

EVENT INVESTIGATION REPORT

EVENT INVESTIGATION REPORT, '272AW CONEX AND INSTRUMENTATION SHOP
AOP-015 EVENTS,'

EIR-2014-037

(Print and Sign)

Event Investigation Team Lead

12/29/14

Date

(Print and Sign)

Responsible Manager

12/29/14

Date

PER No. WRPS-PER-2014-1902

EIR-2014-037 272AW CONEX & INSTRUMENTATION SHOP

(WRPS-PER-2014-1902)

Investigation Summary

On October 2, 2014 while performing activities requiring access to the middle conex box west of 272-AW, 2 of 3 workers at the work site entered the conex box and after being inside of the conex, experienced stronger than normal odors within the conex. The third worker at the site also reported the presence of odors outside of the conex. At the time of the event, no workers experienced symptoms however all three accepted medical evaluation and were taken to Hanford Occupational Health Services Corporation (HPMC). Additionally, an MSA worker assisting fire maintenance with work near 272-AW during the event reported to HPMC with symptoms. All WRPS and MSA workers were later returned to work with no work restrictions except a restriction placed by Washington River Protection Solutions LLC (WRPS) until WRPS workers blood work results were returned. In response to this event, ventilation to the 272-AW facility was shutdown to prevent potential vapors being drawn into the building. Workers reported propane like odor. It should be noted that there are no propane sources near this area.

At 1430, workers stationed in 272-AW as their work location, reported chemical smell in the instrument shop. As the odors identified were stronger than normal and reported by multiple workers, a second AOP-015 was entered. The odors reported during this event were glue/paint type odors. Workers reporting the odors did not indicate any symptoms and none accepted offer of medical evaluation. No additional compensatory actions were identified as necessary beyond those implemented during response to the events as a result of the fact finding meeting or interviews conducted.

A fact finding meeting, as part of the event investigation, was held on October 7, 2014 to establish a timeline for the two AOP-015 events. Interview of a Mission Support Alliance (MSA) employee that was working in the area of the conex box related AOP that reported to HPMC with symptoms, his management and Hanford Atomic Metal Trades Council (HAMTC) Safety Representative were conducted October 21, 2014.

This investigation was indeterminate regarding the source of odors for outside and inside the conex box AOP-015 event. The following information (shown in italicized text) is provided verbatim from the IH Monitoring and Sampling results obtained in response to the AOP-015 event, as documented in TF-AOP-015 Industrial Hygiene Investigation Report – AOP-15 272AW Conex Box:

Summary of IH Monitoring and Sampling Data:

a. Monitoring

Readings with Direct Reading (DRI) field instrumentation saw no elevated levels in and around Conex box, Evaporator parking lot, AW farm general area, or drain field NE of 272AW.

AGENT	@ODOR	@SOURCE	EXPOSURE LIMIT	REPORTING LIMIT
Ammonia	0ppm	0ppm	25 ppm OEL/35ppm STEL	>0 ppm
Total VOCs	0ppm	0ppm	2 ppm AL	>0 ppm
Mercury	n/a g/m ³	n/a mg/m ³	0.025 mg/m ³ OEL	0.000016 mg/m ³
Nitrous Oxide	n/a ppm	n/a ppm	25 ppm AL	>0 ppm

b. Gas Chromatograph Mass Spectrometer (GCMS) Sample Results:

Multiple bag samples taken at various locations, conex box, evaporator parking lot, AW farm, 242 vessel vent.

Analysis was also performed with Fourier Transform Infrared (FTIR). See Survey for Analysis.

Weather Conditions at Time of Event:

- Wind Direction & Speed 4NW
- Barometric Pressure (steady/rising/falling) 29.49
- Temperature (°F) 66

Recommendations/Conclusions:

Continue on path to have MSA repair cracked risers at drain field, investigate housekeeping options in co-located conex boxes to ensure no material inside could be causing propane like odors. Recommend restoring normal access to restricted area around 272AW.

Other: AreaRaes were located on loading dock and west side of 272AW and ran continuously from previous night shift, highest peak was .2ppm VOC and 0ppm NH3 from AreaRae placed on west side, 0ppm VOC and 0 ppm NH3 from instrument on loading dock.

Two postulated sources were discussed during the fact finding; 1) odors from an adjacent sewer system, and 2) the controlled 242-A Evaporator dump. Pipefitters, during the fact finding, commented that the odors, in their professional judgment, did not reflect odors indicative of sewer type odors. Neither IH sampling performed during the AOP-015 response actions nor information gathered during this initial event investigation confirmed/or dispelled either of these potential sources as the source of odors experience in the conex box.

