WRPS-1603303

Enclosure

EVENT INVESTIGATION REPORT
EIR-2016-028

ENTRY INTO AOP-15 FOR ODORS AT 702-AZ, "A" TRAIN FILTER ROOM

Consisting of 19 Pages
Including cover sheet
EVENT INVESTIGATION REPORT

EIR-2016-028

Entry into AOP-15 for Odors at 702-AZ, “A” Train Filter Room

Event Investigator Under Instruction
Date

Event Investigator
Date

T.R. Responsible Manager
Date

21 July 2016
07/21/2016
7/21/16
Investigation Summary

On June 20, 2016 around 1300, a Washington River Protection Solutions (WRPS) AZ Farm Instrument Technician (IT) was performing a job to reinstall a temperature controller device (TCD) in the filter bank of the “A” heater controller cabinet located in 702-AZ. This TCD had been removed earlier in the day and delivered to a separate facility for calibration. No abnormal conditions or environmental factors were noted or reported during the removal and/or calibration of the TCD.

In order to properly align and insert the TCD during installation, the IT needed to adjust his body position by bending at the waist. While doing so, the IT noticed a sulphur or “rotten egg” smell. The IT immediately reported the odor to the onsite Industrial Hygienist (IH) Surveyor and the Health Physics Technician (HPT). Neither the IH Surveyor nor the HPT noticed any smell. The multiRAE (Device 001692) in use during the time indicated zero for both ammonia and volatile organic compounds (VOC’s). At this point, none of the three personnel involved had any symptoms and neither of them elected to seek care at the Hollie P. Mooers Corporation (HPMC) medical clinic.

The Central Shift Office (CSO) received the initial report from the AZ Team Area Day Shift Manager, and logged the entry at 1320, noting that an “(IT) while working in 702AZ filter room A, smelled an odor while bending down to perform work in the area (rotten egg), no symptoms & has elected not to report to HPMC for evaluation.” The Central Shift Manager (CSM) identified that the event, at this time, did not meet the requirements of an AOP-015 entry.

However, upon exiting the 702-AZ filter bank “A” vestibule, the IT started to notice a headache, and at this point, elected to be seen by HPMC personnel for evaluation. He notified his supervisor, and his supervisor transported the IT to HPMC. The CSO was notified and at 1335, the CSM entered into AOP-015 for odors at 702-AZ filter room and evacuated all personnel from the space. Additionally, access to the space was restricted until further evaluation could be completed.

The CSM sent out a Shift Office Event Notification (SOEN) at 1337, and additional notifications were made to a Department of Energy (DOE) Facility Representative (FAC REP), a WRPS Industrial Safety Case Manager and a WRPS Level 1 Supervisor. At 1503, the CSM initiated Event Investigation Report EIR-2016-028 with the associated Problem Evaluation Request (PER) of WRPS-PER-2016-1229.

At 1530, the three grab bag samples taken from the AOP-15 Event, were delivered to 2704-HX. All monitoring results, other than direct stack readings were below action levels (see Attachment 2, "TF-AOP-015 Industrial Hygiene Investigation Report 06/20/2016 at 1327 702AZ, Room 101," for details). At 1642, the IT was released to work with no restrictions.
Summary (continued)

At 1958, the CSO received notification that both the Direct Reading Instruments (DRI) and Hazardous Air Pollutants on Site (HAPSITE) results were below action levels for the 702-AZ filter room AOP-015 Event. The CSM then exited AOP-015 for the 702-AZ filter room. A SOEN was sent at 2004 along with a radio announcement, with the appropriate notifications made to the DOE FAC REP at 2005.

End of Summary

No Fact Finding Meeting has been held to this date

Weather Information

Though the AOP-015 Event occurred within building 702-AZ, onsite personnel indicated that the door leading into the building had been opened for approximately forty five (45) minutes. Weather conditions highlighted in yellow indicate key time frames and is included for ancillary informational purposes.

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Event Timeline

20 June 2016

1300: WRPS IT went to re-install a temperature controlling device in the 702-AZ filter bank “A” heater controller cabinet, and while doing so, reports smell of sulphur/“rotten eggs”. The two other personnel onsite report no smell of odors.

