

EVENT INVESTIGATION REPORT

AOP-015 Event Outside U Farm Change Trailer Event Investigation Report 2018-039



U Farm (Odor Area in Red)

[Redacted Name]
Event Investigation Team Lead

11/28/18
Date

[Redacted Name]
Responsible Manager

11/28/18
Date

Executive Summary

At approximately 0850 on October 24, 2018, a team of craft personnel arrived outside of U Farm change trailer. They were preparing to enter the change trailer when six of the personnel smelled an odor described as a sweet onion smell. The field personnel decided to stop the work and the Field Work Supervisor (FWS) restricted access to the area. Field personnel notified the Central Shift Office (CSO), which made an AOP-015 entry. None of the field personnel exhibited any signs or symptoms and all declined evaluation by medical.

Investigation Summary

At 0700, Electrical craft personnel arrived for their morning briefing for work orders 351340 and 351341 *U Farm MCC Clean and Inspect*. The Field Work Supervisor (FWS) completed a pre-job brief then field personnel drove to outside the U-Farm change trailer. Just as all the field personnel exited their vehicles, one individual noticed the slight smell of sweet onions. Immediately after, five other personnel in the group smelled the same thing. The wind that morning was “dead calm” as described by one of the individuals. At Hanford Weather Station 40, which is located on the edge of the 200 West Area near U Farm, showed wind speeds below 3 miles per hour, confirming this assessment. The FWS decided to stop the work and instructed all personnel to leave the area. The personnel said that as they were returning to vehicles to leave the area, the smell grew in strength very rapidly. The FWS contacted the central shift office, and the CSO entered an AOP-015 for odors outside U Farm. The FWS then restricted access to the area around the U Farm change trailer.

All Craft personnel declined medical evaluation and none exhibited any signs or symptoms.

CSO sent out the Industrial Hygiene (IH) response team. All samples taken tested at less than detectable levels.

The Event Investigator conducted an informal interview with the six craft personnel and the FWS. All individuals that were in the area submitted completed Odor Response Cards and the Investigator received copies at that time.

Event Timeline

10/24/2018

- 0700 Pre-Job Brief conducted for U Farm work orders
- 0849 Field personnel arrive at U Farm outside of change Trailer
- 0850 One of the field personnel smells a “faint onion-onion like smell”, then promptly by five more.
- 0851 Field personnel call and inform the FWS of the smell. FWS stops the work and instructs all the field personnel to return to 271S.
- 0853 As the loading of the vehicles is completed, all the field personnel notice the smell has significantly built in strength

- 0900 Craft arrive back at 271S
- 0908 Central Shift Office (CSO) enters AOP-015 for odors outside of U Farm. Access to U Farm was restricted. On-Call FacRep notified.
- 0917 SOEN for AOP-015 issued
- 0938 Completed odor response cards delivered to Central Shift Office
- 0958 AOP-015 Event Investigation WRPS-EIR-2018-039 initiated. Notified On-Call FacRep.
- 1043 AOP-015 exited

Event	SX Farm AOP-015 Event					
Date/time of event	October 24, 2018 0850					
Location	Outside U Farm Change Trailer					
Odor	Sweet Onion					
Symptoms	None					
DRI results during event	Less than the Level of Detection (LOD) for ammonia (NH ₃) and Volatile Organic Compounds (VOCs) on sweep of reported odor location					
IH investigative monitoring/sampling	Readings from bag samples were at or below background levels.					
Possible source(s)	Fugitive Emissions from U Farm					
Weather conditions on October 24, 2018	Time	Wind Dir (From)	Wind Speed	Ave Temp	Bar	RH
	0830	126	2.3	47.1F	29.30	72.0
	0845	004	1.6	48.3F	29.30	69.8
	0900	047	2.3	50.2F	29.31	64.6
	0915	193	2.5	51.2F	29.31	64.7
Waste disturbing or tank work in adjacent area	No waste disturbing activities or tank work occurring in U Farm or adjacent areas.					

Compensatory Measures

- The FWS stopped work in the field and the IH response team sampled to area. The results of all the sampling less than detectable levels.