Response actions related to the conex box AOP-015 event included:

- Establishment of road barriers to prevent access to the areas of reported odors
- Communications of the event, environmental conditions during the event and resulting controls during event response, and communications with 272-AW building residents
- Communications with MSA
- IH investigation surveys and sampling
- Isolation of Building 272-AW ventilation
- Establishment of barriers to prevent egress from the 272-AW with the exception of ...
- Medical evaluation of effected workers

This investigation did not reveal any new information regarding the source of the odor initiating the event. However, the fact finding and interviews conducted did reveal that improvements in Tank Farm response to AOP-015 events when they occur outside of a tank farm boundary in several of the areas of response identified above can be improved. For example:

- Barriers used to blockade road ways were cones and trucks. During interview with the MSA employee, when he was driving out of the area, two cones were encountered in the roadway, but left adequate space to allow access and no manned watch was provided to ensure the area was not accessed.
- Communications to 272-AW occupants was less than adequate during the event. Although a Shift Office Event Notification (SOEN) message and all call radio announcement was made, most building occupants do not receive these messages. The building warden was not notified and managers that were cognizant of the AOP-015 had intermittent instruction regarding barriers being placed at building access points and what was expected regarding access and egress creating confusion and uneasiness amongst the building occupants.
- All call radio announcements do not reach non-WRPS personnel that may be working in the affected area and thus, the employee relies upon action by their company representatives upon receipt of WRPS SOEN

These recommendations will be discussed below under Recommendations/Proposed Corrective Actions and will be further evaluated as part of the causal analysis associated with WRPS-PER-2014-1902. Additionally, it is believed as a result of this investigation that isolation of Building 272-AW ventilation in response to the conex AOP-015 was a contributing cause for the 272-AW AOP-015 event that followed.

The 272-AW AOP-015 event followed roughly an hour following isolation of the building 272-AW ventilation system creating situation in the building that limited air exchange. Odors experienced by building residents were identified in the instrument shop area in the northwest corner of the shop according to odor response card provided to the Central Shift office. Odors were reported as a glue/paint type odor, which is not typical of odors reported for tank farm vapor related odors. IH investigative survey and monitoring (TF-AOP-015, Industrial Hygiene Investigation Report – 272AW Building adjacent to Instrument Tech Shop) conducted as part of the AOP response resulted in the following (table information provided verbatim from the IH report including strikeout):

AGENT	@ODOR	@SOURCE	EXPOSURE LIMIT	REPORTING LIMIT
Ammonia	0ppm	0ppm	25 ppm OEL/35ppm STEL	>0 ppm
Total VOCs	.036 ppm	2.27 – 2.6 ppm	2 ppm AL	>0 ppm
Mercury	n/a mg/m ³	n/a mg/m ³	0.025 mg/m ³ OEL	0.000016 mg/m ³
Nitrous Oxide	n/a ppm	n/a ppm	25 ppm AL	>0 ppm
Note: Both the 10.6 and 11.7 Lamp ppb Rae's were used for investigation. Not presumed tank waste so 2ppm AL is irrelevant for sources in shop with the numerous chemical storage areas.				

Also noted in the IH Investigation Report: "Building ventilation was turned off earlier in day in response to the first AOP-15 entered on 10/2/2014. Turning this off in a large building with multiple shops (painters, pipefitters, and electrical areas) could have a possible effect in regards to building occupants normal day to day smells. The garbage can in the instrument shop when opened had similar smell as described on odor response cards and showed some VOC's..."

Event Timeline

THURSDAY, OCTOBER 2, 2014

- 0900/0930 Pipefitter stated conex was open earlier in the morning and there was no odor then.
- 0930 Employees stated [at the fact finding] that Porta Potty pumping in the area had been completed and truck had left the area.
- 0949 242-A initiates controlled dump of 242-A C-A-1 contents. 242-A vessel ventilation system is operating
- 0952 SOEN sent "Started controlled dump of 242-A C-A-1 contents to AW-102. 242-A SM."
- 1015 Two pipefitters (fitters) were at middle conex west of 272AW, objective was to find a place to store aluminum pipe for order coming in. Millwright (MW) was to look at tripod for future job.
- Fitter 1 and millwright entered the conex which was open from an entry by a pipefitter earlier in the day. Fitter 2 stayed outside of conex. Fitter 1 and millwright smelled an odor and exited the conex and warned Fitter 2. Fitters closed the conex and made their way on the west side of the building (along sidewalk).
- Fitters/millwright got an odor response card, had to make copies of the card, and headed to the Shift Office.

Fitters/millwright notified Central Shift Manager (CSM) of smell inside and outside of conex outside of 272AW.

- 1019 CSM talked with employees who smelled the odor outside of 272AW and in conex box. CSM received the Odor Response Cards and interviewed the employees regarding the odors experienced and if they were experiencing symptoms. CSM then made notifications over the Radio under AOP.

