

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: Production Operations Date: 04/30/2023

Area/Building/Location: 200E/TX-Farm Approximate Time of Event: 0924 hours

AR Number: WRPS-AR-2023-1449 Responsible Manager: [REDACTED]

EIR Number: EIR-2023-030 Event Investigator: [REDACTED]

**EVENT SUMMARY PART 1**

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

An insulator was pouring United Coatings Roof Mate (SDS #075679) from it's original container into the main distribution bucket in support of the Work Order WO# 915707, "ST Team Area Foam and Top Coat in TX Farm."

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

Personnel that had their VentisPros alarm:

- 1 WRPS Insulator (Insulator 1)
- 1 WRPS Insulator (Insulator 2)

Other workers inside of or near TX-Farm, when the two (2) VentisPros alarmed:

- 1 WRPS Maintenance Supervisor
- 2 WRPS Industrial Hygiene Technicians (IHT)
- 2 WRPS Health Physics Technicians
- 2 WRPS Nuclear Chemical Operators
- 2 WRPS Insulators.

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

On 04/30/2023, at approximately 0924 hours, Insulator 1 was adding roof mate coating into the main distribution bucket. The distribution bucket was located on the John Deer gator in TX-Farm. The insulators were using an airless paint sprayer that has a 5 gallon bucket secured to the airless paint sprayer machine with a pickup tube inside the main distribution. When Insulator 1 was filling the main distribution bucket, their VentisPro alarmed and had a reading of 8 parts per million (ppm) for ammonia. Insulator 1 exited the farm and notifications began to their Field Work Supervisor (FWS).

The FWS contacted the Central Shift Manager (CSM) regarding the VentisPro alarm. The CSM directed the FWS to place work in a safe configuration and exit TX-Farm. At approximately 1052 hours, while placing work in a safe configuration, Insulator 2 was emptying the roof mate coating into the main distribution bucket when their VentisPro alarmed with a reading of 7 ppm for ammonia.

All the workers indicated no symptoms on their odor response cards. No personnel were taken to Site Occupational Medical Contractor (SOMC) and all have declined precautionary medical evaluation.

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

In TX-Farm in between TX-114 and TX-118.

Workers were wearing Level B PPE and were in a work location that is posted as a radiological buffer area (RBA). Workers were performing work activities that require use of respiratory protection.

The Hanford Site Meteorological Station #21 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 #21 and DFAS dashboard indicated the following weather conditions at 0924 hours on 04/30/2023:

- . Wind Speed: 4.0 miles per hour (mph)
- . Wind Direction: 90 ° (out of East)
- . Mixing Height: 1,968.50 feet above grade

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**EVENT SUMMARY (Continued)**

Project: Production Operations Date: 04/30/2023

Area/Building/Location: 200E/TX-Farm Approximate Time of Event: 0924 hours

AR Number: WRPS-AR-2023-1449 Responsible Manager: [REDACTED]

EIR Number: EIR-2023-030 Event Investigator: [REDACTED]

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

- . Stability Class: D (neutral conditions)
- . Temperature: 72 ° F
- . Barometric Pressure: 28.96 inches Hg
- . Humidity: 37%.

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

Access was restricted into TX-Farm. No additional impacts to work evolutions on 04/30/2023.

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

- CSM initiated TF-AOP-015 and restricted access to TX-Farm.
- CSM made required TF-AOP-015 notifications.
- CSM offered for workers to have precautionary medical surveillance to be performed. Workers declined medical surveillance.
- CSM dispatched shift Operation Engineers (OE) to supply and obtain odor response cards and facilitation of posting TX-Farm as a restricted area.
- CSM directed personnel to place work in a safe configuration and exit TX-Farm to the change trailer.
- 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 TX-Farm indicated a less than detectable (< 1 ppm) ammonia concentration, which is below background levels.
- Event Investigation EIR-2023-030, "TF-AOP-015 TX-Farm 8ppm" was initiated.

**Notifications Already Made** (Time and personnel notified):

- [0943 hours] - The Central Shift Manager (CSM) initiated TF-AOP-015, restricted access, provided radio announcement, and issued Shift Office Event Notification (SOEN), "Entering TF-AOP-015 for Personal Ammonia Monitor Level Alarm of 8ppm in TX Farm. Stay clear of TX Farm."
- [0953 hours] - CSM contacted Production Operations-East Industrial Hygienist to request support for TF-AOP-015 response actions.
- [1003] - CSM contacted the on-call DOE Facility Representative and informed them of TF-AOP-015 event initiation.
- [1059 hours] - CSM provided TF-AOP-015, Attachment 1- Initial Communication Template to email to distribution list DL WRPS Odor/Vapor Event Notification".
- [1152 hours] - CSM issued SOEN, "Response actions for the TF-AOP-015 event in TX Farm have been completed and the results are below personal ammonia monitor response level. Access restored to TX Farm. Exiting TF-AOP-015."
- [1258 hours] - 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.

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**EVENT SUMMARY (Continued)**

Project: Production Operations Date: 04/30/2023

Area/Building/Location: 200E/TX-Farm Approximate Time of Event: 0924 hours

AR Number: WRPS-AR-2023-1449 Responsible Manager: [REDACTED]

EIR Number: EIR-2023-030 Event Investigator: [REDACTED]

**Responsible Manager:**

[REDACTED] [REDACTED] Digitally signed by [REDACTED]  
Print First and Last Name Signature / Date

**CAS Manager:**

[REDACTED] [REDACTED] [REDACTED]  
Print First and Last Name Signature / Date

**EVENT SUMMARY PART 2**

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

Additions/corrections to the Event Summary Part 1 information includes the following:

**WHAT HAPPENED:**

- 4 insulators were in TX-Farm for approximately 45 minutes performing work before Insulator 1's VentisPro alarmed.
- Insulator 1 exited TX-Farm and an IHT supporting the work contacted the CSM regarding the Ventis Pro 5 alarm. The IHT had the phone on speakerphone so the FWS could hear and chime into the conversation with the CSM.
- When Insulator 1 exited TX-Farm at approximately 0924 hours, the other 3 insulators immediately finished what they were working on and placed work in a safe configuration. While placing work in a safe configuration Insulator 2's Ventis Pro 5 alarmed at approximately 0936 hours, exited TX-Farm and notified their FWS about the alarm.
- At approximately 0936 hours, the other 2 insulators whose Ventis Pro 5 did not alarm placed work in a safe configuration and exited TX-Farm.
- At approximately 1052 hours, the FWS made notification to CSM about Insulator 2's Ventis Pro 5 alarming.

**WHERE DID IT HAPPENED:**

-The 4 insulators were wearing full face respiratory protection with GME/P100 organic vapor and particulate filters to ensure proper hazard mitigation was in place as ammonia was one of the chemical constituents in the roof mate product.

**EVENT SUMMARY PART 2 KEY ELEMENT OF THE INVESTIGATION:**

To summarize the conclusions of IHIR-00066 "TF-AOP-015 Response Inside 241-TX Farm," the Ventis Pro 5 personnel ammonia monitor alarms were likely the resultant of disturbing the Aqua Ammonia in the roof mate as this chemical is one of the constituents of the product, therefore, 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-00066 conclusion:

(1) Review of the Data Fusion and Advisor System (DFAS) application, weather details and chemical details dashboards around the reported time of the event indicate the cause of the Ventis Pro 5 alarms are unlikely to be from Tank Farm Exhauster emissions. The mixing height in the 200E area was greater than 1500 feet above grade. 200W does not have mixing height monitors, but it is expected to be nearly identical to the mixing height reported in 200E.

(2) Initial ammonia monitoring of the work area indicated less than detectable (< 1 ppm) ammonia concentration, which is below background levels, and systems or components with pathways to the tank head spaces were not opened or manipulated during this work activity.

(3) Field response and continuous monitoring in the afternoon after Ventis Pro alarmed the ammonia monitoring indicated less than detectable (< 1 ppm) ammonia concentration, which is below

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**EVENT SUMMARY (Continued)**

Project: Production Operations

Date: 04/30/2023

Area/Building/Location: 200E/TX-Farm

Approximate Time of Event: 0924 hours

AR Number: WRPS-AR-2023-1449

Responsible Manager: [REDACTED]

EIR Number: EIR-2023-030

Event Investigator: [REDACTED]

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

background levels.

(4) The Safety Data Sheet indicates one of the chemical constituents in United Coatings Roof Mate (GHS/MSDS #075679) is Aqua Ammonia. The Aqua Ammonia in the roof mate is approximately 0.1-1% (Ammonium Hydroxide Solution, 10-30% ammonia in H<sub>2</sub>O), Aqua Ammonium Hydroxide is highly volatile and may release ammonia as a gas.

(5) The product containing Ammonium Hydroxide and being disturbed at the time of the initiating Ventis Pro 5 alarm and the second Ventis Pro 5 alarm, it is reasonable to conclude ammonia was released from the product due to high volatility and was detected by the electrochemical sensor of the Ventis Pro 5 of the workers when transferring the product from original containers into the main distribution bucket.

(6) With minimal wind speeds (4 mph), ammonia from the product could stagnate at the immediate location of transferring the product, and the surrounding crew's Ventis Pro 5s would not alarm because the low concentrations detected at the source would dissipate in the atmosphere before dispersing to their location.