IH Response Team Sample Results

Agent	Result	Action Limit
Ammonia	0.000 ppm	12 ppm
Carbon Monoxide	0.000 ppm	12.5 ppm
Flammable Gas	0.000 %	25 %
Oxygen	20.900 %	23.5 %
Volatile Organic Compound	0.000 ppb	2 ppm

Preliminary Extent of Condition Review

- No extent of condition exists for this investigation.

Discussion of Potential Causes

- No potential causes can be determined

Discussion of Barriers That Could Have Impacted the Cause

- There were no barriers that could have impacted the cause

Recommendations/Proposed Corrective Actions

- No recommendations or proposed corrective actions.

Attachments:

- 1 Odor Response Card
- 2 Odor Response Card
- 3 Odor Response Card
- 4 Odor Response Card
- 5 Odor Response Card
- 6 Odor Response Card
- 7 Industrial Hygiene Investigation Report (IHIR)
(Page 5-16 Odor Response Cards Omitted)

ODOR RESPONSE CARD - 241-U FARM

Odors Detected with *NO* Immediate symptoms

- Notify Immediate Supervisor.
- Contact Central Shift Manager, [REDACTED]. Provide the bulleted information below.
- Complete map, return to Central Shift Office as soon as practicable.

Odors Detected *WITH* Symptoms

- Notify Immediate Supervisor.
- Contact CSM, [REDACTED], complete below bulleted information and map.
 - Your name and the work you were performing
 - Your symptoms (if any)
 - Date and time odor was noticed
 - Location of odors (mark area on map and the wind direction)
 - Describe the odor
 - Name of other in or near the affected area
 - Was an IHT present?
 - Possible source
- Provide information on the back of card.
- Send this card immediately to the Central Shift Office.

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A-6006-944 (REV 1)

ODOR RESPONSE CARD - 241-U FARM

- Contact CSM, Complete below bulleted information and map.**
 - Date and time odor was noticed 8:50
 - Your name and the work you were performing [REDACTED] Electrical
 - Location of odors (mark area on map and wind direction) No wind
 - Name(s) of others in or near the affected area 272 WA electricians and HPT's
 - Was an IHT present? NO
 - Describe the odor Sweet Sour Musty Earthy Metallic Smoky Rotten Onion
 Cleaning Solution Ammonia Other: _____
 - Possible Source _____
 - Your symptoms (if any) Headache Dizziness/Light-Headed Nausea Cough
 Fatigue/Drowsiness/Weakness Sore/Burning Throat Difficulty Breathing
 Watery/Irritated Eyes/Trouble with Vision Tingling/Numbness/Paralysis Rash/Itching
 Other: Not at this time
- Send this card to the Central Shift Office.**

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Attachment 1 – Odor Response Card

ODOR RESPONSE CARD - 241-U FARM

Odors Detected with *NO* Immediate symptoms

1. Notify Immediate Supervisor.
2. Contact Central Shift Manager, [REDACTED]. Provide the bulleted information below.
3. Complete map, return to Central Shift Office as soon as practicable.

Odors Detected *WITH* Symptoms

4. Notify Immediate Supervisor.
5. Contact CSM, [REDACTED], complete below bulleted information and map.
 - Your name and the work you were performing
 - Your symptoms (if any)
 - Date and time odor was noticed
 - Location of odors (mark area on map and the wind direction)
 - Describe the odor
 - Name of other in or near the affected area
 - Was an IHT present?
 - Possible source
6. Provide information on the back of card.
7. Send this card immediately to the Central Shift Office.

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ODOR RESPONSE CARD - 241-U FARM

1. Contact CSM, Complete below bulleted information and map.

- Date and time odor was noticed 10/24/18
- Your name and the work you were performing [REDACTED] clean and inspect.
- Location of odors (mark area on map and wind direction) _____
- Name(s) of others in or near the affected area [REDACTED] 212 Electricians and hpt
- Was an IHT present? No
- Describe the odor Sweet Sour Musty Earthy Metallic Smoky Rotten Onion
 Cleaning Solution Ammonia Other: _____
- Possible Source Tank burp
- Your symptoms (if any) Headache Dizziness/Light-Headed Nausea Cough
 Fatigue/Drowsiness/Weakness Sore/Burning Throat Difficulty Breathing
 Watery/Irritated Eyes/Trouble with Vision Tingling/Numbness/Paralysis Rash/Itching
 Other: None at the moment.