Safety and Health representatives arrived.

Observations made during the fact finding were that due to many incoming phone calls to the shift office, the ongoing operations drill and the AOP-015 event, the activity level for the CSM to manage was challenging.

- 1020 CSM Entered AOP-015.
- 1026 CSM notified from the employees that the wind was out of the north. Fitters and millwright stated to CSM that the smell entered the conex from the outside and that they believed the odor was from the Evaporator Pot being dumped and exiting through vessel vent and that it is in line with parking lot and nearly in line with conex box. [The source of the odor could not be confirmed by this investigation.]
- 1028 IH representative and HAMTC safety representative stepped outside of Shift Manager Office to talk about sampling areas and how to respond.
- 1030 Discuss sampling for conex box and other potential sources of the smell
- 1032 CSM briefed on IHT on response plan
- 1033 Industrial Hygiene Technician (IHT) waiting for word from the shift manager on how to respond
- 1034 Central Operations & Maintenance Manager received call about the 3 employees who were going to HPMC
- Central Operations Maintenance Systems (COMS) Manager contacted Fitter/millwright supervisor to take the fitters/millwright to HPMC
- 1035 IHTs step back into shift manager office to discuss/pre-job how to and where to sample and pull bags.
- 1037 Employee affected by odors states odor is possibly from the vessel vent of the evaporator exhauster

- 1038 Employees that were affected point out that the wind direction at the evaporator is different than the wind at 272AW. Flag at evaporator blowing from north, flag at 272-AW blowing from east.
- 1020/1045 Fitters and millwright found it frustrating that they had to continuously describe where the conex was and where the smell was. **(During the fact finding a suggestion was made by the fitters to have a map in the Shift Office of outside farm area for all buildings)**
- 1040 Planning response to event with affected employees input and other possible sources.
- 1041 Discuss 3 possible sources to pull samples from along with the bag sample from conex.
- 1043 Affected employees continue to disagree with IH direction of samples and potential sources.
- 1045 Affected employees leave shift managers office to go to HPMC
- 1046 IH leaves to notify mask station of AOP-015 response and IHT's that will be needing masks.
- 1047 Continue to discuss how to and where to take sample with responding IHT's.
- 1049 Discussion of getting more IHTs to help respond to the multiple locations and possible sources identified by IH.
- 1050/1100 CSM and Operations employees supporting the AOP response worked with Operators to put up roadblocks to restrict access by putting cones in the roadway to barricade the area off.
- 1052 IH returns to shift office from mask station
- 1058 IHT confirms with shift manager of response plan
IHTs leave shift office to get SCBA and respond according to the shift manager instructions
- 1100 MSA employee arrives at 272-AW to support Radio & Alarm Reporter system (RAFAR) Box maintenance by the Hanford Fire Department.
- 1102 COMS Manager was called by HPMC stating that they were too busy and needed to split the group and some of the personnel getting medical evaluation were taken to 1979 Snyder.

- 1104 SOEN Message sent made by CSM "Entering AOP-015 for odors reported near 272AW. Road blocks are put in place East and West of 242-A on 4th St and South of AW Farm on Canton Ave.

During fact finding, several employees indicated that Porta potty truck drove by mask station and that the truck drove from north side of AP farm around AP farm to mask station. [Interview with MSA representative indicated that no porta potty pumping was conducted near 272AW the morning of the event]

COMS Manager 2 went out west door, Operations staff started at south end of building then the back dock area and Danger tape was put up to prevent egress from 272AW from East, South and North doors.

Two doors left without a barricade. Operations staff put Danger tape over the garage doors.

According to employees in the fact finding, no communications went out to the building occupants. [Note: It was indicated that not all occupants receive SOEN notices. However it is presumed that all managers are included and are to notify their employees. TF-AOP-015 requires that a field lead be assigned to implement Solid Waste Information Management System (SWIMs). However, it does not specify a need to contact the Building Warden to implement facility actions. Additionally, in an interview with a CSM, concern was raised that an all employee SOEN may prompt a plethora of calls to the shift office creating overwhelming distraction to the CSMs response to the event]

- 1105 MSA employee indicated smelling sewer type smell and that the odor was smelled off and on during the work that was being performed. Employee indicated that at the time of smelling odors that no symptoms were experienced

- 1109 COMS Manager 1 called COMS Manager 3 to ask what was going on at 272AW. COMS Manager 3 was at the back door.

