

Washington River Protection Solutions
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:** Waste Services 2. **Report Date:** 06/17/2024

3. **Investigation Title:** C-67 Response at 616 Building

4. **Investigation Report Number:** EIR-2024-041

5. **Responsible Manager:** [REDACTED]

6. **Event Investigator:** [REDACTED]

7. **Area / Building / Location:** 600 / 616 / inside of building Bays 1 & 2

8. **Date and Approximate Time of Event:** **Date:** 06/10/2024 **Time (military):** 1234 hours

9. **Associated Action Request (AR) Number:** WRPS-AR-2024-1865

10. **Associated Occurrence Report Number (if applicable):** NA

11. **Event Investigation Meeting Held:** Yes [] or No [X] **Date:** NA **Time (military):** NA

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

Building 616 is currently undergoing a construction project involving the installation of new HVAC units. Personnel have been authorized to continue working in the 616 building and performing their regular duties during construction.

The Nuclear Chemical Operators (NCOs) were preparing to sort batteries when they encountered a stronger than normal paint/solvent odor during the ongoing roof-mounted HVAC repair activities utilizing Inland Coating RC 2250 Rubber Seam Compound (SDS#079096).

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

3 Nuclear Chemical Operators (NCO)

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

On 06/10/2024, at approximately 1220 hours, 3 NCO workers were preparing to sort batteries and when they noticed a paint/solvent odor. None of the workers reported any symptoms and they all declined medical evaluation.

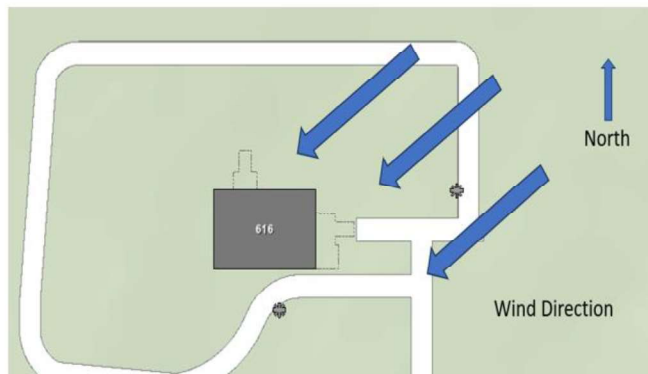
The workers were in Bay 1 when the odor was detected. The workers moved to Bay 2 and detected the same odor.

The workers left the area immediately and notified their Field Work Supervisor (FWS). The odor was reported to the Central Shift Manager (CSM) at 1230 hours. The workers filled out personal statements. All affected workers declined precautionary medical evaluation.

An Industrial Hygiene Technician (IHT) responded to the odor event and took Direct Reading Instrument (DRI) readings of the area. None of the readings were at action levels. The workers and the IHT could smell the same odor, but the DRI did not register any action levels.

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Building 616



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

Location:

Bays 1 and 2 of building 616. Building is a hazardous waste storage facility. No personal protective equipment (PPE) is required in the facility or for the sorting of batteries.

Weather Conditions:

Wind Speed: 8 Miles Per Hour (MPH)
Wind Direction: from the NE 050
Temperature: 85 degrees Fahrenheit
Barometric Pressure: 29.21 inches
Humidity: 23%
Mixing height: 1500 meters

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

None.

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

- [1220] - 1220 Odor manifested, detected by personnel.
- [1230] - Odor reported to FWS.
- [1230] - FWS notified CSM of odor at building 616.
- [1233] - Shift Office Emergency Notification (SOEN) sent.
- [1234] - All workers were evacuated from the 616 building to the designated staging area.
- [1235] - CSM made the required TFC-OPS-OPER-C-67 notifications.
- [1240] - All affected workers declined precautionary medical evaluation.
- [1316] - CSM initiated EIR-2024-041, "C-67 Response at 616 Building."
- [1410] - Completed C-67 Odor Response at 616 building. IHT monitoring results were at or below background levels. (SWIHD #24-04164)
- [1413] - Normal access to 616 Building was restored. Radio announcement complete.

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18. Compensatory Actions Taken:

None.