1320: CSO Log states initial report came in from the Area Day Shift Manager. WRPS IT smelled sulphur, or “rotten eggs”, while working inside the A Train Filter Room of building 702-AZ. No symptoms reported, and the individual did not elect HPMC evaluation. CSM identifies this event does not meet the requirements of an AOP-015 entry. Ammonia and VOC readings are 0 as per IH field log.

1327: IH Report logs “receive phone call from IHT in field of odor at 702-AZ. Rotten egg smell.”

1331: Two IH’s arrive at Shift Office to respond to AOP-015.

1332: Shift supervisor does all call on the radio for AOP-015.

1334: IHT Supervisor for AY/AZ arrives at Shift Office.

1335: CSO Log entry “Entered AOP-015 for odors entry page 207 @ 1320. Employee has symptoms (headache) & being taken to HPMC for evaluation. All personnel have been evacuated, room/area secured & guarded. IH reported “0” VOC, “0” ammonia. Only 2 people in room @ the time, no one was on SCBA. IT performing TIC cals (173770). Bldg is being posted restricted access.”

1336: Safety and Health Manager Supervisor arrives at Shift Office.

1337: SOEN sent out via text and email.

1337: Briefed by Shift Manager:

- One (1) worker affected reported originally at 1320,
- 1335 worker reported symptoms from smelling rotten eggs in filter room “A” worker taken to HPMC with headache.

1342: AZ IH contacts field IHT for monitoring details. Workers were not wearing respiratory protection for the job.

1343: Shift IHT’s report to CSO and briefed by AZ IH

1347: Shift IHT’s directed to get SCBA and equipment ready while waiting for Odor response card.

1350: Field IHT reports to CSO to brief AZ IH on location of worker that experienced odors. Worker was in the posted contaminated area (CA).

1359: AZ IH request field IHT to check on HPT that was on the job who was outside the CA to see if they smelled any odors.

1401: COMs IHT Supervisor contacts Shift IHT’s to clarify odor location and bag retrieval.

1402: COMs IHT Supervisor requests HPT support from Shift Manager for IHT’s responding to AOP-15.
1406: Shift HPT’s report to Shift Office for briefing.
1407: Shift IHT’s report back to Shift Office for final instructions from AZ IH on response and total bags to be taken (3).
   • Bag 1 from inside of Room 101 in the CA
   • Bag 2 from inside of Room 108
   • Bag 3 to be taken from the stack on 702AZ off the sample port in Room 105.
1409: Shift IHTs and HPTs leave Shift Office to respond. Notifications were made to a Department of Energy (DOE) Facility Representative (FR), a WRPS Industrial Safety Case Manager and a WRPS Level 1 Supervisor.
1428: Contact IHT Supervisor for programs to ensure that the HAPSITE is up and running and techs are available to run the 3 bags being delivered.
1520: Contacted by Shift Operations Manager to inquire about further sampling before releasing AOP-015 in Room 101.
1525: Met with Shift Operations Manager to describe where sample was taken inside Room 101.
1530: CSO log entry states that grab sample from AOP-15 for 702AZ delivered to 2704HX.
1540: Contacted IHT responding to AOP-015 to verify where the first bag sample was taken inside Room 101. Sample was taken near the High Contamination Area (HCA) and where the workers equipment was left.
1545: Contacted CSO to address worker feedback over possible sources of odor inside Room 101. Determined that a second bag sample is not necessary due to the fact that the first bag sample was taken near the suspected possible source.
1500: Receive odor response card from affected worker.
1642: HPMC releases IT back to work with no restrictions. Shift Office Event Notification (SOEN) sent.
1958: Sampling results are below action levels for the 702-AZ filter room AOP-015 event.
1959: CSO log entry “Exited AOP-15 for 702-AZ filter room”
2004: CSO log entry “SOEN sent, radio announcement complete.”
2005: CSO notified DOE FAC REP.
Compensatory Measures

1. Entered into AOP-15 event. SOEN sent out.
2. Secured the area and restricted access until grab bag samples could be taken and analyzed.
3. Individual requesting medical evaluation was seen by HPMC staff.