2. Send this card to the Central Shift Office.

Attachment 2 – Odor Response Card

ODOR RESPONSE CARD - 241-U FARM

Odors Detected with NO Immediate symptoms

1. Notify Immediate Supervisor.
2. Contact Central Shift Manager, [REDACTED]. Provide the bulleted information below.
3. Complete map, return to Central Shift Office as soon as practicable.

Odors Detected WITH Symptoms

4. Notify Immediate Supervisor.
5. Contact CSM, [REDACTED], complete below bulleted information and map.
 - Your name and the work you were performing
 - Your symptoms (if any)
 - Date and time odor was noticed
 - Location of odors (mark area on map and the wind direction)
 - Describe the odor
 - Name of other in or near the affected area
 - Was an IHT present?
 - Possible source
6. Provide information on the back of card.
7. Send this card immediately to the Central Shift Office.

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ODOR RESPONSE CARD - 241-U FARM

1. Contact CSM, Complete below bulleted information and map.
 - Date and time odor was noticed 10/24/18 9:50 AM
 - Your name and the work you were performing [REDACTED] getting ready to go into corner
 - Location of odors (mark area on map and wind direction) By U-Farm change trailer, wind was Stagnant
 - Name(s) of others in or near the affected area [REDACTED]
 - Was an IHT present? NO
 - Describe the odor Sweet Sour Musty Earthy Metallic Smoky Rotten Onion
 Cleaning Solution Ammonia Other: Fast Food smell, Sweet onion smell.
 - Possible Source ☞ N/A
 - Your symptoms (if any) Headache Dizziness/Light-Headed Nausea Cough
 Fatigue/Drowsiness/Weakness Sore/Burning Throat Difficulty Breathing
 Watery/Irritated Eyes/Trouble with Vision Tingling/Numbness/Paralysis Rash/Itching
 Other: None at this time.
2. Send this card to the Central Shift Office.

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Attachment 3- Odor Response Card

ODOR RESPONSE CARD - 241-U FARM

Odors Detected with NO Immediate symptoms

- Notify Immediate Supervisor.
- Contact Central Shift Manager, [REDACTED]. Provide the bulleted information below.
- Complete map, return to Central Shift Office as soon as practicable.

Odors Detected WITH Symptoms

- Notify Immediate Supervisor.
- Contact CSM, [REDACTED], complete below bulleted information and map.
 - Your name and the work you were performing
 - Your symptoms (*if any*)
 - Date and time odor was noticed
 - Location of odors (*mark area on map and the wind direction*)
 - Describe the odor
 - Name of other in or near the affected area
 - Was an IHT present?
 - Possible source
- Provide information on the back of card.
- Send this card immediately to the Central Shift Office.**

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ODOR RESPONSE CARD - 241-U FARM

- Contact CSM, Complete below bulleted information and map.**
 - Date and time odor was noticed 10/24/18 8:50
 - Your name and the work you were performing [REDACTED] Elect. PM
 - Location of odors (*mark area on map and wind direction*) No Wind
 - Name(s) of others in or near the affected area _____
 - Was an IHT present? No
 - Describe the odor Sweet Sour Musty Earthy Metallic Smoky Rotten Onion
 Cleaning Solution Ammonia Other: _____
 - Possible Source Unknown
 - Your symptoms (*if any*) Headache Dizziness/Light-Headed Nausea Cough
 Fatigue/Drowsiness/Weakness Sore/Burning Throat Difficulty Breathing
 Watery/Irritated Eyes/Trouble with Vision Tingling/Numbness/Paralysis Rash/Itching
 Other: None at this time
- Send this card to the Central Shift Office.**

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Attachment 4 - Odor Response Card

ODOR RESPONSE CARD - 241-U FARM

Odors Detected with *NO* Immediate symptoms

- Notify Immediate Supervisor.
- Contact Central Shift Manager, [REDACTED]. Provide the bulleted information below.
- Complete map, return to Central Shift Office as soon as practicable.