Conditions Adverse to Quality identified:

(1) United Coatings Roof Mate (GHS-SDS #075679) is not listed in 7-MISC-700, "Apply VERSI-FOAM in Tank Farms," as a chemical within section 4.1 Special Tools, Equipment and Supplies.

(2) United Coatings Roof Mate (GHS-SDS #075679) is not listed in Waste Planning Checklist# 2022-223, "2022-223\_7-MISC-700 - Apply VERSI-FOAM in Tank Farms," in section 6, Chemical or Product Information.

(3) A task specific exposure assessment for United Coatings Roof Mate Coating (GHS/MSDS #075679) was not conducted prior to using the product on the job as Industrial Hygiene (IH) was not aware this was a new product being used for the work.

(4) WO# 915707, "ST Team Area Foam and Top Coat in TX Farm," included an Industrial Hygiene Sample Plan Deviation to not wear a Personal Ammonia Monitor. The basis for the deviation was because when spraying application of Versi-Foam and Topcoat it would interfere with sampling and monitor results as Aqua Ammonia is one of the chemical constituents in the top coat (roof mate coating). Employees deviated from the deviation and workers used the Ventis Pro 5 personal ammonia monitor. The workers followed their normal protocols which were to exit the farm and notify their supervisor when the alarm occurred. TF-AOP-015 was initiated as "an alarm was not expected" due to the fact there should not have been Ventis Pro 5 units worn as per the Industrial Hygiene Sample Plan Deviation in the work package.

(5) Aqua Ammonia being one of the chemical constituents in the roof mate unique IH monitoring strategy due to known condition that the personal ammonia monitor could potentially alarm was not followed.

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

- IH performed a task specific exposure assessment for United Coatings Roof Mate Coating (GHS/MSDS #075679). IH determined the product were similar in chemical constituents, and that it contained approximately 0.1-1% Aqua Ammonia of the original product that was assessed which is Roof Mate Light Grey (GHS/MSDS #062359B) to perform the work.
- Updated 7-MISC-700, "Apply VERSI-FOAM in Tank Farms," to include United Coatings Roof Mate (GHS-SDS #075679) in section 4.1 Special Tools, Equipment and Supplies.
- Updated the Waste Planning Checklist to include United Coatings Roof Mate (GHS-SDS #075679) when performing 7-MISC-700, "Apply VERSI-FOAM in Tank Farms."

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**EVENT SUMMARY (Continued)**

Project: Production Operations Date: 04/30/2023

Area/Building/Location: 200E/TX-Farm Approximate Time of Event: 0924 hours

AR Number: WRPS-AR-2023-1449 Responsible Manager: [REDACTED]

EIR Number: EIR-2023-030 Event Investigator: [REDACTED]

**Lessons Learned or Information That the Work Force Needs Immediately:**

If a new product is being used or introduced for a work scope that has not been evaluated by IH for the specific task, it should be provided to IH prior to the work evolution beginning to ensure proper hazard mitigation.

- 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:**

Investigation determined the Ventis Pro 5 alarms were not an indication of an employee chemical exposure event or changing Tank Farm conditions related to Tank Farm vapors, and was likely resultant of disturbing the Aqua Ammonia in the roof mate when transferring the product from the original container into the main distribution bucket.

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-00066 "TF-AOP-015 Response Inside 241-TX Farm," form the basis that further investigation will provide no additional information or operational benefit. Further actions will be managed under WRPS-AR-2023-1487 in the iCAS system.

**Responsible Manager:**

[REDACTED]  
Print First and Last Name

[REDACTED] Digitally signed by [REDACTED]  
Signature / Date

**CAS Manager:**

[REDACTED]  
Print First and Last Name

[REDACTED] Digitally signed by [REDACTED]  
Signature / Date

Washington River Protection Solutions  
**INDUSTRIAL HYGIENE EVENT INVESTIGATION REPORT**

<b>Event Title:</b>  TF-AOP-015 Response Inside 241-TX Farm	<b>PER Number:</b> WRPS-AR-2023-1449
	<b>IHIR Number:</b> IHIR-00066

<b>Date:</b> 04/30/2023	<b>Time:</b> 0918	<b>Location:</b> TX Farm
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**Event Summary and Timeline:**

**EVENT SUMMARY:**  
 A Personal Ammonia Monitor alarmed at greater than 6 ppm ammonia but less than 12 ppm ammonia at 0918 during chemical application in TX Farm. Eleven workers were present at the time of the initial Personal Ammonia Monitor alarm. After the Affected Worker with the alarming PAM left the work location, a second worker took over his duties and the second worker's PAM alarmed at greater than 6 ppm ammonia but less than 12 ppm ammonia at 0936. The work crew exited the farm and made notifications.

**FIELD RESPONSE TIMELINE:**

- 0700 - Industrial Hygiene Technician (IHT) called Production Operations East Industrial Hygienist (POE IH) to discuss the work crew wanting to wear Personal Ammonia Monitors (PAMs). IHT informed POE IH that the Production Operations West Industrial Hygienist (POW IH) waived the deviation to not use PAMs during application of the topcoat. The IHT had reviewed the SDS and ammonia was stated to be less than 1 % of the concentration of the product. POE IH also approved the use of PAMs during topcoat application and waived that portion of the deviation as well. It was requested that the IHTs take detailed notes during the work evolution.
- 0918 - Event Initiating PAM alarmed, per the data log for Ventis Pro V 005405.
- 0922 - IHT contacted POE IH to inform them that a PAM had alarmed at 8 ppm, worn by a worker mixing paint. The POE IH instructed IHT to inform the Field Work Supervisor (FWS) and Shift Office.
- 0924 - FWS and IHT reported to CSM an insulator had the PAM alarm at 8 ppm ammonia. No other workers in the crew of 11 total had experienced elevated readings. Insulator was pouring the coating product from its bucket into its distribution system at the time of the alarm.
- 0925 - POE IH contacted the POE Safety & Health Level 3 Manager to inform of the PAM alarm.
- 0932 - POE IH had a phone conversation with the Central Shift Manager (CSM) and updated them with the information received regarding alarm level, type of work, and PAM use. CSM wanted to know if alarm was "expected." POE IH indicated that the work was with a chemical known to have ammonia, though permission had been given to proceed as normal based on the low concentration of ammonia and data thought to have been collected last fall.
- 0936 - Second PAM alarmed, per the data log for Ventis Pro V 005332.
- 0938 - POE IH informed POE Safety & Health Level 3 Manager of AOP-15 entry. POW IH provided known information and POE Safety & Health Level 3 Manager verified that appropriate managers had been contacted.
- 0938 - IHT updated POE IH on actions, and requested direction. POE IH informed IHT they had been in contact with the CSM and to perform actions as directed by CSM. POE IH also discussed heat stress and sample plan deviation (no further PAM use during chemical use).
- 0943 - Entered TF-AOP-015 and all-call made. Personnel directed to place work in a safe configuration and exit TX Farm to the change trailer. None of the work crew experienced symptoms and all declined medical surveillance. Briefed and dispatched shift OEs to supply and retrieve odor response cards and facilitate posting TX Farm "Restricted Access".
- 0943 - SOEN: "Entering TF-AOP-015 for Personal Ammonia Monitor Level Alarm of 8ppm in TX Farm. Stay Clear of TX Farm. CSM"
- 0952 - SmartSite mixing height in 200E was >1500 feet. No mixing height monitors are available in 200W.
- 0953 - Contacted and discussed sampling path forward with another POE IH. IH will complete TFC-PLN-120 reports during normal business hours on 5/1/23.
- 1028 - POE IH provided POE Safety & Health Level 3 Manager with a general update.
- 1025 - POW Safety & Health Level 3 Manager contacted POW IH to discuss TF-AOP-015 entry.
- 1029 - IHT informed POW IH two PAMs alarmed and TF-AOP-015 was entered.

(NOTE: Field Response Timeline continued on next page.)

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**INDUSTRIAL HYGIENE EVENT INVESTIGATION REPORT**(Continued)

**Event Summary and Timeline:**

(Field Response Timeline continued.)

- 1052 - FWS reported a second Insulator notified that when the first Insulator left the work area he took over his duties and his PAM alarmed at 7 ppm ammonia. He also had no symptoms and declined medical surveillance.
- 1059 - TF-AOP-015 Attachment 1 distributed.
- 1104 - SOEN: "Initiated EIR-2023-030 "TF-AOP-015 TX-Farm 8ppm" POC: [REDACTED] CSM"
- 1121 - POE IH had a phone conversation with FWS. Discussed details including work on black top with stagnant air conditions. Discussed heat stress and continuing work. Discussed PPE.)
- 1152 - IHT sweeps of TX Farm completed with results below personal ammonia monitor response level. Survey number 23-02578.
- 1230 - Exited TF-AOP-015 with TX Farm downposted from "Restricted Access".
- 1236 - SOEN: "Response actions for the TF-AOP-015 event in TX Farm have been completed and the results are below personal ammonia monitor response level. Access restored to TX Farm. Exiting TF-AOP-015. CSM"
- 1258 - TF-AOP-015 Attachment 2 distributed.
- 1348 - WRPS-AR-2023-1449 submitted and screened.
- 1355 - Initial Event Summary distributed.