Preliminary Extent of Condition Review

This AOP-15 entry was specific to 702-AZ, “A” train filter room. With no detectable source or cause, the preliminary extent of condition is bound to the immediate area.

Discussion of Potential Causes

Based upon the review of information obtained, location of event, weather conditions and the IH report, the source of the odors encountered by the IT in the area of 702-AZ Room A can’t be definitively determined.

Discussion of Barriers That Could Have Impacted The Cause

There are no known barriers that either failed to prevent, or contributed to this event.

Recommendations/Proposed Corrective Actions

Based upon the findings, no further recommendations or proposed corrective actions are given.

Attachments:

1. Copy of Central Shift Office Logbook dated 6/20/2016, Pages 207-209 (3 pages)
2. TF-AOP-015 Industrial Hygiene Investigation Report, 06/20/2016 at 1327 702AZ, Room 101 (5 pages)
3. IH Direct Reading Instruments Monitoring Field Log, Survey ID: 16-05149, – 702-AZ A/B Train TIC Cals (1 page)
4. Problem Evaluation Request, WRPS-PER-2016-1229 (3 pages)
Attachment 1
Copy of Central Shift Office Logbook dated 6/20/2016, Page 207
Page 1 of 3

1045 E. Entered LEC 3.1A on 444.365 5845 hours for AVAZ Forms In-Service. VTP inoperable
LEC 3.1A 2.1 due NIT 7:34/51 8:19/87. LEC 3.1A 1.3 due NIT 7:42/71.
1054 Notified by (AMF Lab) twisted there ankle in IT chain
stepping over hoseballs. Taken to HMC by:

1057- Entry @ 1054 Notified CDFER
Casing 1st line

1059 Out

1102- Entry @ 0730 Notified CDFER
not at restrictions. Notified CDFER
Employee: [Name]

1123- Entry @ 1054 Employee (AMF Lab) released to return to work with restrictions
rescheduled on Thursday 12/30.
Employee restrictions are not walking on uneven surfaces, avoid standing
for long periods, standing next to vehicle.

1000- Entry @ 1233 Notified CDFER
Casing 1st Line
Employee: [Name]

1211- For 0600 started venting E-111,
PEC 09 venting E-180 C185 for flame
gas surveillance requirements

1300- Notified by (AMF Lab) white tile in 712 filter room, among
an odor while bending down to perform work
in the area (melamine), no symptoms. Has asked not to report to HMC for evaluation.
This does not meet ATLAS entry, and
exposure patienting rest of work evaluation.

1337- Entering time monitoring on 6/30/10 @ 1337

hours for SY Form Steady VTP 8.

Entry LEC 3.1A NIT 6/30/10 @ 1337 hours.
Attachment 1

Copy of Central Shift Office Logbook dated 6/20/2016, Page 208
(Page 2 of 3)

10:35:45  A-SHIFT

11:35 - Entered AOP-15 for odors entering AOP-15. Employee has symptoms being transferred to HPIC for evaluation. All personnel have been evacuated, room area secured.

"No fire per person in room at the time. No one was on SCBA, IT performing IC calls (HPIC).

Block is being posted restricted access.

14:09 - Entry to 1335 N.1000 DOE FA

Casement

No leaking of exhaust system

14:55 - Letter written, notified 13:45 by 

[Redacted]

HPIC for evaluation. Handwritten. Employee was in process of dressing out to go into AHIC for 2nd level of 3rd floor. Individual returned to work (personal medical).

14:55 - Entry to 1335 N.1000 DOE FA

Casement

15:15 - Entry to 1335 N.1000 DOE FA

Casement

15:15 - Entry to 1335 N.1000 DOE FA

Casement

15:30 - Groom sample from N.1000 to AHIC delivered

16:00 - [Redacted]

16:15 - Environmental sample taken 10/10/15 at 6PM for 2:10 PM. AHIC found 0.015 for 2:10 PM. Sample was taken 10/10/15 and 10/15/15.