19. Remedial Actions Taken:

None.

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

To summarize the conclusions of the Industrial Hygiene Event Investigation Report (IHIR-00098) for EIR-2024-041, *Response at 616 Building*, investigation and DRI monitoring, all readings were below DRI detection levels.

The IHT performed monitoring in and around the area's individuals experienced odors. The results of this monitoring on the IFIR-00098 report are as follows:

- Industrial Hygiene (IH) met with the HVAC upgrade's construction manager and confirmed RC2250 Rubber Seam Compound (SDS# 079096) as the source of the odor.
- The only chemical in the product that had an Occupational Exposure Limit (OEL) was Petroleum Distillates (CAS#64742-47-8). The OEL for Petroleum Distillates is 500 ppm.
- An action level of 50 ppm was selected by the IH as an applicable action limit.
- A sampling was taken at 1410 hours; they identified a faint solvent smell and a Volatile Organic Compound (VOC) concentration level of 0.1 ppm.
- At approximately 1410 hours the results of the investigation were given to the 616 manager and the central shift office.
- At 1413 hours the central shift office released the 616 building for re-occupancy.

21. Positive Aspects Identified:

- All personnel evacuated the building and went directly to the staging area for building 616.
- The IHT performed a thorough evaluation of the area for odors.
- No actionable levels were identified.
- All affected workers declined precautionary medical evaluation.

22. Key Take Aways / Learning Opportunities:

- During a construction project on an existing facility, communication between the construction group and WRPS personnel working in the facility should identify hazard potential based on the work that is being performed by the construction group.

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.
- ☒ This event does not require continuation of the Event Investigation process.

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Responsible Manager Approval:

[Redacted]

Name (First, Middle Initial, Last)

[Redacted]

Signature / Date

CAS Manager Approval:

[Redacted]

Name (First, Middle Initial, Last)

[Redacted] Digitally signed by [Redacted]
[Redacted]
Date: 2024.06.17 15:47:03 -07'00'

Signature / Date

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

Event Title:
Building 616 C-67 for Solvent Smell

IHIR Number:

IHIR-00098

IHEI Number:

Date:
6-10-2024

Time:
12:30

Location:
616 Building

Event Summary and Timeline:

At approximately 12:30 on June 10, 2024. The 616 manager Dave Romine informed the 616-facility industrial hygienist (IH) of a solvent smell reported inside of building 616. The facility IH determined the solvent smell was most likely from a chemical being applied to the roof for the on-going 616 HAVAC upgrade. RC2250 Rubber Seam Compound was identified as the product being applied, and the likely culprit of the VOC smell.

At approximately 12:45 the facility IH arrived at the 616 building. The 616-manager stated that the shift office had been notified, and a C-67 response was activated for the facility. Next, the facility IH met with the HVAC upgrade's construction manager and confirmed that RC2250 Rubber Seam Compound (SDS # 079096 as the culprit. The construction manager also provided a copy of the applicable SDS. Upon review of SDS # 079096, the facility IH found that nonane (Cas # 111-84-2) with an OSHA PEL of 200 ppm was the only ingredient listed with an OEL (occupational exposure limit). Petroleum distillates (CAS#64742-47-8) was identified as the constituent of highest concentration. However, it had no OEL. Naphtha, Rubber solvent (CAS #8002-05-9, OSHA PEL of 500 ppm) was selected as the pseudo for petroleum distillates (CAS#64742-47-8). The OEL for petroleum distillates is 500 ppm (OSHA PEL and ACGIH TLV). An action limit of 50 ppm was selected as applicable action limit by selecting a value, 1/4 of the nonane OEL (lowest OEL on the SDS).

At approximately 12:53 the C67 IH was notified of the applicable SDS number, and the selected Action level. The shift office IHTs arrived at approximately 13:55. They identified a faint solvent smell and a VOC concentration of 0.1 ppm. At approximately 14:10, the results of the official investigation were relayed to the 616 manager and the shift office. Around 14:13 the shift office released the 616 building for re-occupancy.

Three odor/vapor response cards were completed. No one at the event reported symptoms or received medical treatment.