**Sampling/Monitoring Results:**

Field Response to Ammonia Monitor Alarm (monitored around work locations)

- Ammonia: Less than detectable (< 1 ppm)

Initial Work Site Monitoring prior to event occurrence:

- Ammonia: Less than detectable (< 1 ppm)

Continuous Monitoring in the afternoon after event occurrence:

- Ammonia: Less than detectable (< 1 ppm)

Ventis Pro V 005405 (Event Initiating Personal Ammonia Monitor):

- Ammonia: Data log Report (prior to and during initiating event)
  - o Ammonia @ 09:04:29- 2 ppm
  - o Ammonia @ 09:04:39- 0 ppm
  - o Ammonia @ 09:04:49- 0 ppm
  - o Ammonia @ 09:04:59- 3 ppm
  - o Ammonia @ 09:05:09- 0 ppm
  
  - o Ammonia @ 09:18:04- 3 ppm
  - o Ammonia @ 09:18:14- 9 ppm\*
  - o Ammonia @ 09:18:24- 9 ppm
  - o Ammonia @ 09:18:34- 7 ppm
  - o Ammonia @ 09:18:44- 4 ppm
  - o Ammonia @ 09:18:54- 3 ppm
  - o Ammonia @ 09:19:04- 2 ppm

Ventis Pro V 005332 (Second Alarming Personal Ammonia Monitor):

- Ammonia: Data log Report
  - o Ammonia @ 09:36:41- 4 ppm
  - o Ammonia @ 09:36:51- 6 ppm\*
  - o Ammonia @ 09:37:01- 4 ppm
  - o Ammonia @ 09:37:11- 4 ppm
  - o Ammonia @ 09:37:21- 3 ppm
  - o Ammonia @ 09:37:31- 3 ppm
  - o Ammonia @ 09:37:41- 3 ppm
  - o Ammonia @ 09:37:51- 2 ppm
  - o Ammonia @ 09:38:07- 3 ppm
  - o Ammonia @ 09:38:16- 3 ppm
  - o Ammonia @ 09:38:26- 3 ppm
  - o Ammonia @ 09:38:36- 2 ppm

\*Event initiating alarms

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**INDUSTRIAL HYGIENE EVENT INVESTIGATION REPORT(Continued)**

**SWIHD References:**

Site Wide Industrial Hygiene Database Direct Reading Instrumentation (DRI) Surveys:

- Survey #23-02578 - "TX Personal Ammonia Monitor Alarm Response"
- Survey #23-02579 - "TX Farm Foam & Coat Pit Covers"

**Additional Information:**

At the time of the initiating event, the Affected Personnel were wearing Respiratory Protection Equipment per RPF-PO-MULTI-7-MISC-700. 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 PAM alarm is unlikely to be from Tank Farm Exhauster emissions. The mixing height in the 200E area was greater than 1500 feet above grade. 200W does not have mixing height monitors, but it is expected to be nearly identical to the mixing height reported in 200E.

Meteorological Information from the Hanford Weather Station for Station #19 at 0900 (just prior to the event)

- Barometric Pressure: 28.96" Hg and decreasing
- Wind Speed and Direction: 4 mph, 90 degrees from the East
- Ambient Temperature: 73° Fahrenheit
- Relative Humidity: 37%

**Chemical Application in TX Farm**

During this work evolution, the work crew was prepping their materials to apply a topcoat over the Versi-Foam that had been applied during the previous day's work evolution. Products previously identified to be used during this work scope were evaluated in the task specific exposure assessment for application of Versi-Foam in Tank Farms (SIHEA-PO-MULTI-7-MISC-800). When asking the FWS which product they were using, it was initially identified to be the Roof Mate Light Grey (GHS/MSDS #062359B) coating, which contains approximately 0.1-1% Aqua Ammonia (Ammonium Hydroxide Solution, 10-30% ammonia in H<sub>2</sub>O). It was later made clear that this was not the product being used, but a different product than what had been previously evaluated in the task specific exposure assessment. The SDS that was received was for United Coatings Roof Mate Coating (GHS/MSDS #075679). Upon evaluation of GHS/MSDS #075679, it was determined that the products were similar in chemical constituents, and also contains approximately 0.1-1% Aqua Ammonia (Ammonium Hydroxide Solution, 10-30% ammonia in H<sub>2</sub>O). Ammonium Hydroxide is highly volatile and may release ammonia as a gas. Ammonia easily disperses and dissipates because it is lighter than air (Vapor Density 0.5967, air = 1) under standard conditions.

**Recommendations/Conclusions:**

Initial monitoring of the work area did not detect ammonia at the work location, and systems or components with pathways to the tank head spaces were not opened or manipulated during this work activity.

Considering the product containing Ammonium Hydroxide was being disturbed at both the time of the initiating event and the second PAM alarm, it is reasonable to conclude ammonia was released from the product due to high volatility and was detected by the electrochemical sensor of the PAM of the worker mixing the product. With minimal wind speeds (4 mph), ammonia from the product could stagnate at the immediate location of the paint mixing, and the surrounding crew's PAMs would not alarm because the low concentrations detected at the source would dissipate in the atmosphere before dispersing to their location. Occupational Exposure Limits were not exceeded during this work evolution, and it should be anticipated that an ammonia alarm would be received if monitoring in the immediate location of this product during use due to its chemical constituents.

During future work evolutions using this product, or products with similar constituents, alarms received in the immediate work location (i.e. location of product) should be a planned or expected condition, and should not trigger the entry of TF-AOP-015. Alternate methods of monitoring the work area to detect changing conditions within tank farm boundaries should be considered, and if a new product is being used for a work scope that has not been evaluated by IH for the specific task, it should be provided prior to the work evolution beginning to ensure proper hazard mitigation.

**Other:**

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

**Other:**

- Affected Personnel were offered precautionary medical surveillance and all declined.
- Event Investigation Report #2023-030

**Industrial Hygienist:**

 _____	 _____
<i>Print First and Last Name</i>	<i>Signature / Date</i>

**Industrial Hygiene Level 2 Manager:**

 _____	 _____
<i>Print First and Last Name</i>	<i>Signature / Date</i>

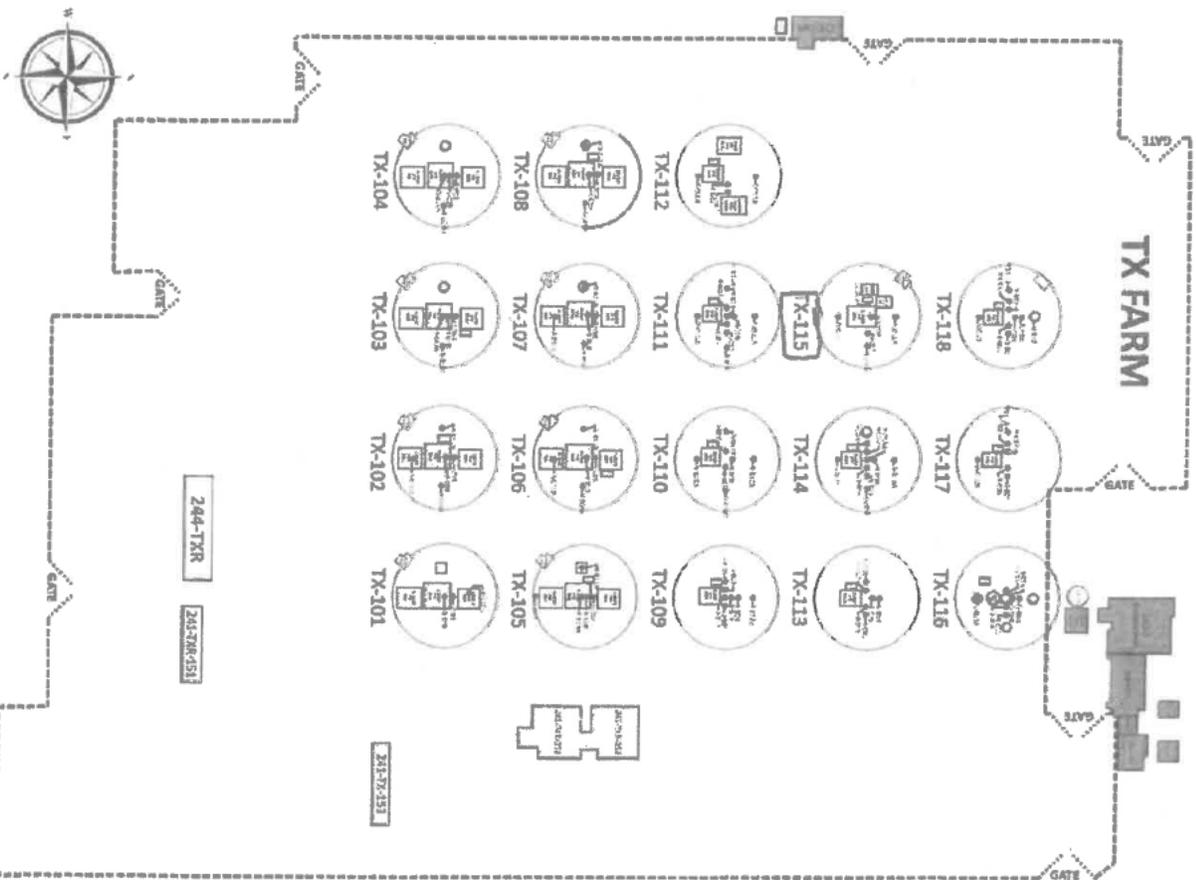
# ODOR/VAPOR RESPONSE CARD - 241 TX FARM