- 1115 MSA employee completed work. Employee noted that during work activity he witnessed several people come out of 272AW but no one indicated that an AOP-015 was ongoing and that the employee should leave the area or go into 272AW as part of ongoing response actions

In leaving the area the MSA employee indicated that he observed a truck parked west of 272AW on 4th St and East of 272AW on 4th St. He indicated at no time did any WRPS employee stop him from driving from 272-AW. He indicated that he then drove along AP farm to Canton and then drove north on Canton Ave where he encountered two orange cones in the roadway but nearer the gravel area adjacent to the road. It was unclear what the purpose of the cones in the roadway

was to the employee. However he indicated that he determined he should not drive through the cones and went the alternate direction.

- 1116 Upon receipt of WRPS SOEN, MSA sent notification out to MSA employees of AOP-015. MSA employee's manager indicated that he received the MSA notification but could not reach the MSA employee and was unaware of his location
- 1121 IHTs arrive at mask station
- 1125 Block valves HV-CA1-7 and HV-CA1-9, feed valve HV-CA1-1 are all closed. 242-A C-A-1 controlled dump complete
- 1126 IHTs leave mask station to respond to odor in conex box
- 1130 Fitter Supervisor transported workers and they arrived at 1979 Snyder. Safety and Health met the group in town.

MSA employee experience a headache
- 1135-1145 Shift IHTs use DRI instrumentation to investigate inside and outside conex box area and collect bag samples. (DRI 14-06628)

MSA employee contacted his supervisor regarding his symptoms and opted to report to HPMC for medical evaluation where he was met by an MSA safety representative
- 1140 Roadblocks were established
- 1140-1237 2nd team of IHTs use DRI instrumentation to investigate drain field NE of 272AW, Evaporator parking lot and AW farm. 4 Bag samples were collected at locations (DRI 14-06637)
- 1157 MSA employee, working within the AOP-015 area, went into HPMC reporting symptoms. Safety Rep was there and observed.
- 1200 MSA employee released back to work by HPMC without work restrictions
- 1215/1220 Pipefitter 3 noted that he saw IHT in SCBA walking past building and he stepped outside to see what was happening, went out lunchroom door and noticed there were no postings, just the tape. The west end of the building also had tape. HAMTC representative told Fitter 3 that they were under AOP-015.
- 1217 Fitter 3 called CSM and asked if the ventilation had been turned off but couldn't reach the Shift Manager so called Shift Production Team Manager. Asked about

the ventilation being turned off, but the Shift Production Team Manager didn't have an answer.

Fitter 2 indicated during the fact finding that he made a second call to the Shift Production Team Manager and was instructed by him to shut down the ventilation.

1220/1230 Fitter 3 went to the COMS building administrator.

COMS Manager 3 tried to call the Shift Office. Was told that yes they were under a take cover.

Operator turning off the breakers was under the Shift Manager.

1256 2nd IHT sample bags delivered to 2704 HV for analysis

1258 Road barricades came down / barricades were shrunk down.

CSM shrinking original footprint of restricted area after preliminary field readings show no elevated levels of VOCs and Ammonia.

1300/1310 Shift IHTs perform readings on 242A vessel vent and collect bag samples. (DRI-14-06628) Deliver to 2704HV for analysis. [Note: 242-A vessel dump completed at 1125]

1345 272-AW tool crib attendant got HAMTC safety representative and noted that the backside ventilation was still operating.

1347 All ventilation was turned off

1400/1430 Multiple workers report glue/solvent odor in the north end of the 272AW adjacent in and around the instrument tech shop. Building ventilation was inoperable due to previous AOP-015 outside building, shut down earlier in day.

1425 272-AW tool crib attendant came across a couple of the fitters. Asked if they knew where Fitter supervisor was, told them about the smell, and the fitters went in to verify the odor.

1430 Original workers from prior 272-AW Conex box AOP-015 event returned from 1979 Snyder and reported back to the Shift office to see what was going on.

1430/1445 Multiple workers in shift office completing odor response cards. No symptoms reported.

1500 272-AW building administrator went to the Shift Office.

- 1503 SOEN message sent out for the 272AW shop area, back shop area controlled. No one sent to medical after being offered.
- 1515/1530 IHTs and Supervisor enter building to investigate source and monitor with DRI instrumentation and pull polypropylene bag samples in back shop area and inside instrument tech area.
- 1545 COMS Manager 2 and COMS Manager 3 went to shift office and told CSM 272AW building was secured in the area of the odor. Personnel were cleared of the area of the building and located in rooms away from the odor Samples delivered to 2704HV for analysis
- 2251 Bag analysis and write up complete
- 2315 Surveillance done in building with IHT and instrumentation, elevated readings again found in garbage can, strong odor, 4ppm VOC, taped bag and disposed of contents in outside waste bin.
- 2354 Bag analysis write up complete

FRIDAY, OCTOBER 3, 2014

- 1220 Sample analysis for AOP-015 Instrument Tech Shop in 272AW have been completed and are or below exposure. SOEN sent and all call announcement made.

