethylene	0.56 ppm	3.72 ppm	10 ppm TWA (ACGIH TLV)
	Dichloroethyl Ether	15 ppm	-	5 ppm TWA (ACGIH TLV)

Odor Descriptor	Chemical	Lowest Detection Concentration	Lowest Recognition Concentration	Applicable OEL
"Glue"	Acetophenone	0.002 ppm	0.59 ppm	10 ppm TWA (ACGIH TLV)
	Methyl 2-Cyanoacrylate	-	0.99 ppm	0.2 ppm TWA (ACGIH TLV)

Odor Threshold References:

- American Industrial Hygiene Association (2013). Odor Thresholds for Chemicals with Established Health Standards, 2nd Edition.
- American Industrial Hygiene Association (2024). Odor Thresholds for Chemicals, 4th Edition.
- Agency for Toxic Substances and Disease Registry Environmental Odors Library. Retrieved from: https://www.atsdr.cdc.gov/odors/php/search/index.html

LERF Operational Configuration Timeline:

At the time of the initiating event work activities associated with repair of the LERF basins 42, 43, and/or 44 cover(s) was being performed in accordance with WO1244379. PPE and other materials contaminated with CSPE Welding Solution (GHS-SDS 077209) and/or Xylene (GHS-SDS 079967A) were placed into the garbage receptacle in MO217G. The product Acetone (GHS-SDS 063042) as provided by the responsible IH was not approved for use by the WO, and so was likely not present in MO217G at the time of field response actions. MO217G was likely used as a dress/undress area by workers accessing radiologically controlled areas within and around the LERF basins, which resulted in contaminated PPE and materials being deposited within the facility garbage receptacle rather than a dedicated mixed-waste container as per section 2 of the Waste Planning Checklist (WPC) associated with the work order (WPC No.1244379).

NOTE: Additional Information continued on next page.

Additional Information continued:

Additional Information Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists
AIHA	American Industrial Hygiene Association
AL	Action Limit
ATSDR	Agency for Toxic Substances and Disease Registry
COPC	chemicals of potential concern
DFAS	Data Fusion & Advisory System
DRI	direct reading instrument
eV	electron-volts
FFAPR	Fill-Face Air Purifying Respirator
H_2S	Hydrogen Sulfide
NH_3	Ammonia
NOAA	National Oceanic and Atmospheric Administration
OEL	Occupational Exposure Limit
OSHA	Occupational Safety & Health Administration
OV	Organic Vapor
O/VRC	Odor/Vapor Response Card
P-100	Particulate RPE cartridge rating
PEL	Permissible Exposure Limit
PID	photoionization detector
ppb	parts per Billion
ppm	parts per million
QRA	Quantitative Risk Assessment
REL	Recommended Exposure Limit
RPE	Respiratory Protection Equipment
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weighted Average
VMDS	Vapor Monitoring Detection System
VOC	Volatile Organic Compounds

NOTE: Additional Information continued on next page.

Additional Information continued:

Additional Information References:

- Agency for Toxic Substances and Disease Registry Environmental Odors Library. Retrieved from: https://www.atsdr.cdc.gov/odors/php/search/index.html
- American Conference of Governmental Industrial Hygienists (2016). TLVs® and BEIs® Based on the Documentation of the Threshold Limit Values for Chemicals Substances and Physical Agents & Biological Exposure Indices. Cincinnati, OH: Signature Publications.
- American Industrial Hygiene Association (2024). Odor Thresholds for Chemicals, 4th Edition. Falls Church, VA: AIHA.
- American Industrial Hygiene Association (2013). Odor Thresholds for Chemicals with Established Health Standards, 2nd Edition. Falls Church, VA: AIHA.
- ARP-T-041-00002. Tank Farm Alarm Response Procedure.
- AVEVA™ PI Vision™. VMDS Overview.
- Hanford GHS #063042 (2017). Acetone.
- Hanford GHS #077209 (2017). CSPE Welding Solution
- Hanford GHS #079967A (2024). Xylene
- Honeywell (2018). Technical Note TN-106: A Guideline for PID Instrument Response. Retrieved from https://prod-edam.honeywell.com/content/dam/honeywell-edam/sps/his/en-us/products/gas-and-flame-detection/documents/Technical-Note-106_A-Guideline-for-Pid-Instrument-Response.pdf.
- Memo WRPS-1904672.1, TANK FARM EXHAUST ~ CK CONCENTRATION ALARM/ ACTION LEVELS FOR AMMONIA
- National Institute of Standards and Technology. NIST Chemistry WebBook, SRD#69. Retrieved from: https://webbook.nist.gov/chemistry/
- NIOSH Pocket Guide to Chemical Hazards. Dept. of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health.
- Occupational Safety & Health Administration (n.d. a). Permissible Exposure Limits- Annotated Tables, OSHA Annotated Table Z-1. Retrieved from https://www.osha.gov/annotated-pels/table-z-1.
- Occupational Safety & Health Administration (n.d. b). Permissible Exposure Limits- Annotated Tables, OSHA Annotated Table Z-2. Retrieved from https://www.osha.gov/annotated-pels/table-z-2.
- TOC-IH-58956. Monitoring Strategy for Response to Odors: Common Odor Sources in the 200 East, 200 West, & 600 Areas.
- Casal, J. (2008). Chapter 6 Atmospheric dispersion of toxic or flammable clouds. Industrial Safety Series, 8, 195-248. Retrieved from https://doi.org/10.1016/S0921-9110(08)80008-0
- Cushman-Roisin, B. (2012). Environmental Transport and Fate- Smokestack Plumes (lecture slides). Dartmouth College: Thayer School of Engineering. Retrieved from https://cushman.host.dartmouth.edu/courses/engs43/Smokestack-plumes.pdf
- TF-OPS-IHT-037. IHT Ammonia Monitoring on Exhausters.
- TOC-IH-58956. Monitoring Strategy for Response to Odors: Common Odor Sources in the 200 East, 200 West, & 600 Areas.
- TOC-IH-59014. Tank Waste Chemical Vapors: Evaluation and Management Strategy.
- TOC-IH-RPT-50042. Ammonia Monitoring – Rate of Change of Tank Vapor Source Concentration and Monitoring Frequency.
- WRPS-1904672.1. Interoffice Memorandum: Tank Farm Exhaust Stack Concentration Alarm/Action Levels for Ammonia.

Recommendations/Conclusions:

Recommendations:

Ongoing work associated with basin liner repair, especially that utilizing chemicals should include removal of trash from receptacles daily after job completion. An increased emphasis on general housekeeping in and around work areas can help mitigate operational impact resulting from workers encountering unanticipated or otherwise unknown conditions.

Communication that odors are common and expected for maintenance activities that utilize chemical application (e.g., basin liner repair) should be increased. Pertinent Information about potentially odorous activities should be provided so that pre-job briefings can include co-located activities that may produce odors in a work area not related to the specific tasks to reduce the potential for facility impact. Facility culture needs to include knowledge that odors are normal and typical of various operational activities and does not necessarily equate to overexposure.

Conclusions:

Odor descriptors provided by Affected Workers are inconsistent with Tank Vapors. Based on a review of the DFAS application, powered by SmartSite™, Weather Details dashboard and VMDS exhauster ammonia readings for the approximate time of the Event, and distance of event location from Tank Farm emission points, the cause of the odor is unlikely to be from Tank Farm Exhauster emissions. The atmospheric stability at the time of the event was neutral atmospheric stability conditions and the mixing height was 1100 feet above grade.