- The timeline for the event as provided by production operations is as follows:

TFC-OPS-OPER-C-67 at 616 on 06/10/2024:

Timeline:

1229 CSM contacts POE IH-1 to notify C-67 response imminent.

1230 POE IH-1 contacts POE IHTS to request resources for response.

1231 POE IH-1 arrives at CSO and receives briefing:

- 616
- Roof adhesive in use
- "solvent/paint" odor
- 2 or 3 NCOs reported odor

1233 POE IHTs and POE IHTS arrive at CSO. 10.6 eV PID and 11.7 eV PID requested by POE IH-1.

1235 POE IH contacts 616 IH Manager to request 616 IH support

1237 POE IH-1 checks DFAS for current conditions:

- Stability Class – A
- Wind direction – from 57°
- Wind Speed – 7.6 mph
- Mixing Height – 1500 feet AMSL

1238 POE IH-1 checks VMDS for conditions @ 1220:

- POR-518 – 0.519 ppm
- POR-519 – 0.629 ppm
- AN-VTP – N/A

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INDUSTRIAL HYGIENE EVENT INVESTIGATION REPORT (IHIR) (Continued)

Event Summary and Timeline:

- AW-VTP – 6.335 ppm
- POR-126 – 0 ppm
- POR-127 - 0 ppm
- 702-AZ – 5.759 ppm
- AP-VTP – N/A

1238 POE IH-2 arrives at CSO

1240 POE IH-2 contacts Hanford Site Meteorological Station for conditions at 1220:

- Temperature - 85°F
- Wind Direction – From NE
- Wind Speed – 8 mph
- Barometric Pressure – 29.18 and falling
- Relative Humidity – 23%

1242 POE IH-1 requests IHIR number to be assigned

1244 CSM contacts FWS:

- Affected workers were preparing for work in normal work stations
- All declined precautionary medical evaluation

1244: POE IHT-1, POE IHT-2, POE IHT-3 arrive at CSO. POE IH-1 requests 10.6 eV PID, 11.7 eV PID, and grab sample equipment prepared for deployment.

1247 POE IH-1 contacts 616 IH to determine chemicals present in work area

1251 POE IH-1 inquires as to status of O/VRCs from 616 IH

1253 616 IH provides SDS and AL:

- 079096
- 50 ppm

1257 616 IH – no O/VRCs at this time. POE IH-1 and CSM will deliver blank O/VRCs during response.

1258 CSM contacts FWS: no radiological postings, facility IHT currently in building.

1305 CSM contacts Issues Management to receive EIR POC and to assign EIR#: EIR 2024-041

1312 POE IH-1 and CSM sign TFC-OPS-OPER-C-67 Attachment A Page 1

1313 POE IH-1 briefs POE IHT-1, POE IHT-2, POE IHT-3, POE IHTS on response actions:

- 10.6 eV PID and 11.7 eV PID AL: 50 ppm, NH3 AL: 12 ppm
- Collect grab sample is 11.7 eV PID is not available before field response actions
- Facility access doors are closed
- 616 IH phone number and blank O/VRCs provided
- Voluntary RPE offered, declined.

1314 POE IH-1 notifies 616 IH that field response team is in route.

1316 IM POC contacts CSM to determine if an AR has been created

1338 POE IHTS provides populated O/VRCs to POE IH-1:

- No symptoms identified. Odor descriptors are consistent with that provided previously.

1343 IM POC contacts CSM to confirm EIR#

1355 POE IHTS contacts POE IH-1 and POE IH-2:

- All readings are less than detectable
- “perfume” and “food” odors are present inside of 616
- IHTs are in route to perform post-use-function test on DRI equipment

1401 POE IHTS arrives at CSO and reports that 11.7 eV PID has passed post-use-function test.

1411 POE IH-1 and CSM provide SWIHD survey number to POE IHT-1.

1410 POE IHT-1 contacts CSM to inform that all field readings were less than detectable and 10.6 eV PID has passed post-use-function test.