Compensatory Measures

IMMEDIATE ACTIONS

1. Entered AOP-015 for stronger than normal odors by multiple people
2. All call radio announcement made for personnel to avoid that area and move upwind
3. SOEN message sent for AOP-015 Entry
4. Road blocks established east and west of 242A on 4th Avenue, and Canton Avenue South of AW Farm.
5. Ventilation secured for 242 AW Building
6. IH responded and implemented Tank Waste Odor Sampling Plan (IHP-09001)
7. Samples pulled at conex in question, 242A Evaporator Ammonia Monitor Stack, AW Exhauster and Sewer Drain Field east of 242A.
8. Notified MSA Management
9. Entered AOP-015 for chemical smell in Instrumentation Shop in 272AW
10. IH performed sampling
11. SOEN and TFC all call radio announcements made.

COMPENSATORY ACTIONS:

No additional compensatory actions necessary as a result of this event investigation.

Preliminary Extent of Condition Review

Conex Box AOP-015 Event: Agreements are in place between WRPS and MSA regarding notification of the WRPS CSM when MSA employees will be working within or adjacent to a tank farm boundary. However, this agreement does not specifically address communications by MSA to the WRPS CSM or Area Day shift manager(s) (ADM) when an MSA employee is working within the Tank Farms support areas, as occurred in this event. In similar events or more severe events, communication with personnel or their management by the CSM or ADM (as appropriate) to take actions, particularly in the event of AOP-015 events outside of tank farm boundary's needs to occur to allow for safe and timely response.

Since an MSA employee was involved in the event, MSA representatives indicated that they believe their companies IH should also be involved with sampling and monitoring of the effected work area. It is unclear what corporate conditions or requirements govern this point but a recommendation is provided below to evaluate and address the comment.

272-AW AOP-015 Event: Other tank farm facilities containing areas where volatile chemical are stored and vented into the building space and could encounter similar issues when ventilation systems, relied upon to provide sufficient air exchange, are shut down during an event. A recommendation is provided to evaluate this condition and appropriate response actions in the case of a Take Cover or AOP-015 event that may require shutdown of the ventilation system.

Discussion of Potential Causes

Conex Box AOP-015 Event: Based on input from workers during the fact finding meeting, review of information and investigative IH monitoring and sampling, the source of odors detected by workers inside of the Conex Box near 272-AW is unknown. As discussed previously, the IH sampling that was performed following the report of the odors and information collected by this initial event investigation was inconclusive as to the source of the odors encountered by the pipefitters and millwright.

272-AW AOP-015 Event: Based on input from workers during the fact finding meeting, review of information and investigative IH monitoring and sampling, the source of odors detected by workers within the instrument shop has not been determined. However, within the instrument shop there is a flammable material storage cabinet that is ventilated to the room and during IH sampling, sample results from a sample taken within the garbage can in the room indicated that VOCs were detected within the garbage can. However, the contents of the garbage can were not noted in the IH report. These sources, coupled with reduced air exchange caused by the shutdown of the building ventilation system in response to the Conex Box AOP-015 Event likely resulted in a buildup of VOCs within the room resulting in stronger than normal odors being detected by building occupants.

Discussion of barriers that could have impacted the cause

272AW ventilation is designed to ensure sufficient air exchanges occur to prevent buildup of odors and vapors during normal conditions. Chemical hazards in the building are known and should be considered when taking response actions including shutting down building ventilation. Response planning and understanding what occurs within the building when ventilation is shut down and planned actions (i.e., relocating shop residents to an alternate location during the event) for this response would have prevented the 272AW AOP-015 event

Recommendations/Proposed Corrective Actions

1. Update 272-AW Take Cover Exhaust System Isolations information provided building administrator and craft to identify appropriate isolation points to shut down ventilation system in the case of event response. See WRPS-PER-2014-2187.
2. Consider instituting Operational Drills for support facilities such as 272-AW for AOP-015 event response. In addition, consider instituting Operational Drills for response to AOP-015 events outside of tank farm boundaries to include establishment of barriers and road blocks, limiting access and egress from adjacent structures, and communications.
3. Evaluate identification of Building Warden, and backup that resides within the building to aid in event response activities.
4. Evaluate need for additional review or training of Building Wardens and building occupants regarding response actions to vapors and other airborne irritants, as detailed in WRPS Building Warden Guide.
5. For non-tank farm related AOP-015 events, evaluate inclusion or reference of actions outlined in WRPS Building Warden Guide within Abnormal Operating Procedure TF-AOP-015.
6. Evaluate adequacy of communication mechanisms for notification of non-WRPS workers that may be working within Tank Farm areas (not within a Tank Farm) which likely, under current methods or practices, may not receive timely notice of entry to AOP-015 in or around a work area.
7. Evaluate coordinated involvement of MSA IH when MSA employees are involved in an AOP-015 event in the sampling and monitoring of the event site
8. Evaluate TOC facility (i.e., buildings) hazards that could produce vapors that are ventilated into a room or building space (i.e., chemical storage cabinets) that rely upon building ventilation to ensure air exchanges prevent a buildup of vapors. Develop appropriate response actions in the case of a Take Cover or AOP-015 event that would require the shutdown of the ventilation system.