**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.

a. [REDACTED]  
 b. [REDACTED]  
 c. Hot  
 d. No  
 e. No



ODORVAPOR RESPONSE CARD - 241 TX FARM

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

- Date and time of event: 4-30-2023 9:30 AM
- Check Applicable:  Odor  Ammonia Alarm (6 ppm) 7ppm  Ammonia Alarm (12 ppm)  Alarm (other - describe):
- Your name and the work you were performing: [redacted] top pits TX Farm
- Other Work Underway? Describe: NO
- Location of event (mark area on map and wind direction): Tank pit TX-115
- Name(s) of others in or near the affected area: [redacted]
- Was Industrial Hygiene present, who? Yes - [redacted]
- Describe the odor:
  - Sweet  Sour  Smoky  Septic/Sewer  Musty  Rotten
  - Metallic  Onion  Earthy  Ammonia  Citrus  Solvent
  - Other (describe): Had a MASK ON
- Is source known/likely? Describe: TOP C&G
- Your symptoms?  None
  - Headache  Dizziness  Nausea  Cough  Fatigue
  - Weakness  Sore Throat  Difficulty Breathing  Eye Irritation  Rash
  - Itch  Tingling  Numbness  Taste
  - Other (describe):

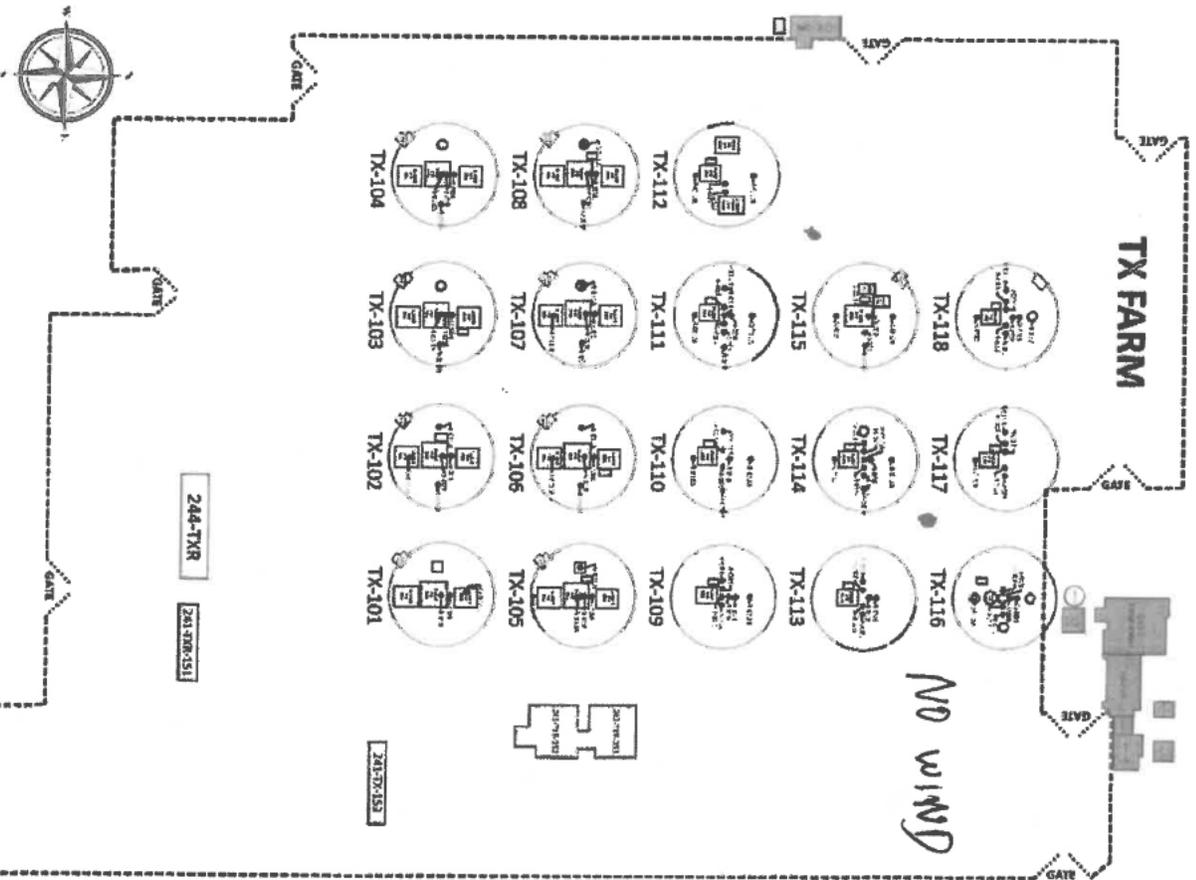
2. Provide this completed card (Page 1 & 2) to Supervisor, Industrial Hygiene, your Union Safety Representative or the CSM. If received by Supervisor/IH/U-SR, Supervisor/IH/U-SR will ensure card is provided to the CSM.

# ODOR/VAPOR RESPONSE CARD - 241 TX 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 TX FARM**

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

- Date and time of event: 4-30-23 9:30 A.M.
- Check Applicable:
  - Odor
  - Ammonia Alarm (6 ppm)
  - Ammonia Alarm (12 ppm)
  - Alarm (other - describe): N/A

• Your name and the work you were performing: [Redacted] Coating Pits in TX

• Other Work Underway? Describe: None

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

• Name(s) of others in or near the affected area: [Redacted]

• Was industrial hygiene present, when? Yes outside of farns

- Describe the odor:
- Sweet
  - Sour
  - Metallic
  - Onion
  - Other (describe): None
  - Smoky
  - Earthy
  - Septic/Sewer
  - Ammonia
  - Musty
  - Citrus
  - Rotten
  - Solvent

• Is source known/likely? Describe: TOP coat SDS reviewed known ammonia source in product.

- Your symptoms?  None
- Headache
  - Weakness
  - Itch
  - Other (describe):
  - Dizziness
  - Sore Throat
  - Tingling
  - Nausea
  - Difficulty Breathing
  - Numbness
  - Cough
  - Eye Irritation
  - Taste
  - Fatigue
  - Rash

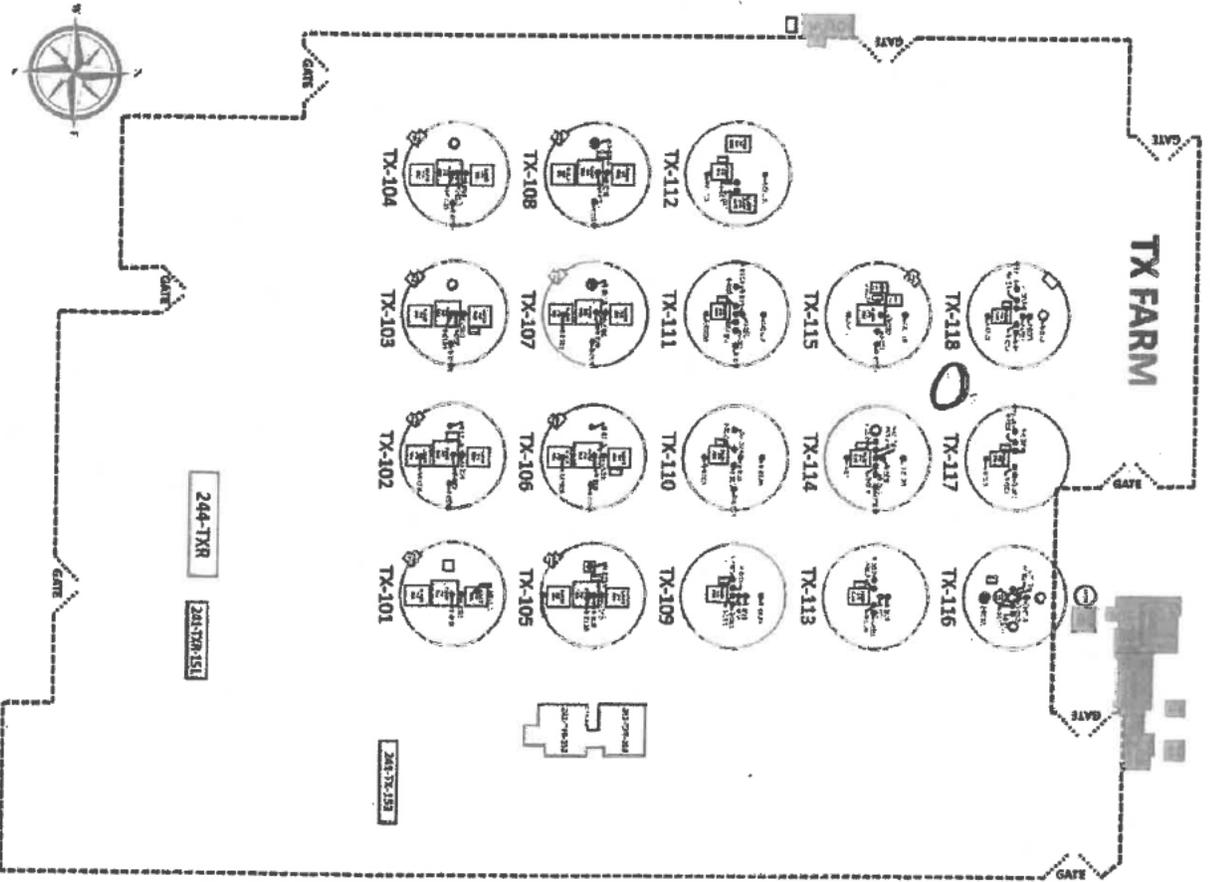
**2. Provide this completed card (Page 1 & 2) to Supervisor, Industrial Hygiene, your Union Safety Representative or the CSM. If received by Supervisor/IH/U-SR, Supervisor/IH/U-SR will ensure card is provided to the CSM.**

# ODOR/VAPOR RESPONSE CARD - 241 TX 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 TX FARM

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

- Date and time of event: 4/30/23 @ 0922
- Check Applicable:
  - Odor
  - Ammonia Alarm (6 ppm)
  - Ammonia Alarm (12 ppm)
  - Alarm (other - describe):

Your name and the work you were performing:

IHT (not in work area; driving to farm)

Other Work Underway? Describe:

TOPCOAT for foaming pit covers

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

TX FARM BETWEEN TX-118 & TX-117

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

Was Industrial Hygiene present, who?