[Redacted]
Attachment 1
Copy of Central Shift Office Logbook dated 6/20/2016, Page 209
(page 3 of 3)

0830 - A Shift
1401 - 112208 due to Air Monitor.
Planned shift down Environmental Health notified.
1422 - Entry approx @ 1335 Employee released
to work no restrictions. Notified DOE/FR

6/1 - Notified by DOE.

1746 - Notifyed by DOE.

1703 - ROC released as CSN.

1715 - Late entry @ 16.55 - 112208 exhaust secured.

1958 - Results are below action limits for 112-AZ filter room.

1959 - ROC released 112-AZ filter room.
2004 - SOEN sent radio announcement complete.

2047 - Notified (FACKED)

2246 - Air annulus secured for U.T. work.

0439 - ROC released as CSN by DOE.

0439 - ROC released as CSN.

0730 - Enter time monitoring on 6/11/16 @ 0730 hours.

For ST Form F, Service VIP 05, Entry 1-09 719

0830 - Entry at 0730. Notified DOE/FR.
Attachment 2
TF-AOP-015 Industrial Hygiene Investigation Report
06/20/2016 at 1327 702AZ, Room 101
(Page 1 of 5)

TF-AOP-015 INDUSTRIAL HYGIENE INVESTIGATION REPORT

Time/Date & Event location:
06/20/2016 at 1327 702AZ, Room 101

1. Event Summary (including number of workers involved and activity in progress): One Instrument Technician, one Industrial Hygiene Technician (IHT) and one Health Physics Technician (HPT) were in Room 101 installing a temperature controller when the Instrument Technician reported a rotten egg odor. The IHT and HPT did not observe the odor.
   - Was an IHT Present? [x] Yes [ ] No
   - Was Respiratory Protection Being Worn by Affected Worker(s)? [ ] Yes X No

2. Summary of Employee Reported Information (e.g., symptoms): The Instrument Technician reported a rotten egg odor. No odor response card was available for this response plan. IH response was crafted based on input from the IHT on the job and the information given to the Central Shift Manager by the Field Work Supervisor. The Odor Response Card was delivered on 6/21/2016 at 1500.
   - Attach Completed Odor Response Card

ODOR RESPONSE CARD - 241-AZ FARM

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

ORIGIN OF ODOR:

4. Notify Immediate Supervisor
5. Contact CSS
   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 odor (charts area on map and the wind direction)
   - Describe odor
   - Name of others in or near the affected area
   - Was an IHT present?
   - Possible source

6. Provide information on the back of card

Page 1 of 5
A-6005-744 (REV 3)
Attachment 2
TF-AOP-015 Industrial Hygiene Investigation Report
06/20/2016 at 1327 702AZ, Room 101
(Page 2 of 5)

Time/Date & Event location:
06/20/2016 at 1327 702AZ, Room 101

ODOR RESPONSE CARD - 241-AZ FARM

1. Contact CSM, Complete before initiating investigation.
   • Date and time odor was noticed:
   • Name and the work you were performing:
   • Location of odors (mark area on map and wind direction):
   • Name(s) of others in or near the affected area:
   • Was an IHT present?:
   • Describe the odor:
     - Sweet  □ Sour  □ Musty  □ Earthy  □ Metallic  □ Smoky  □ Rotten  □ Onion
     - Cleaning Solution  □ Ammonia  □ Other: Sulfur, Rotten Eggs
   • Possible Source:

2. Send this card to the Central Shift Office.

3. Identification of Source of the Concern: [X] Yes  [ ] No
   Exhaust from 702 AZ, B train.

4. Time Line of the Event:
   1327: Field IHT advises report of rotten egg odor at 702AZ.
   1331: Two IHS arrive at Central Shift Office (CSO) to respond to AOP-015
   1332: AOP-015 radio notification made by Central Shift Manager
   1334: IHT Supervisor for AYIAZ arrives at CSO
   1336: Safety and Health Manager arrives at CSO
   1337: SOEN sent out via text and email
   1337: Briefed by Central Shift Manager (CSM)
     • One worker affected reported originally at 1320
     • 1335: Worker reported symptoms from smelling rotten eggs in Filter Room A. Worker taken to HPMC with headache
   1342: AZ IH contacts field IHT for monitoring details. Workers were not wearing respiratory protection for the job.
   1343: Shift IHT's report to CSO and briefed by AZ IH
   1347: Shift IHT's directed to get SCBA and equipment ready while waiting for Odor Response card.
   1350: Field IHT reports to CSO to brief AZ IH on location of worker that experienced odors. Worker was in the posted Contamination Area (CA)
### Attachment 2

**TF-AOP-015 Industrial Hygiene Investigation Report**

**06/20/2016 at 1327 702AZ, Room 101**

*(Page 3 of 5)*

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#### Washington River Protection Solutions

**TF-AOP-015 INDUSTRIAL HYGIENE INVESTIGATION REPORT**

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1359: AZ IH requests field IHT to check on HPT that was on the job who was outside the CA to see if they smelled any odors.

1401: COMs IHT Supervisor contacts shift IHT's to clarify odor location and bag sample retrieval.

1402: COMs IHT Supervisor requests HPT support from CSM for IHT's responding to AOP-015.

1406: Shift HPT's report to CSO for briefing.

1407: Shift IHT's report back to CSO for final instructions from AZ IH on response and total bag samples to be taken (3):
- Bag 1 from inside of Room 101 in the CA
- Bag 2 from inside of Room 108
- Bag 3 to be taken from the stack on 702AZ off the sample port in room 105.

1409: Shift IHT's and HPT's leave shift office to respond.

1428: Contact IH Supervisor for programs to ensure that HAPSITE is up and running and IH Techs are available to run the 3 bags being delivered.

1520: Contacted by CSM to enquire about further sampling before releasing AOP-015 in Room 101.

1525: Met with CSM to describe where sample was taken inside room 101.

1540: Contacted IHT responding to AOP-015 to verify where the first bag sampled was taken inside room 101. Sample was taken near the posted High Contamination Area (HCA) and where the workers' equipment was left.

1545: Contacted CSO to address worker feedback over possible sources of odor inside room 101. Determined that a second bag sample is not necessary due to the fact that the first bag sample was taken near the suspected possible source.

06/21/2016

1500: IH receives Odor Response Card from affected worker.

#### 5. Summary of IH Monitoring and Sampling Data:

"@ Odor" DRI readings were taken by the IHT present and are representative of the time the job was occurring and the odor was observed. "@ Source" DRI readings were obtained from the Tedlar bag samples taken from the stack and represent the highest readings observed.

**a. Monitoring, SWIIHD Survey #16-05149 and #16-05170:**

<table>
<thead>
<tr>
<th>AGENT</th>
<th>@ODOR</th>
<th>@SOURCE</th>
<th>EXPOSURE LIMIT</th>
<th>REPORTING LIMIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia</td>
<td>0 ppm</td>
<td>19 ppm</td>
<td>25 ppm OEL/35ppm STEL</td>
<td>&gt;0 ppm</td>
</tr>
<tr>
<td>Total VOCs</td>
<td>0 ppm</td>
<td>1.10 ppm</td>
<td>2 ppm AL</td>
<td>&gt;0 ppm</td>
</tr>
<tr>
<td>Mercury</td>
<td>N/A mg/m³</td>
<td>Not Available</td>
<td>0.025 mg/m³ OEL (typical background)</td>
<td>0.000016 mg/m³</td>
</tr>
<tr>
<td>Nitrous Oxide</td>
<td>N/A ppm</td>
<td>2.1 ppm</td>
<td>25 ppm AL</td>
<td>&gt;0 ppm</td>
</tr>
</tbody>
</table>

**b. GCMS Sample Results:** Please find below two annotated chromatograms.

---

Page 3 of 5

A-8005-744 (REV 3)
Attachment 2
TF-AOP-015 Industrial Hygiene Investigation Report
06/20/2016 at 1327 702AZ, Room 101
(Page 4 of 5)
### Attachment 2