Attachments (as they apply):

1. List of personnel contacted (only those contacted beyond those identified on Fact Finding attendance rosters)
2. Event Investigation Attendance Rosters (Attached)
3. Log Book Entries (Attached)

List of Personnel Contacted

MSA Communications Specialist

MSA Supervisor

MSA Steward

MSA HAMTC Safety Representative

Note: See Event Investigation Meeting Attendance Roster for Additional List of Personnel Contacted

Date: 10/7/14 **EVENT INVESTIGATION ATTENDANCE FORM**

Event Title: 272AW Connex and Instrument Tech Shop
 Event Number: ~~EIR-2014-034~~ EIR-2014-037 12/29/14

Print Name	Signature	HID	Job Position	Organization
			Tech Spec	Per Assurance
			PE	WRPS
			Op. & Mnt	MW
			PE	PO
			PE	PO
			MW	PO
			IC	
			HAMTC	P.O.
			COMS	
			Shift Op.	P.O.
			Mgr	COMS
			OPS MGR	P.O.
			S+H	P.O.
			SM	COMS
			Facilitator	COMS
			MGR	Prod Ops

Central Shift Office Logbook 10/2/14

10/2/14 B-Shift

2118 (Cont) valves are currently in service on the physically connected waste transfer route in support of 242 A operations.

2120 Notified Sr. Mgt who wanted to get concurrence on path forward.

2143 Based on discussion with I have directed 242-A SML to place 242-A in Shutdown Mode & perform a flush.

2143

Do not perform any waste transfers using AWCVPB-WT-V-212 or AWCVPB-WT-V-213 until their operability has been demonstrated.

(EOC)

2149 Notified EOC to declare a Group 4 Subgroup A (1) SC-3 occurrence.

2194 Notified DRE FR operational with S.Mgt SOEOD's complete.

2225 Discussed possible TFR violations with and all agree that no violations occurred.

2255 Delivered AWCVPB-WT-V-212 & 213 INOPERABLE Engineering currently working on operability Eval with extremely high priority.

2347 Relieved as CSML by

2342 Relieved as CSML by

0011 - 242-A Feed pump secured

0040 - 242-A duty pump (PB-2) secured

26614 R-Shift

0012 - 242-A Feed pump secured

0011 - 242-A duty pump (PB-2) secured

0458 - Relieved as CSML by

0458 - ACCIDENT THE SAFETY ASS. CSML

P. 2143

0722 - [REDACTED] WENT TO HOME WITH HIS MGR

FOR LOW BLOOD SUGAR!

RETURNED TO WORK (LATE 15:11)

POUND FOOD

10/2/14 C-SHIFT
(CONT. FR. 76 (172.600)) WITH NO RESTRICTIONS. (L2),
NOTIFIED, AND SOEN SENT.

0759- INVT INVESTIGATION IN 2014-036 ISSUED FOR SUPERIOR
QUALITY ISSUES WITH INSTALLED SAFETY EQUIPMENT
EQUIPMENT RESOLUTION IN SUPERIOR'S QUALITY PER
LAPSE - PUR - 2014-1784 WRNEN, POC
NOTIFIED, AND SOEN SENT.

0814- RELEASD AS CSM (2)
0814 ASSUMED DUTIES AS CSM.

0832 REPORTS | TRANSFER
TAKEN TO HPMC FOR EVALUATION OF
SWOLLEN KNEE FROM INJURY REPORTED
ON 9/29/14, NOTIFIED. FAC REP'S
SOEN SENT.

WS

0835 REPORTS | TAKEN TO
HPMC FOR PERSONAL ILLNESS, BORDY NOSE
AT HOME PREVIOUS NIGHT, EMPLOYEE WAS
RELEASED TO RETURN TO WORK
NOTIFIED. NOTIFIED.