Describe the odor:

- |  |                                |                                 |                                       |                                 |                                  |
|--|--------------------------------|---------------------------------|---------------------------------------|---------------------------------|----------------------------------|
| <input type="checkbox"/> Sweet   | <input type="checkbox"/> Sour  | <input type="checkbox"/> Smoky  | <input type="checkbox"/> Septic/Sewer | <input type="checkbox"/> Musty  | <input type="checkbox"/> Rotten  |
| <input type="checkbox"/> Metallic  | <input type="checkbox"/> Onion | <input type="checkbox"/> Earthy | <input type="checkbox"/> Ammonia      | <input type="checkbox"/> Citrus | <input type="checkbox"/> Solvent |
| <input checked="" type="checkbox"/> Other (describe): <u>N/A (no odor)</u> |                                |                                 |                                       |                                 |                                  |

Is source known/likely? Describe:

TOPCOAT for foaming pit covers

Your symptoms?  None

- |  |                                      |   |   |                                  |
|--|--------------------------------------|---|---|----------------------------------|
| <input type="checkbox"/> Headache          | <input type="checkbox"/> Dizziness   | <input type="checkbox"/> Nausea               | <input type="checkbox"/> Cough          | <input type="checkbox"/> Fatigue |
| <input type="checkbox"/> Weakness          | <input type="checkbox"/> Sore Throat | <input type="checkbox"/> Difficulty Breathing | <input type="checkbox"/> Eye Irritation | <input type="checkbox"/> Rash    |
| <input type="checkbox"/> Itch              | <input type="checkbox"/> Tingling    | <input type="checkbox"/> Numbness             | <input type="checkbox"/> Taste          |                                  |
| <input type="checkbox"/> Other (describe): |                                      |   |   |                                  |

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

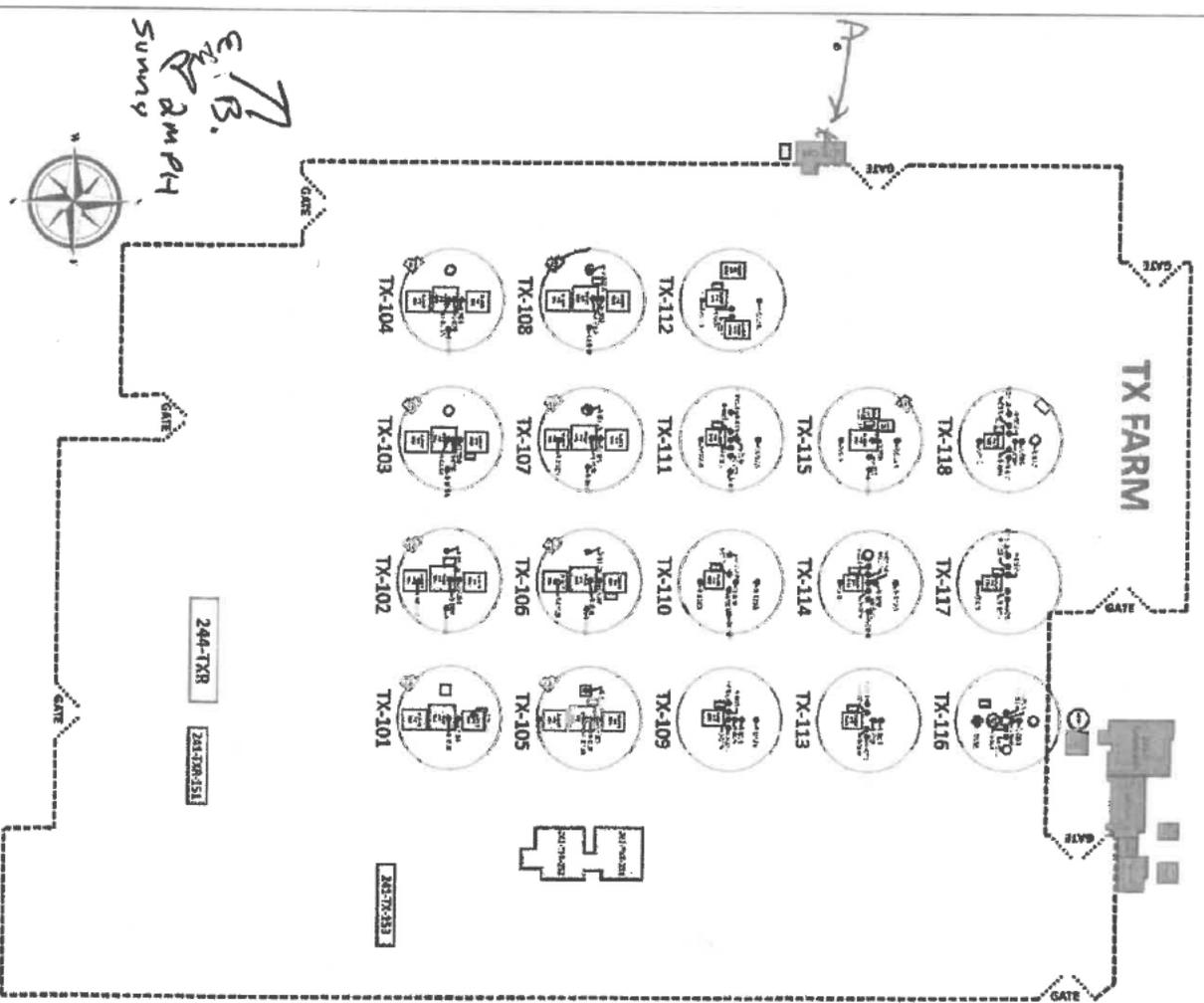
If received by Supervisor/IH/U-SR, Supervisor/IH/U-SR will ensure card is provided to the CSM.

# ODOR/VAPOR RESPONSE CARD - 241 TX 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; SW*;
  - c. Environmental conditions, such as hot, cold, windy, rainy;
  - d. Other work or contractors in the area;
  - e. Anything else you think is relevant. *NO*
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 TX FARM

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

Date and time of event: 4-30-23 0922 am

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

Your name and the work you were performing: [Redacted] FHT Heat Stress

Other Work Underway? Describe: Top Coat in TX

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

Names(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): None on Mask

Is source known/likely? Describe: Yes - likely - Top Coat

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 TX FARM

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

- Date and time of event: 30 APR 2023 @ 0945
- Check Applicable:
  - Odor
  - Ammonia Alarm (6 ppm)
  - Ammonia Alarm (12 ppm)
  - Alarm (other - describe):

Your name and the work you were performing: [REDACTED] BCT support @ RBA ext (MD SIT)

Other Work Underway? Describe: None

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

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

Was Industrial Hygiene present, who? Yes

Describe the odor:

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

Is source known/likely? Describe:

Your symptoms?  None

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

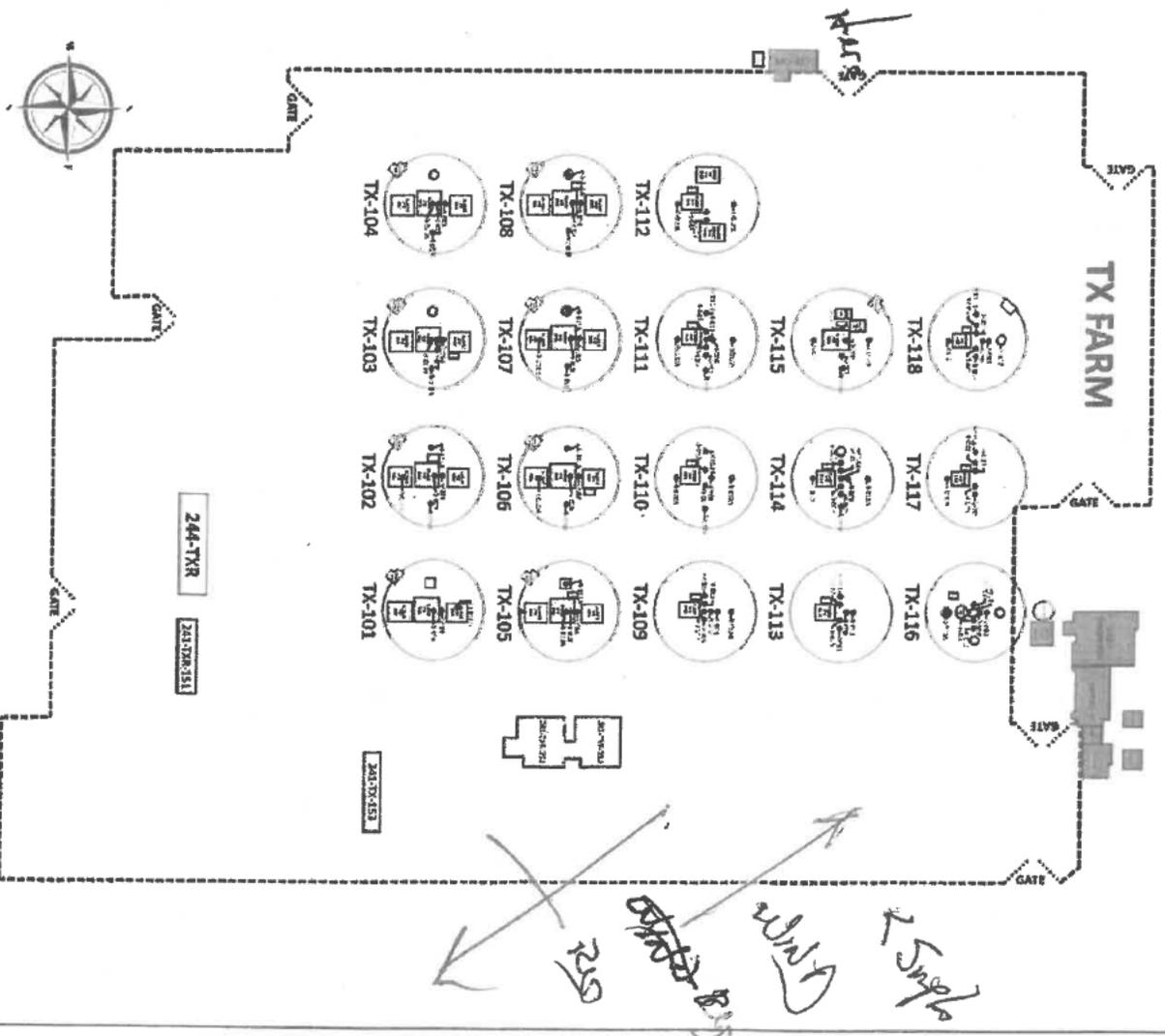
2. Provide this completed card (Page 1 & 2) to Supervisor, Industrial Hygiene, your Union Safety Representative or the CSM. If received by Supervisor/IH/U-SR, Supervisor/IH/U-SR will ensure card is provided to the CSM.

# ODOR/VAPOR RESPONSE CARD - 241 TX FARM

**Instructions:**

1. Notify Immediate Supervisor.
2. Contact Central Shift Manager (CSM),  
a. [REDACTED]
3. Complete both pages of this form and include as many details as possible, including:
  - a. Approximate location, see map at night;
  - 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. *N/A*
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 TX FARM

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

Date and time of event: 4/30/25 0945

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

Your name and the work you were performing:

[Redacted] NOT SUPPLY at change trailers MS-817

Other Work Underway? Describe:

None

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

TX R3A

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

[Redacted]

Was Industrial Hygiene present, who?

Yes

Describe the odor:

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

Is source known/likely? Describe:

Your symptoms?  None

- Headache  Dizziness  Nausea  Cough  Fatigue
- Weakness  Sore Throat  Difficulty Breathing  Eye Irritation  Rash
- Itch  Tingling  Numbness  Taste
- Other (describe): None

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

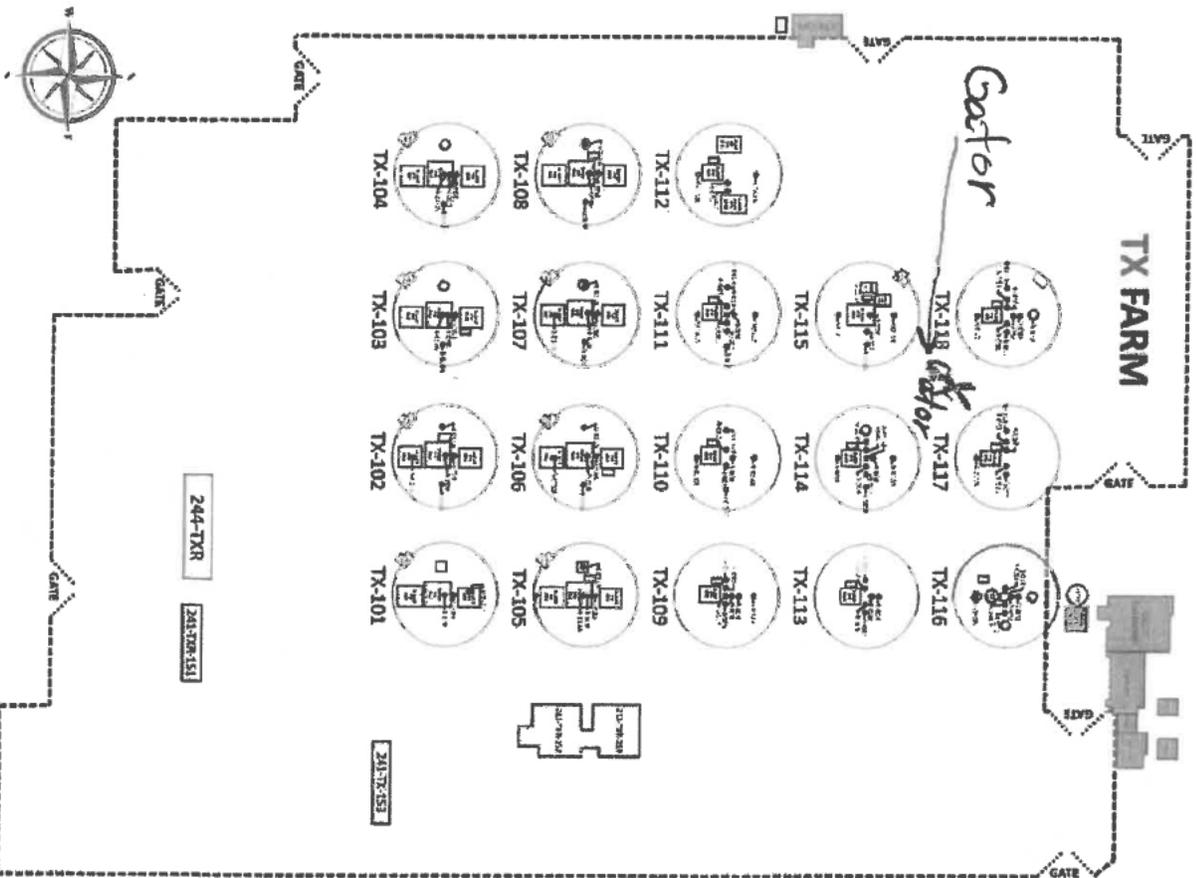
If received by Supervisor/IH/U-SR, Supervisor/IH/U-SR will ensure card is provided to the CSM.

# ODORVAPOR RESPONSE CARD - 241 TX 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 TX FARM**

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

Date and time of event: 4-30-23

Check Applicable:

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

Your name and the work you were performing: [Redacted] Insulator pouring top coat in bucket

Other work underway? Describe: Coating the pits at the Gator

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

Between TX-118, TX-117, TX-115, TX-114

Was Industrial Hygiene present, who?

Describe the odor:

- |  |                                |                                 |                                       |                                 |                                  |
|--|--------------------------------|---------------------------------|---------------------------------------|---------------------------------|----------------------------------|
| <input type="checkbox"/> Sweet                                       | <input type="checkbox"/> Sour  | <input type="checkbox"/> Smoky  | <input type="checkbox"/> Septic/Sewer | <input type="checkbox"/> Musty  | <input type="checkbox"/> Rotten  |
| <input type="checkbox"/> Metallic                                    | <input type="checkbox"/> Onion | <input type="checkbox"/> Earthy | <input type="checkbox"/> Ammonia      | <input type="checkbox"/> Citrus | <input type="checkbox"/> Solvent |
| <input checked="" type="checkbox"/> Other (describe): <u>No odor</u> |                                |                                 |                                       |                                 |                                  |

Is source known/likely? Describe:

Top coat has ammonia

Your symptoms?  None

- |  |                                      |   |   |                                  |
|--|--------------------------------------|---|---|----------------------------------|
| <input type="checkbox"/> Headache          | <input type="checkbox"/> Dizziness   | <input type="checkbox"/> Nausea               | <input type="checkbox"/> Cough          | <input type="checkbox"/> Fatigue |
| <input type="checkbox"/> Weakness          | <input type="checkbox"/> Sore Throat | <input type="checkbox"/> Difficulty Breathing | <input type="checkbox"/> Eye Irritation | <input type="checkbox"/> Rash    |
| <input type="checkbox"/> Itch              | <input type="checkbox"/> Tingling    | <input type="checkbox"/> Numbness             | <input type="checkbox"/> Taste          |                                  |
| <input type="checkbox"/> Other (describe): |                                      |   |   |                                  |