**TF-AOP-015 Industrial Hygiene Investigation Report**

**06/20/2016 at 1327 702AZ, Room 101**

(Page 5 of 5)

<table>
<thead>
<tr>
<th>Time/Date &amp; Event location:</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/20/2016 at 1327 702AZ, Room 101</td>
</tr>
</tbody>
</table>

#### Background Information:
Rotten egg odor is typically associated with hydrogen sulfide, H2S. TLV Documentation reports H2S odor thresholds from 0.2 to 300 ppb. The OSHA PELs are 20 ppm-C and 50 ppm-Peak (10 minutes once per shift). The 2005 TLVs are 10 ppm TWA-8 hr. and 15 ppm STEL (15 minutes). The current TLVs are 1 ppm TWA-hr. and 5 ppm STEL (15 minutes).

The Hapsite cannot measure H2S directly. The molecular weight is below the range it can scan. Alkyl sulfides or mercaptans are directly detectable by the Hapsite.

Analysis of H2S on the Hapsite is accomplished by indirect means. The SO2 concentration in the blank run is compared to that of the sample chromatograms since sulfur species at low concentrations are adsorbed very strongly by the material of the concentrator. Upon heating, oxygen adsorbed from the air sample will react with these species to form sulfur dioxide, which is easily and sensitively detected. A Reconstructed Ion Chromatogram, where only the masses of sulfur dioxide and its breakdown product was plotted. This does not show any significant increase from blank to any of the samples.

#### Sampling:
- **Source** [ ] Yes [X] No
- **Area** [ ] Yes [X] No
- **Personel** [ ] Yes [X] No

#### Weather Conditions at Time of Event: Inside building:
- **Wind Direction & Speed**
- **Barometric Pressure (steady/rising/falling)**
- **Temperature (°F)**

#### Recommendations/Conclusions:
All monitoring results, other than direct stack readings were below Action Levels consequently no recommendations are included in this report.

#### Other:

<table>
<thead>
<tr>
<th>IH Monitoring/ Sample Survey Reports:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Author</strong> (Sgn)</td>
</tr>
<tr>
<td><strong>Program</strong> (Print)</td>
</tr>
</tbody>
</table>

Page 5 of 5  
A-8006.744 (REV 3)
## Attachment 3

### IH Direct Reading Instruments Monitoring Field Log

**Survey ID:** 16-05149 – 702-AZ A/B Train TIC Cals

---

### Washington River Protection Solutions
IH DRI Monitoring Field Log

**Survey ID:** 16-05149

### Survey Title:
702-AZ A/B TRAIN TIC CALS

### Sample Plan:
EABO-11051 - AY/AZ Farms SEG 1 Work Activities

### WO/Procedure:
173770

### Job Contact:
Phone: —

### Surveyor:
Signature/Date: —

### Engineering/Administrative Controls:
Mechanical Ventilation (Fixed) / Boundary

### Comments:
(Briefly describe jobs being performed)

IHT area monitored for NH3 and VOCs during 702-AZ A/B TRAIN TIC CALS noise filter room A. IHT used a multiRAE pro connected to a hose that was ran back into the CA. Before crew entered the filter room NH3 was 0ppm and VOCs were 0ppb at 0815. At 0820 two electricians entered the filter room to turn off power to the instrument being calibrated. Electricians were wearing orange coveralls in the CA. After they exited two instrument techs entered the CA in white. They removed the component to be calibrated. Area monitoring readings were 0ppm NH3 and 0ppb VOCs at 0945. Crew then exited the 702AZ area. At 1250 crew returned to 702AZ area to reinstall the calibrated component. IHT connected to the same hose running into the CA at 1255 NH3 was 0ppm and VOCs were 0ppb. At 1305 one instrument tech entered filter room A to install the component. Instrument tech was squatted down facing south toward the A train. Grating is below him. At 1310 the instrument tech reported smelling a strong rotten egg smell. Instrument tech then proceeded to exit the room doing with the assistance of an HPT, HPT reported not smelling anything. Crew exited the building area. IHTs multiRAE pro NH3 reading was 0ppm and VOCs were 0ppb at 1310. IHT left the instrument connected to the hose while crew reconvened outside the building. The instrument tech that smelled the rotten egg smell reported symptoms of a headache 10 minutes after the smell. An AOP-15 was then called. IHT removed the instrument from the hose at 1330. NH3 was 0ppm and VOCs were 0ppb. IHT was in the vestibule room connected to the filter room and smelled nothing. Crew then exited the area.

