

Enclosure

EVENT INVESTIGATION REPORT
EIR-2014-018

SY-Farm Vapor Related Incident on May 29, 2014

Consisting of 18 pages
Including cover sheet

EVENT INVESTIGATION REPORT

SY-Farm Vapor Related Incident on May 29, 2014

Event Investigation Report Number EIR-2014-018



Event Investigation/Team Lead

6/4/14

Date



Responsible Manager

6/4/14

Date

PER No. [WRPS-PER-2014-0957](#) (Trend only as a roll-up to Significant PER WRPS-PER-2014-0602)

Investigation Summary

On May 29, 2014, during lockout/tagout (LOTO) field activities (TSO-14-010) for work package TFC-WO-12-3783, SY-101, Repair Primary Enraf, some of the workers assigned to the SY-101 LOTO (SY101-WST-LIT-101) task indicated they smelled “onion” type odors. Some of the workers indicated it smelled like normal tank farm odors. The work team discussed the presence of odors. The odor was strongest on the change trailer platform and then decreased upon transition down the stairs into SY Farm. At the Enraf, industrial hygiene (IH) surveys were performed with readings of 58 ppb VOCs and 0 ppb ammonia (exposure action limits are 2,000 ppb VOCs and 25 ppm ammonia). Based on wind direction, the odors fluctuated. When the pipefitters (PFs) had completed their work, they exited SY Farm. The PFs reported the odors to the ST Team Area Day Shift Manager. The SY Team Area Day Shift Manager immediately contacted the Field Work Supervisor (FWS) and to ensure all workers had exited the farm and reported to 272WA. The ST Team Area Day Shift Manager contacted the Central Shift Manager (CSM) and TF-AOP-015 “Response to Reported Odors or Unexpected Changes to Vapor Conditions” was entered.

Nine workers were in SY Farm supporting the LOTO: 2 Pipefitters (PF), 1 Health Physics Technicians (HPTs), 2 Electricians, 1 Field Work Supervisor (FWS), 1 Industrial Hygiene Technician (IHT), and 2 Nuclear Chemical Operators (NCOs).

The scope of work being performed was to determ and lock out the electrical power to the Enraf. The work was reviewed against the general hazard analysis (GHA) criteria and the decision was made that no respiratory protection was required. Additionally, none of the 9 workers opted to wear respiratory protection (under the voluntary program). The employees stated they would probably wear respiratory protection for the Enraf repair work that was planned for later. The route the workers took was from SY Change Trailer (MO296) to SY101-WST-LIT-101 and back. About 40 yards into the farm. While in the SY farm one of the pipefitters and the HPT were wearing IH sampling pumps.

At the time of the event, no activities had been implemented that would have created a new vent path to tanks in the area. Preliminary evaluation indicates no liquid level changes that would indicate sudden gas in the tank. The SY Farm A-train exhauster stack is a 19’ stack that was ventilating at a volume of 970 cfm.

Industrial hygiene monitoring results taken at the SY Farm A-train exhauster stack sample port were below exposure limits:

WASHINGTON RIVER PROTECTION SOLUTIONS Industrial Hygiene Program		AOP-15 VAPOR EXPOSURE COMMUNICATION FORM			
Event	Date:	Odor Location:			
	5/29/2014	SY 101 ENRAF General Area			
Event	Farm/Site:	Source Location:			
	SY-Farm	SY-Farm A-Train Exhauster Stack Sample Port			
DRI	AGENT	@ ODOR	@ SOURCE	EXPOSURE LIMIT	REPORTING LIMIT
	Ammonia	0 ppm	16.000 ppm	25 ppm OEL/35 ppm STEL	>0 ppm
	Total VOCs	52.000 ppb	176.000 ppb	2,000 ppb AL	>0 ppb
	Mercury	5.000 ng/m ³	13.000 ng/m ³	25,000 ng/m ³ OEL	16 ng/m ³
	Nitrous Oxide	1.000 ppm	1.200 ppm	25 ppm AL	>0 ppm
GC/MS	AGENT	@ ODOR	@ SOURCE	EXPOSURE LIMIT	
	All Analytes	-35 ppb	133.02 ppb		All Analytes 20 ppb
	NPH		52.309 ppb		
	Methyl methacrylate		-0.6 ppb	50 ppm TWA (ACGIH)	
	Styrene monomers		-0.17 ppb	20 ppm TWA (ACGIH)	

SY-Farm Vapor Related Incident on May 29, 2014

Workers were interviewed, personal statements were obtained, and a Fact Finding Meeting was held on June 2, 2014.