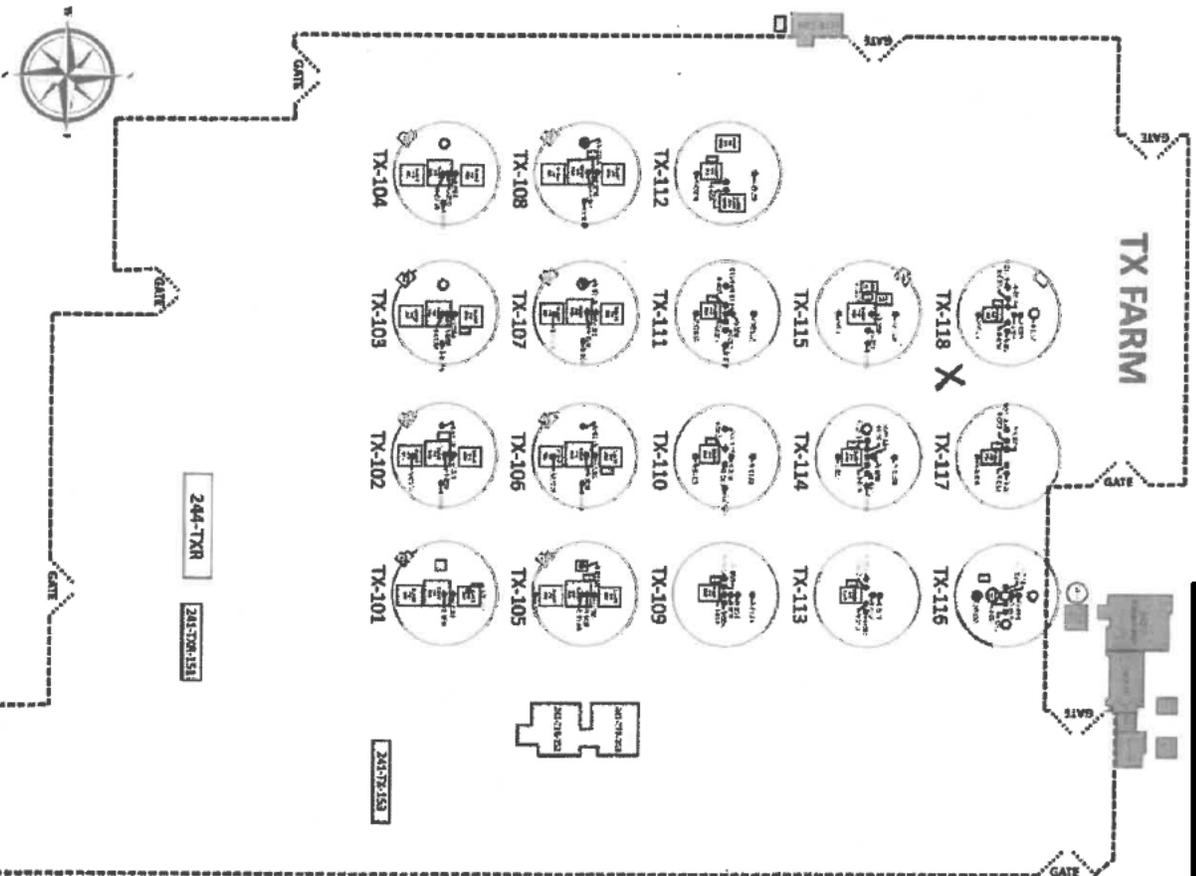
**2. Provide this completed card (Page 1 & 2) to Supervisor, Industrial Hygiene, your Union Safety Representative or the CSM. If received by Supervisor/IH/U-SR, Supervisor/IH/U-SR will ensure card is provided to the CSM.**

# ODORVAPOR RESPONSE CARD - 241 TX 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 TX FARM

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

Date and time of event: 4/30/13 9:22 AM

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

Your name and the work you were performing: [Redacted] outside Support

Other Work Underway? Describe: INS WORKING TO DO CORR

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

Name(s) of others in or near the affected area: INS WORKERS IN THE TOWN

Was Industrial Hygiene present, who? [Redacted]

Describe the odor:

<input type="checkbox"/> Sweet	<input type="checkbox"/> Sour	<input type="checkbox"/> Smoky	<input type="checkbox"/> Septic/Sewer	<input type="checkbox"/> Musty	<input type="checkbox"/> Rotten
<input type="checkbox"/> Metallic	<input type="checkbox"/> Onion	<input type="checkbox"/> Earthy	<input type="checkbox"/> Ammonia	<input type="checkbox"/> Citrus	<input type="checkbox"/> Solvent
<input type="checkbox"/> Other (describe):	<u>None</u>				

Is source known/likely? Describe:

Your symptoms?  None

<input type="checkbox"/> Headache	<input type="checkbox"/> Dizziness	<input type="checkbox"/> Nausea	<input type="checkbox"/> Cough	<input type="checkbox"/> Fatigue
<input type="checkbox"/> Weakness	<input type="checkbox"/> Sore Throat	<input type="checkbox"/> Difficulty Breathing	<input type="checkbox"/> Eye Irritation	<input type="checkbox"/> Rash
<input type="checkbox"/> Itch	<input type="checkbox"/> Tingling	<input type="checkbox"/> Numbness	<input type="checkbox"/> Taste	
<input type="checkbox"/> 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.**

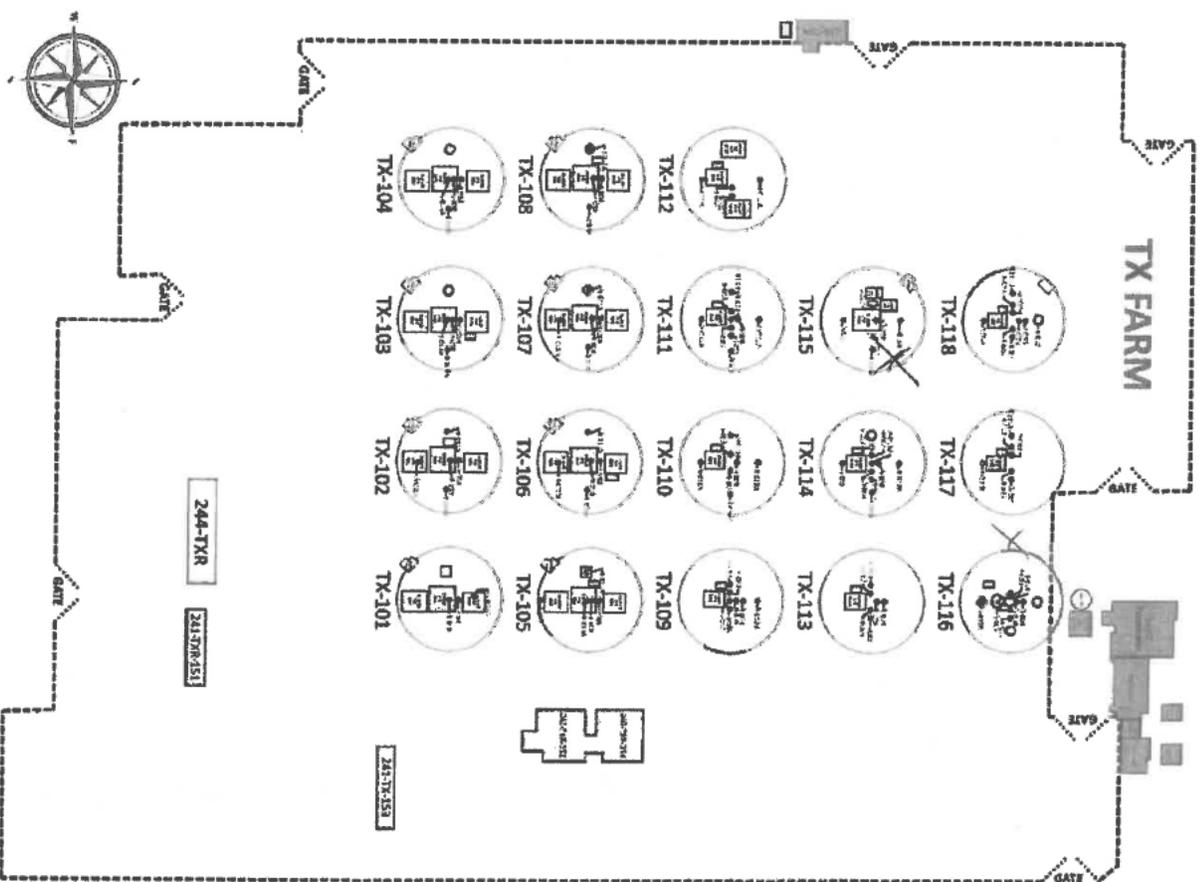
# ODOR/VAPOR RESPONSE CARD - 241 TX FARM

**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.

a. None  
 b. None  
 c. 60°  
 d. None  
 e. None



ODOR/VAPOR RESPONSE CARD - 241 TX FARM

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

- Date and time of event: 4-20-23 approx 09:25 am
- Check Applicable:
  - Odor
  - Ammonia Alarm (6 ppm)
  - Ammonia Alarm (12 ppm)
  - Alarm (other - describe): None
- Your name and the work you were performing:  
[Redacted] top coating pits
- Other Work Underway? Describe: None
- Location of event (mark area on map and wind direction): TX
- Name(s) of others in or near the affected area:  
[Redacted]
- Was Industrial Hygiene present, who?  
 Yes, Outside the farm. [Redacted]
- Describe the odor: None
  - Sweet
  - Sour
  - Smoky
  - Septic/Sewer
  - Musty
  - Rotten
  - Metallic
  - Onion
  - Earthy
  - Ammonia
  - Citrus
  - Solvent
  - Other (describe):
- Is source known/likely? Describe: Yes, Top coat paint
- Your symptoms?  None
  - Headache
  - Dizziness
  - Nausea
  - Cough
  - Fatigue
  - Weakness
  - Sore Throat
  - Difficulty Breathing
  - Eye Irritation
  - Rash
  - Itch
  - Tingling
  - Numbness
  - Taste
  - Other (describe):