1412 POE IH-1 and CSM sign TFC-OPS-OPER-C-67 Attachment A Page 2

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INDUSTRIAL HYGIENE EVENT INVESTIGATION REPORT (IHIR) (Continued)

Event Summary and Timeline:

Sampling/Monitoring Results:

A maximum VOC concentration of 0.1ppm was detected.

SWIHD References:

24-04164

Additional Information:

At approximately 12:50 the construction manager for the HVAC job indicated that RC2250 Rubber Seam Compound was indeed being applied to the roof just before the C67 event, and the proximity of this application was near HVAC intakes. The construction manager also indicated that notification of the chemical application should have been given just before the application began.

RC2250 Rubber Seam Compound SDS # 079096 had been properly evaluated and included in the 616-work package

Recommendations/Conclusions:

Better communication between 616 management and construction contractor.

In the future the construction team will notify 616 occupants of smelly roof activities before application begins, and the facility's HVAC will be shut down during the applications. When HVAC operation is restored the facility's doors will be opened during the initial startup.

Others:

Associated Documents:

iCAS Number:

EIR Number: EIR-20240-041

Industrial Hygienist:

Digitally signed by

Date: 2024.06.16 21:14:01 -07'00'

Print First and Last Name

Signature / Date

Industrial Hygiene Level 3 Manager

Digitally signed by

Date: 2024.06.17 07:02:25 -07'00'

Print First and Last Name

Signature / Date

Industrial Hygiene Level 2 Manager:

Digitally signed by

Date: 2024.06.17 04:44:38 -07'00'

Print First and Last Name

Signature / Date

ODOR/VAPOR RESPONSE CARD

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

- Date and time of event: 6-10-24
- Check Applicable:
 - ☒ Odor
 - ☐ Ammonia Alarm (6 ppm)
 - ☐ Ammonia Alarm (12 ppm)
 - ☐ Alarm (other - describe):

• Your name and the work you were performing:

[Redacted] and Labeling

• Other work underway? Describe:

Disinfecting General

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

616

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

• Was Industrial Hygiene present, who?

No

• Describe the odor:

- | | | | | | |
|--|--------------------------------|---------------------------------|---------------------------------------|---------------------------------|---|
| ☐ Sweet | ☐ Sour | ☐ Smoky | ☐ Septic/Sewer | ☐ Musty | ☐ Rotten |
| ☐ Metallic | ☐ Onion | ☐ Earthy | ☐ Ammonia | ☐ Citrus | ☒ Solvent |
| ☐ Other (describe): | | | | | |

• 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

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, [REDACTED] 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

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

- Date and time of event: 02/10/24 1230
- Check Applicable:
 - ☒ Odor
 - ☐ Ammonia Alarm (6 ppm)
 - ☐ Ammonia Alarm (12 ppm)
 - ☐ Alarm (other - describe):

- Your name and the work you were performing: — sorting batteries

- Other Work Underway? Describe:

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

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

- Was Industrial Hygiene present, who?

- Describe the odor:

- | | | | | | |
|--|--------------------------------|---------------------------------|---------------------------------------|---------------------------------|----------------------------------|
| ☐ Sweet | ☐ Sour | ☐ Smoky | ☐ Septic/Sewer | ☐ Musty | ☐ Rotten |
| ☐ Metallic | ☐ Onion | ☐ Earthy | ☐ Ammonia | ☐ Citrus | ☐ Solvent |
| ☒ Other (describe): <u>Paint</u> | | | | | |

- Is source known/likely? Describe: people working on roof

- 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.

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 - 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*, Industry Union Safety
Representative* or the CSM.

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Safety Representative, the Supervisor/IH/
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- Check Applicable:
 - ☒ Odor
 - ☐ Ammonia Alarm (6 ppm)
 - ☐ Ammonia Alarm (12 ppm)
 - ☐ Alarm (other - describe): Paint

- Your name and the work you were performing:

Dispatch

- Other Work Underway? Describe:

Battery Sorting

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

Cell Waste Services

- 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): | | | | | |

- Is source known/likely? Describe:

Yes, construction working on the roof

- 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.

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as hot, cold, windy, rainy;
 - d. [REDACTED]
area;
 - e. Anything else you think is
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