0906 APPROVED NON-ELECTRONIC FIRST TIME USE
OF TD-230-22T EVAP MONITORING FOR
AW-102 TO AP-101.

0911 REPORTS | RETURNED
TO WORK W/RESTRICTION. P/S
NOTIFIED. SOEN SENT.

0931 BASED ON REVISION TO HR PROCEDURE
(CFC-BSM-HR EM-C-04) REVISION THAT
INCLUDES MEDICAL EVALUATIONS AND RESULTS.
PRO ARROW STOP WORK RESTRICTIVE ACCESS
TO ALL IDG FOR EMPLOYEES AWAITING
MEDICAL RESULTS LIFTED.

10/2/14
1025

10/2/14

10/2/14

C-SKIPT

1025- 3 employees reported a stronger than normal odor while accessing the middle connex west of 272-AW. 2 fitters - millwright Entered AOP-015 for stronger than normal odors by multiple personnel. Employees did not have any symptoms. Offered medical surveillance and all 3 accepted. They were taken to HPMC by their supervision, millwright was taken 200 W HPMC and due to overload at that station the two fitters were taken to Snyder. All call radio announcement made for personnel to avoid that area and move upwind. SOEN message sent for AOP-015 entry. Conducted senior management, Fac. Rep. Road blocks were established east and west of 242-A on 4th Avenue, and one on Canton Avenue south of AW farm. 272-AW building doors were danger taped to prevent exit from north, east and west doors. The ventilation was secured for 272-AW building. IH responded and implemented the Tank Waste Odor Sample Plan IHP-09C03. Samples are being pulled at connex in question, 242-A evaporator ammonia monitor stack, AW exhauster and sewer drain field east of 242-A.

1210- Notified by _____ that MSA employee (Computer Tech) was taken to HPMC. He was working on east side of 272-AW REAR box and exited via his vehicle out of the area. He had symptoms (headache). Notified _____ the MSA employees manager. MSA on call senior management, KORI

10/2/14

1254

RELEASED TO RETURN TO

WORK W/NO RESTRICTIONS

1303 Released as CSM by

149 -

(210 hours) RECORDED

RELEASED BACK TO WORK WITH NO

late work 1720 - ACCEPTED THE SAFETY AS CSM.

1430 Entered AOP-015 for a chemical smell in the instrument shop in 272-AW. Multiple personnel reported odors, no symptoms were reported and all personnel were offered HPMC treatment, none accepted. Industrial Hygiene is performing sampling. SOEN and TPC All Call radio announcements made. notified.

1649 NCO received a spider bite on his right forearm. He was taken to HPMC by his manager notified his safety representative and notified and SOEN sent.

1725 _____ and _____ were returned to work with no restriction. (See 1025 entry) SOEN sent and notifications made to _____ and F

0/2/14

NO LATE WORK

10/2/14 C-SHIFT

1750 - RECEIVED AS CSBY BY

0700 - Relieved as CSBY by [unclear]

0700 - reports that AT-23 LOR was pumped to C-9"

Closing Red Areas associated w/ pump AT-23 LOR

0800 - Environmental notified WDC that the 242-A DG preventive maintenance will not be completed prior to the due date

due to ongoing 242-A operations

0800 - SCOP ready for 0800 and 1025 entries. CRP on call FR notified

0800 - reports that available standby VIB. Truck (ASAU) was advised upon the 0800 FR. (See Inmate Ex-100 pg 102 @ 210)

Existing line machinery for ASAU standby

0900 - SCOP complete for 0800 entry. CRP on call FR 10/6/14

10/14 B-SHIFT 10/6/14

0800 - Relieved as CSBY by

0700 - RECEIVED THE SHIFT AS LSA

1117 - RECEIVED NONCONFORMANCE REPORT FY2014-ENG-S-0366

via Email. RECEIVED CONCURRENCE FROM

THAT THIS NCR DOES NOT MEET C-24/Group 4/ Subgroup A/

(1) SC-4 REMEDIATION REQUIREMENTS

1218 - SAMPLE ANALYSIS FOR AOP-015 CONGR. FROGS WEST OF

272AW (10/2/14 GARD) HAVE BEEN COMPLETED AND ARE

AT OR BELOW BACKGROUND. EXISTING AOP-015 WITH CONCURRENCE

FROM SCOP - CRU W/EP, SOEN SENT AND ALL CELL ANALYSIS W/EP

1230 - SAMPLE ANALYSIS FOR AOP-015 ~~CONGR. FROGS~~ JUST TOSH SHIP

IN 272AW HAVE BEEN COMPLETED AND ARE AT OR BELOW BACKGROUND

EXISTING AOP-015 WITH CONCURRENCE FROM SOEN SENT AND

ALL CELL ANALYSIS W/EP

1315 - IHT completed flame gas readings in AN, AP,

AW, AY and AZ farms. All reading 0% of LFL

• Next S.R. 3.7.1 readings for AY/AZ farms due 10/8/14

• Next S.R. 3.7.1 readings for AN farm due 10/12/14

• Next S.R. 3.7.1 readings for AP/AV farms due 10/13/14

10/14
10/14
10/14

168

10-2-14

B-SHIFT

10/2/14

0001 242-A IS IN OPERATIONS MODE, C-A-1 LEVEL IS APPROX 24,500, FEED FROM AW-102 IS SHOWING AS WE VALP DOWN STEAM TO RB IS 10,000 LBS/M. BOIL OFF RATE DECREASING KI-5-1, KI-5-2, K2-5-1, K2-5-3 AND VESSEL VOR ARE OPERATING.