Other:

N/A

Associated Documents:

iCAS Number: N/A **EIR Number:** EIR 25-05988

Industrial Hygienist:

[redacted] *Print First and Last Name*

[redacted] *Signature / Date*

Industrial Hygiene Level 3 Manager (delegated):

[redacted] *Print First and Last Name*

[redacted] *Signature / Date*

Industrial Hygiene Level 2 Manager (delegated):

[redacted] *Print First and Last Name*

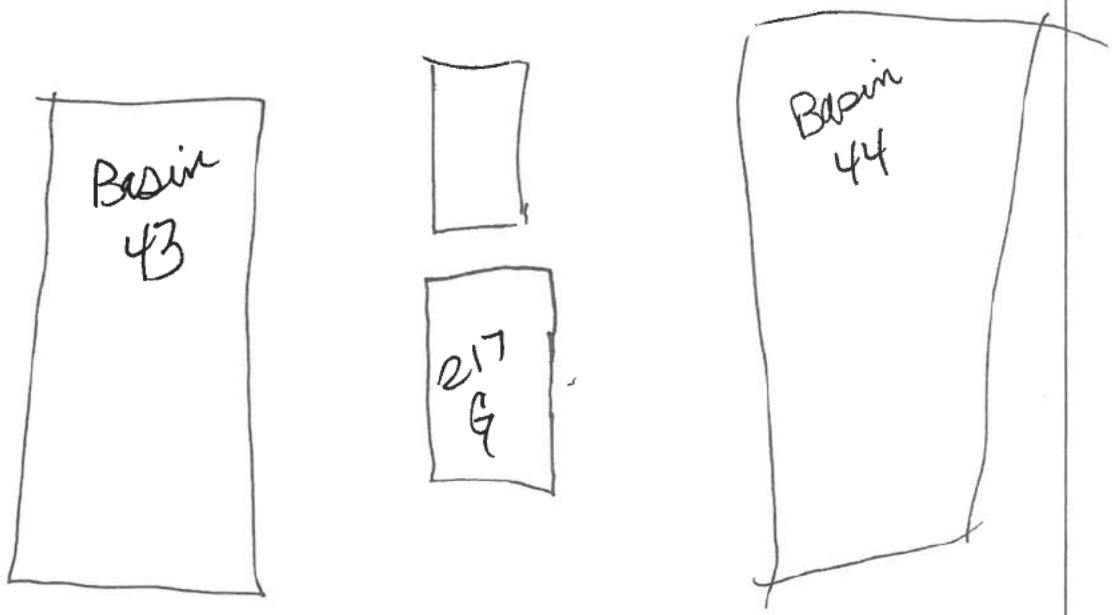
[redacted] *Signature / Date*

ODOR/VAPOR RESPONSE CARD

Instructions:

1. Notify Immediate Supervisor.
2. Contact Central Shift Manager (CSM), at (509) 373-2689.
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.



[redacted]

ODOR/VAPOR RESPONSE CARD

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

- Date and time of event: 8/25/25 1335
- Check Applicable:
  ☒ Odor ☐ Ammonia Alarm *(6 ppm)* ☐ Ammonia Alarm *(12 ppm)* ☐ Alarm *(other - describe)*:
- Your name and the work you were performing: [redacted] Change Trailer Between Basin # 43 & 44 Trailer # 217G
- Other Work Underway? Describe: Prior to entry the Crew was doing patch work on Basin 43 & Some steps
- Location of event *(mark area on map and wind direction)*: Trailer 217G No wind odor was inside change Trailer HOT
- Name(s) of others in or near the affected area: [redacted] HPT for ETF
- Was Industrial Hygiene present, who? NO
- Describe the odor:
  ☐ Sweet ☐ Sour ☐ Smoky ☐ Septic/Sewer ☐ Musty ☐ Rotten
  ☐ Metallic ☐ Onion ☐ Earthy ☐ Ammonia ☐ Citrus ☒ Solvent
  ☐ Other *(describe)*: Glue, Solvent, Paint thinner Just a strong smell
- Is source known/likely? Describe: Maybe prior work performed from AM Crew
- Your symptoms? ☐ None
  ☐ Headache ☐ Dizziness ☐ Nausea ☐ Cough ☐ Fatigue
  ☐ Weakness ☐ Sore Throat ☐ Difficulty Breathing ☐ Eye Irritation ☐ Rash
  ☐ Itch ☒ Tingling Throat ☐ Numbness ☒ Taste
  ☐ Other *(describe)*: Taste Like glue & Thinner. Smell was bad, Stayed for Approx 5-7 Min

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.