Odors Detected *WITH* Symptoms

- Notify Immediate Supervisor.
- Contact CSM, [REDACTED], complete below bulleted information and map.
 - Your name and the work you were performing
 - Your symptoms (if any)
 - Date and time odor was noticed
 - Location of odors (mark area on map and the wind direction)
 - Describe the odor
 - Name of other in or near the affected area
 - Was an IHT present?
 - Possible source
- Provide information on the back of card.
- Send this card immediately to the Central Shift Office.

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ODOR RESPONSE CARD - 241-U FARM

- Contact CSM, Complete below bulleted information and map.**
 - Date and time odor was noticed 10-24-18 0950
 - Your name and the work you were performing [REDACTED] (HPT change trailer U-Farm)
 - Location of odors (mark area on map and wind direction) Outside change trailer
 - Name(s) of others in or near the affected area 272-WA electricians & HPTs
 - Was an IHT present? NO
 - Describe the odor Sweet Sour Musty Earthy Metallic Smoky Rotten Onion
 Cleaning Solution Ammonia Other: _____
 - Possible Source _____
 - Your symptoms (if any) Headache Dizziness/Light-Headed Nausea Cough
 Fatigue/Drowsiness/Weakness Sore/Burning Throat Difficulty Breathing
 Watery/Irritated Eyes/Trouble with Vision Tingling/Numbness/Paralysis Rash/Itching
 Other: None at this time
- Send this card to the Central Shift Office.**

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Attachment 5- Odor Response Card

ODOR RESPONSE CARD - 241-U FARM

1. Contact CSM, Complete below bulleted information and map.

- Date and time odor was noticed 10/24/18 0850
- Your name and the work you were performing [REDACTED] HPT
- Location of odors (mark area on map and wind direction) NO WIND
- Name(s) of others in or near the affected area 272 WA ELECTRICIANS & HPTS
- Was an IHT present? NO
- Describe the odor Sweet Sour Musty Earthy Metallic Smoky Rotten Onion
 Cleaning Solution Ammonia Other: _____
- Possible Source TANKS
- Your symptoms (if any) Headache Dizziness/Light-Headed Nausea Cough
 Fatigue/Drowsiness/Weakness Sore/Burning Throat Difficulty Breathing
 Watery/Irritated Eyes/Trouble with Vision Tingling/Numbness/Paralysis Rash/Itching
 Other: _____

2. Send this card to the Central Shift Office.

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ODOR RESPONSE CARD - 241-U FARM

Odors Detected with NO Immediate symptoms

- Notify Immediate Supervisor.
- Contact Central Shift Manager, [REDACTED]. Provide the bulleted information below.
- Complete map, return to Central Shift Office as soon as practicable.

Odors Detected WITH Symptoms

- Notify Immediate Supervisor.
- Contact CSM, [REDACTED], complete below bulleted information and map.
 - Your name and the work you were performing
 - Your symptoms (if any)
 - Date and time odor was noticed
 - Location of odors (mark area on map and the wind direction)
 - Describe the odor
 - Name of other in or near the affected area
 - Was an IHT present?
 - Possible source
- Provide information on the back of card.
- Send this card immediately to the Central Shift Office.


Wind Direction
N
W E
S

SCALE IN FEET
0 100 200

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Attachment 6- Odor Response Card

Washington River Protection Solutions		PER Number: 2018-2795
TF-AOP-015 INDUSTRIAL HYGIENE INVESTIGATION REPORT		EIR Number: 2018-039
Time/Date & Event location: 0850 10/24/2018 U Farm		
<p>1. Event Summary <i>(including number of workers involved and activity in progress):</i></p> <p>At approximately 0850 on Wednesday the 24th of October, 2018, 6 workers outside of U Farm due West of MO297 reported smelling "sweet, onion, fast food smell". No symptoms were reported. At the time of the odor event, the workers were performing or supporting the performance of electrical panel cleaning and inspections.</p> <ul style="list-style-type: none"> • <u>Was an IHT Present during initiating event?</u> [] Yes [X] No <p><u>IH Monitoring/ Sample Survey Reports:</u></p> <p>18-09567: "AOP-015 Response U Farm Parking Lot"</p> <p><u>Weather Conditions at Time of Event:</u></p> <ul style="list-style-type: none"> • Weather station: 7 • Wind Direction and Speed: N 1mph • Barometric Pressure <i>(steady/rising/falling)</i>: 29.29 inHg steady • Temperature (F°): 46 • Humidity: 82% 		