0005 CONTINUE CONTROLLED SHUTDOWN PER 0450 RELIEVED BY AS 242A SM

0450 - Relieved AS 242A SM

0908 - C-A-1 IN RECIRCULATION WITHOUT VACUUM.

0940 - Directed AI to perform controlled of C-A-1 contents to AW-102.

0950 - C-A-1 dump to AW-102 started, control dump.

1001 - Shipped steam condensate samples.

1053 - Inhibited C-A-1 alarm, ranging.

1125 - Completed controlled dump of C-A-1 to AW-102.

1127 - C-A-1 vessel is empty, 242-A is now in SHUTDOWN Mode.

1147 - Relieved 242A SM by

1147 - Assumed 242A SM

1419 - Secured Seal water to PB-1 and PB-2

1440 Re-established Alarm locks on PB-2 and Feed Pump.

1725 Relieved as 242A SM by

1725 Assumed duties as 242A SM

2400 NO FURTHER ENTRIES THIS DATE.

242-A Control Room Logbook 10/02/14

10-2-14 B Shift
0000- 242-A is in Operation Mode. KI-5-1 is on
K2-5-1 is on, KI-5-3 is STBY, KI-5-2 is ON
0030- Finished steam condensate sampling
0038- Steam off to Re-Boiler
0041- Stop Feed 102-AW pump is off
0043- PB2 is off per TO-600-060
0051- Started slurry line Flush to 107-AP
0053- De-Entrain Slurys are off
0200- Started Cool Down off Pot per TO-600-060
0220- set PIC-CAI-7 Auto 30 Torr
0321- De-entrainer Slurys start add Level 1-A-1
0630- Turnover to SV
0630- Received turnover from SV
0710- Starting to take vacuum off of the vessel.
0748- HPT doing an OPS-5 on the V.V. system, and KI
system CAME.
0753- Both OPS-5's have been completed, HPT leaving.
0805- operator taking the steam condensate samples to
the lab.
0929- Notified JCI that we would be shutting down the 90th
steam.
0932- Have turned the steam off to the jets, HV-EC2/3-1
is closed.
0938- We are in recirculation without vacuum. S.M. AWARE
0942- Valves 5-97, and 4-19 are closed.
0943- Notified Tank farm operator and TMAC's operators of
impending dump to 102AW.
0949- We have started dumping.
1053- Inhibited F 4/6 UXS-CAI-3, It is cycling to fail
as we are dumping the vessel.
1105- Vessel is empty, block valves and HV-CAI-1 will be open
for 20 minutes to assure every thing is drained.
1125- Block valves HV-CAI-7 and HV-CAI-9, feed valve HV-CAI-1 are
All closed. Vessel is officially dumped.

10-2-14

"C"-shift AMH

1427- We have declared we are in "Shutdown" Mode.

1440- We are going into a short term shutdown of the PB-1 and PB-2 seal water. Valves 5-43 and 5-45A are closed.

1426- We have electricians to open the switch gear for the feed pump on MCC-1 and the Slurry pump VFD. Turning them off.

1430- We have placed Admin locks on both the feed pump on MCC-1, and the PB-2 VFD.

1440- We already have an Admin lock on valve 5-46, so the stem Jet for the sump is locked out. We are going to do one last MBD, and then secure the MBD paperwork.

1500- MBD is complete and secured.

1600- A temporary round has been issued for the problem of the purge air line trying to plug. We are monitoring "PI-CAI-18" for signs of plugging. The temp. round will be every two hours during operation with vacuum.

1600- We have a high Ammonia monitor reading and alarm. ARP is no help, have called for an IH Tech and HPT to come over check it out. S.M. aware.

1643- IH Tech found no Ammonia readings in the condenser room at all. He only got a reading of 5 ppm in the V.V. stack. That is higher than the 1 or 2 ppm that they have been getting, but nowhere near the almost 5,000 ppm, they the MCS is showing.

1702- The ammonia reading on the MCS dropped down to a more normal reading of 12 ppm.

1707- An HPT has gone into the truck load-out room and we have down posted the area from ARA to C.A. We have opened the curtain.

1840- Turnover to...