### Farm: Air

**Specific Location:** Cab Side from 702AZ

### Other:
Filter room A

### Farm Status:
- [ ] N/A
- [x] Static
- [ ] Tank Intrusive
- [ ] Unknown
- [ ] Waste Disturbing
- [ ] Waste Intrusive

### Job Activity:
702-AZ A B A/B Train TIC Cals

---

### Device

<table>
<thead>
<tr>
<th>Device</th>
<th>Type</th>
<th>Time</th>
<th>Location</th>
<th>Agent</th>
<th>Results/Units</th>
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</thead>
<tbody>
<tr>
<td>001692</td>
<td>A</td>
<td>0815</td>
<td>702AZ Filter Room A</td>
<td>Ammonia</td>
<td>0 ppm</td>
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<tr>
<td>001692</td>
<td>B</td>
<td>0846</td>
<td>702AZ Filter Room A</td>
<td>Volatile Organics</td>
<td>0 ppm</td>
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<tr>
<td>001692</td>
<td>c</td>
<td>0857</td>
<td>702AZ Filter Room A</td>
<td>NH3</td>
<td>0 ppm</td>
</tr>
<tr>
<td>001692</td>
<td>c</td>
<td>0857</td>
<td>702AZ Filter Room A</td>
<td>VOC</td>
<td>0 ppm</td>
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<tr>
<td>001692</td>
<td>c</td>
<td>1255</td>
<td>702AZ Filter Room A</td>
<td>NH3</td>
<td>0 ppm</td>
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<tr>
<td>001692</td>
<td>c</td>
<td>1255</td>
<td>702AZ Filter Room A</td>
<td>VOC</td>
<td>0 ppm</td>
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<tr>
<td>001692</td>
<td>c</td>
<td>1310</td>
<td>702AZ Filter Room A</td>
<td>NH3</td>
<td>0 ppm</td>
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<tr>
<td>001692</td>
<td>c</td>
<td>1310</td>
<td>702AZ Filter Room A</td>
<td>VOC</td>
<td>0 ppm</td>
</tr>
<tr>
<td>001692</td>
<td>c</td>
<td>1320</td>
<td>702AZ Filter Room A</td>
<td>NH3</td>
<td>0 ppm</td>
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<tr>
<td>001692</td>
<td>c</td>
<td>1320</td>
<td>702AZ Filter Room A</td>
<td>VOC</td>
<td>0 ppm</td>
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</table>
### Attachment 4
**Problem Evaluation Request**
**WRPS-PER-2016-1229**

**Page 1 of 3**

<table>
<thead>
<tr>
<th>PER No</th>
<th>Date of Discovery</th>
<th>Time of Discovery (24:00)</th>
<th>Location</th>
<th>Project Description</th>
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<tr>
<td>WRPS-PER-2016-1229</td>
<td>06/20/2016</td>
<td>13:30</td>
<td>AZ Farm</td>
<td>Production Operations: Tank Farms</td>
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</tbody>
</table>

**Description of Concern or Problem**
Upon entering 702AZ A Train Filter Room to perform work under work order 173770 for Temperature controller Calibrations, Instrument Tech smelled "rotten egg" odor and developed a headache. The odor was smelled prior to performing calibration and without any system breach. Worker was taken to HPHC where he was evaluated and released to return to work without restriction.