Washington River Protection Solutions		PER Number: 2018-2795
TF-AOP-015 INDUSTRIAL HYGIENE INVESTIGATION REPORT		
Time/Date & Event location: 0850 10/24/2018 U Farm		EIR Number: 2018-039
<p>Field Response Timeline:</p> <p>0917: SOEN: "Entered AOP-015 for odors reported outside of U Farm, access to U Farm form 16th St. is restricted. CSM"</p> <p>0921: AN Field IH, COMS Field IH, EV Field IH, AYZ Field IH, ETF Field IH, PO Shift IHT Supervisor arrive at CSO</p> <p>0921: CSM briefs AN Field IH, COMS Field IH, EV Field IH, AYZ Field IH, ETF Field IH, PO Shift IHT Supervisor:</p> <ul style="list-style-type: none"> • 6 persons, no symptoms, all decline medical • Outside of U farm • Sweet onion smell • Suspect tank waste <p>0922: PO Shift IHT1 and PO Shift IHT2 arrive at CSO</p> <p>0928: AN Field IH briefs PO Shift IHT1:</p> <ul style="list-style-type: none"> • AN Field IH briefs PO Shift IHT with physical copy of IHP-09001 and directs implementation as per TF-AOP-015 3.1.12.1 • AN Field IH Directs PO Shift IHT to acquire Respiratory Protection Equipment form RPF TF-AOP-015 Task 2 as per TF-AOP-015 3.1.12.3 <p>0929: PO Shift IHTs depart CSO to retrieve instrumentation and RPE.</p> <p>0932: CSM asks AN Field IH to contact ST Field IH and inquire about presence of personal sample pumps on affected personnel. AN Field IH contacts ST Field IH by telephone and is informed that personal sample pumps were not present at time of event initiation</p> <p>0934: PO Shift IHT Supervisor calls COMS Field IH to inquire about possible additional IHT support. COMS Field IH declines additional support</p> <p>0938: Odor Response Cards are delivered to CSO</p> <p>0956: PO Shift IHT1 briefs COMS Field IH on response action status:</p> <ul style="list-style-type: none"> • NH3 and VOC readings <DL • Workers were present in the restricted area and were told to leave • Persons present did not report any odors <p>1000: COMS Field IH briefs CSM on response action results</p> <p>1020: CSM calls AN Field IH to confirm that TF-AOP-015 4.12 "Exit Criteria" have been met</p> <p>1043: SOEN: "Sample analysis for the TF-AOP-015 event has been completed and the results are at or below background levels. Exiting TF-AOP-015. CSM"</p>		
Field IH Author:		
		
<small>Print First and Last Name</small>	<small>Signature</small>	<small>Phone No. Date</small>

Washington River Protection Solutions TF-AOP-015 INDUSTRIAL HYGIENE INVESTIGATION REPORT		PER Number: 2018-2795
Time/Date & Event location: 0850 10/24/2018 U Farm		EIR Number: 2018-039
<p>2. GCMS Sample Results:</p> <p>N/A¹</p> <p>¹Bag samples were not collected for this AOP 015 investigation. As no source was identified and direct monitoring measurements for NH3 and VOC were less than the instrument's level of detection (DL). Sample Plan IHP-09001 R6 permits the responding industrial hygienist to collect bag samples at their direction. In this case the industrial hygienist did not give direction to collect bag samples.</p>		
<p>Programs IH Author:</p> <div style="background-color: black; height: 20px; width: 100%;"></div>		

Washington River Protection Solutions TF-AOP-015 INDUSTRIAL HYGIENE INVESTIGATION REPORT		PER Number: 2018-2795
Time/Date & Event location: 0850 10/24/2018 U Farm		EIR Number: 2018-039
<p>3. Additional Information:</p> <ul style="list-style-type: none">• Odor Response Cards received:		