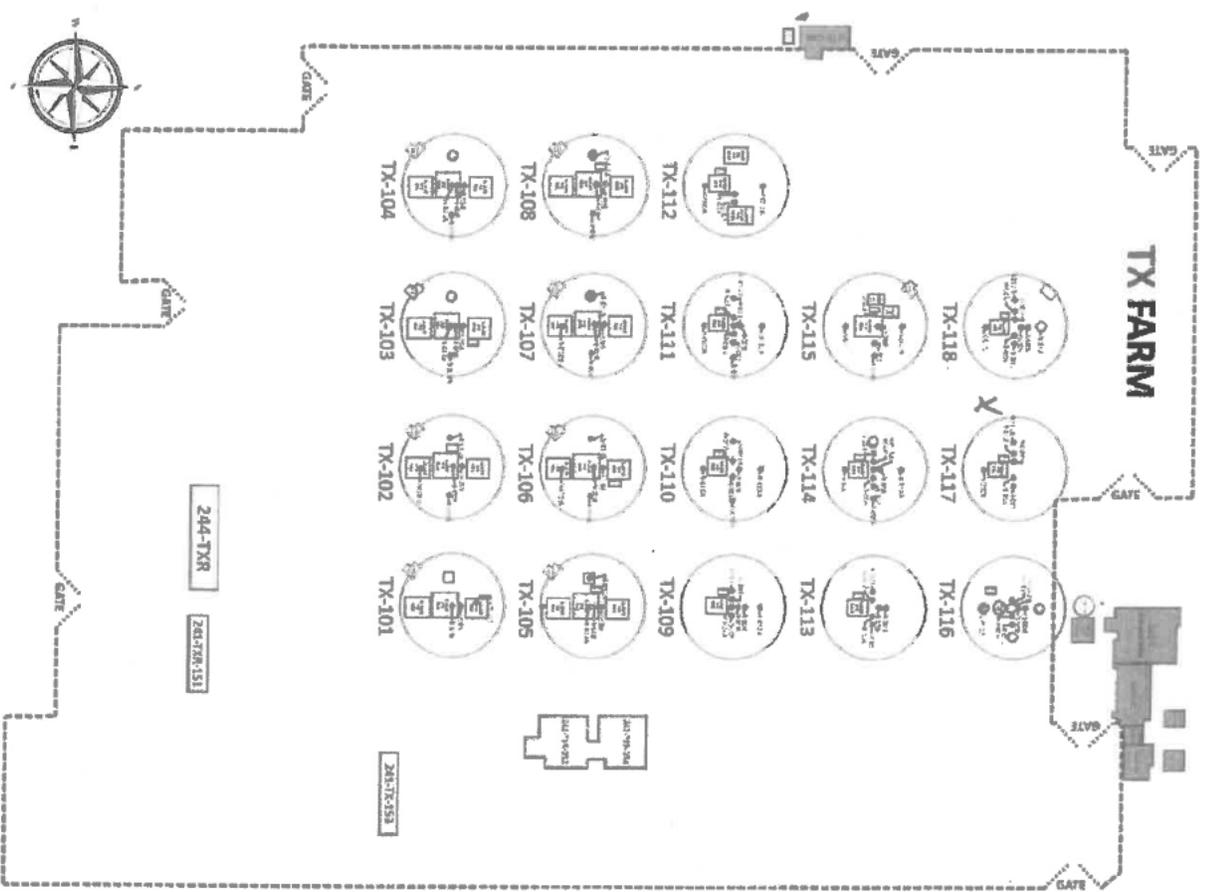
2. Provide this completed card (Page 1 & 2) to Supervisor, Industrial Hygiene, your Union Safety Representative or the CSM. If received by Supervisor/IH/U-SR, Supervisor/IH/U-SR will ensure card is provided to the CSM.

# ODOR/VAPOR RESPONSE CARD - 241 TX 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 TX FARM

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

- Date and time of event: 4-30-23 04:22
- Check Applicable:
  - Odor
  - Ammonia Alarm (6 ppm)
  - Ammonia Alarm (12 ppm)
  - Alarm (other - describe):
- Your name and the work you were performing: [redacted] outside support / Top coat
- Other Work Underway? Describe: N/A
- Location of event (mark area on map and wind direction): Tx 117 - Tx 118
- Name(s) of others in or near the affected area: [redacted]
- Was Industrial Hygiene present, who? yes
- Describe the odor:
  - Sweet
  - Sour
  - Smoky
  - Septic/Sewer
  - Musty
  - Rotten
  - Metallic
  - Onion
  - Earthy
  - Ammonia
  - 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):

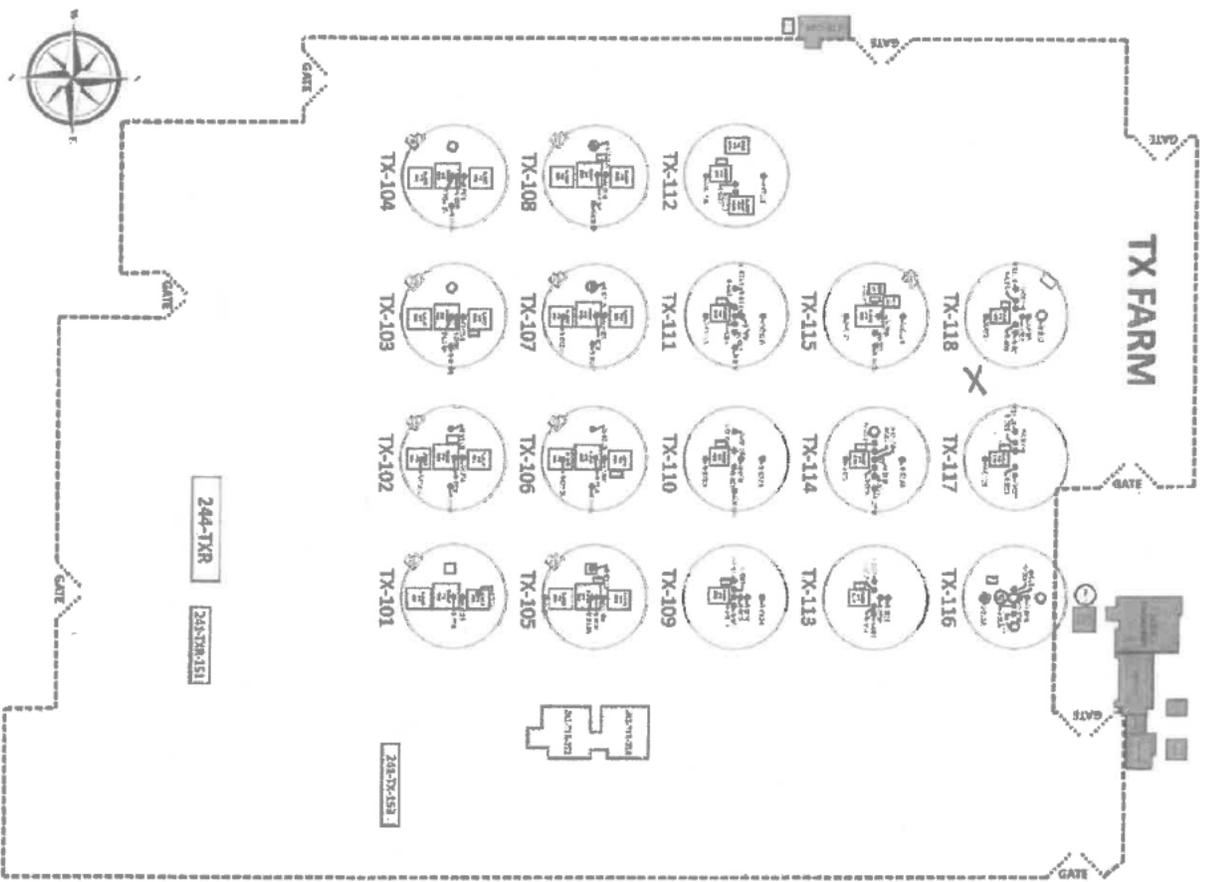
2. Provide this completed card (Page 1 & 2) to Supervisor, Industrial Hygiene, your Union Safety Representative or the CSM. If received by Supervisor/IH/U-SR, Supervisor/IH/U-SR will ensure card is provided to the CSM.

# ODORVAPOR RESPONSE CARD - 241 TX 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 TX FARM

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

- Date and time of event: 4/30/23
- Check Applicable:
  - Odor
  - Ammonia Alarm (6 ppm)
  - Ammonia Alarm (12 ppm)
  - Alarm (other - describe):
- Your name and the work you were performing:  
[Redacted] - FUS
- Other Work Underway? Describe: N/A
- Location of event (mark area on map and wind direction):
- Name(s) of others in or near the affected area:  
[Redacted]
- Was Industrial Hygiene present with? [Redacted]
- Describe the odor:
  - Sweet
  - Sour
  - Smoky
  - Septic/Sewer
  - Musty
  - Rotten
  - Metallic
  - Onion
  - Earthy
  - Ammonia
  - Citrus
  - Solvent
  - Other (describe):
- Is source known/likely? Describe:  
Roof Water for coat
- 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.