**Recommended Corrective Actions**
Perform follow-up IH monitoring/sampling. Determine source of odor and remediate.

**SHIFT OPERATIONS REVIEW**

<table>
<thead>
<tr>
<th>Title</th>
<th>Reportability</th>
<th>SSC Operability</th>
<th>Operability Review</th>
<th>Comp Measures Req</th>
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<tbody>
<tr>
<td>702-AZ AOP-015 event 6/20/16</td>
<td>Non-Reportable</td>
<td>N/A</td>
<td>N/A</td>
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**SCREENING**

<table>
<thead>
<tr>
<th>PER Significance Level</th>
<th>Analysis Level</th>
<th>PER with Resolution</th>
<th>Occurrence Rpt #</th>
<th>DOE CAP Required?</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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**Assigned Responsible Manager**
Facilities Rep / SSO

**Program**
Requirements Area Manager (RAM)

7/6/2016
## Attachment 4

### Problem Evaluation Request

**WRPS-PER-2016-1229**

*(Page 2 of 3)*

<table>
<thead>
<tr>
<th>PER Screening Comments</th>
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<tbody>
<tr>
<td>6/21/16</td>
</tr>
<tr>
<td>EIR-2016-028</td>
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</tbody>
</table>

**ORPS Code**

- B1230A - Industrial Hygiene / Oor/Vapor / Event
- B910D - Industrial Hygiene / AOPs / Sampling

**Function Area**

- Operations

**Work Process**

- Routine Facility Operation

**ISMS**

**PER Screening Chair**

**PER Screening Chair ID**

**PER Screening Chair Phone**

**PER Screening Date**

06/21/2016

**PAAA Review**

**PAAA Screening**

**PAAA Codes**

**Function Codes**

**Not subject to PAAA**

**PAAA Causal Analysis Review**

**NTS Report Number**

**NTS Report Date**

**No**

**PAAA Screening Comments**

1) Basis for PAAA screening is in file attached to PER. In file, see highlighted green text for non-compliance.
2) Approval per procedure TFC-ESHQ-PAAA-D-08 dated 7/19/2012 (paragraph 4.1.5-7).

**PAAA Reviewer Name**

**PAAA Review Date**

**PAAA Approver Name**

**PAAA Approve Date**

**Problem Statement**

**Remedial Corrective Action**

**Causal Analysis**

**Causes**

**Extent of Condition**

**HPI Error Precursors**

**Task Demands**

**Work Environment**

**Individual Capabilities**

**Natural Tendencies/ Human Nature**

**Has the evaluation of this PER resulted in additional information that could affect the Central Shift Office (CSO) determination of operability or reportability?**

**Comments**

**No**

**ATTACHMENTS**

- Link to PER
- PAAA_Screen_ 6-21-16.pdf

**AUDIT HISTORY**

<table>
<thead>
<tr>
<th>Change Date</th>
<th>Auditor</th>
<th>Comments</th>
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<tbody>
<tr>
<td>06/20/2016 16:54</td>
<td></td>
<td>Initator Tab Initial submission.</td>
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<tr>
<td>06/20/2016 19:47</td>
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<td>SD Tab Initial submission.</td>
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<td>06/21/2016 05:56</td>
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<td>'How Was Problem Discovered' was changed.</td>
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</table>

7/6/2016
### Attachment 4

**Problem Evaluation Request**

WRPS-PER-2016-1229

(Page 3 of 3)

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/21/2016</td>
<td>06:50</td>
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</tr>
<tr>
<td>06/21/2016</td>
<td>13:54</td>
<td>Screening Tab initial submission.</td>
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<tr>
<td>06/21/2016</td>
<td>15:10</td>
<td>'Assigned Responsible Manager Task Instructions' were changed.</td>
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<tr>
<td></td>
<td></td>
<td>'PER Screening Comments' was changed.</td>
</tr>
<tr>
<td>06/22/2016</td>
<td>10:23</td>
<td>Responsible Manager Task Launched by Owen, Annette</td>
</tr>
<tr>
<td>06/27/2016</td>
<td>09:52</td>
<td>PAAA Tab initial submission.</td>
</tr>
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</table>

--- End of Report ---

07/06/2016 01:27 PM