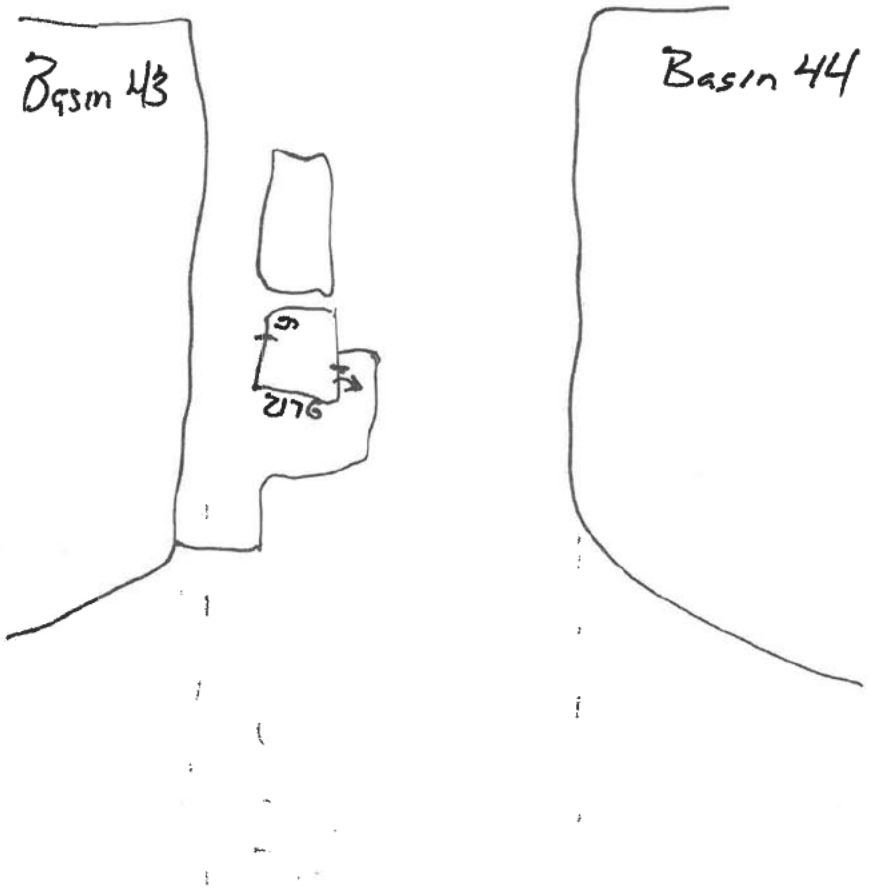
[redacted]

ODOR/VAPOR RESPONSE CARD

Instructions:

1. Notify Immediate Supervisor.
2. Contact Central Shift Manager (CSM), at (509) 373-2689.
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.



[redacted]

ODOR/VAPOR RESPONSE CARD

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

- Date and time of event: 8/25/25 1335
- Check Applicable:
  - ☒ Odor ☐ Ammonia Alarm *(6 ppm)* ☐ Ammonia Alarm *(12 ppm)* ☐ Alarm *(other - describe)*:
- Your name and the work you were performing: [redacted] entered change trailer to remove laundry bag from CA
- Other Work Underway? Describe: ~~entered change trailer to remove laundry bag from CA~~ [redacted] None
- Location of event *(mark area on map and wind direction)*: 217G Change Trailer
- Name(s) of others in or near the affected area: [redacted]
- Was Industrial Hygiene present, who? no
- Describe the odor:
  - ☐ Sweet ☐ Sour ☐ Smoky ☐ Septic/Sewer ☐ Musty ☐ Rotten
  - ☐ Metallic ☐ Onion ☐ Earthy ☐ Ammonia ☐ Citrus ☒ Solvent
  - ☒ Other *(describe)*: glue
- Is source known/likely? Describe: unknown [redacted]
- 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.

[redacted]