Event Timeline

05/29/2014

- 0800 Pre-job briefing held for work package TFC-WO-12-3783, SY-101, Repair Primary Enraf. Personnel in attendance were 2 Pipefitters, 1 HPT, 2 Electricians, 1 FWS, 1 IHT, and 2 NCO's. The briefing discussed the work into two sections (1) perform electrical LOTO which was to be performed in the morning and (2) Enraf repairs which were to be performed in the afternoon. The GHA was reviewed which included discussion of herbicide application in U Farm and the option to upgrade respiratory equipment. No workers elected to use respiratory protection.
- 0945 Workers enter SY Farm through SY Change trailer (MO296). Workers indicate an onion type odor. Some of the workers indicated it smelled like normal tank farm odors. The odor was strongest on the step platform outside the change trailer and then dissipated upon transition down the stairs. IH survey indicated 58 ppb VOCs and 0 ppb ammonia. The PFs applied aerokroil to the Enraf flange bolts. (The PFs indicated that aerokroil has a sweet odor.) The PFs also moved lead blankets which were located along the fence line (east of SY-101) closer to the Enraf. The workers were downwind of the A-Train exhauster. No symptoms were reported at this time.
- 1015 PFs exit SY Farm through SY Change trailer.
- 1032 PFs report to ST Team Area Day Shift Manager. They inform the ST Team Area Day Shift Manager odors detected.
- One PF (PF-1) indicates he is experiencing symptoms.
- Both PFs return back to 272AW and report to their supervisor. PF-1 displayed symptoms of dry heaves. Both PFs report to HPMC, West Area.
- ST Team Area Day Shift Manager contacts FWS and advises him to exit SY Farm. The remaining 7 workers in SY Farm exit.

Additional information:

At ~0845 a nuclear chemical operator (NCO) had performed routine operator rounds in SY Farm and exited SY Farm prior to the odor event. The NCO indicates onion type odors were smelled. This NCO also performed routine operator rounds at S Farm with no odors detected there.

PF-1 and the HPT wore sample pumps at the time of the event. The data from this sample pump will be analyzed.

SY-Farm Vapor Related Incident on May 29, 2014

The wind was blowing from SSW from 4.7 mph to 8.1 mph with intermittent gusts. See Hanford Weather station report below:

Tower Information					Fri May 30		00:02:23 PST 2014				
yr	mo	day	hr	Solar	Prevailing Wind		Peak Gust				
					Degrees	Speed	Direction	Degrees	Speed	Time	Stab
14	5	29	1	0.00	270.0	4.4	W	283.1	9.121	00:48	E
14	5	29	2	0.00	290.0	7.9	WNW	299.6	11.645	01:55	F
14	5	29	3	0.00	260.0	7.5	W	272.5	11.435	02:24	E
14	5	29	4	0.00	260.0	6.4	W	265.0	10.804	03:43	E
14	5	29	5	0.04	230.0	6.5	SW	246.2	10.593	04:49	F
14	5	29	6	0.20	220.0	6.7	SW	197.6	10.173	05:59	F
14	5	29	7	0.40	190.0	5.7	S	203.0	10.173	06:02	D
14	5	29	8	0.66	190.0	4.5	S	203.6	9.963	07:44	D
14	5	29	9	0.90	200.0	4.7	SSW	187.4	12.486	08:02	B
14	5	29	10	1.07	200.0	6.7	SSW	206.8	18.164	09:45	A
14	5	29	11	1.30	200.0	8.1	SSW	208.7	20.056	10:13	A
14	5	29	12	1.17	210.0	6.4	SSW	167.5	17.322	11:24	A
14	5	29	13	1.31	220.0	6.3	SW	204.6	19.005	12:15	A
14	5	29	14	1.27	240.0	6.1	WSW	199.7	17.322	13:40	A
14	5	29	15	1.08	200.0	5.0	SSW	264.9	14.378	14:22	A
14	5	29	16	0.93	210.0	4.7	SW	198.7	14.168	15:37	B
14	5	29	17	0.72	200.0	4.9	SSW	240.1	14.799	16:34	B
14	5	29	18	0.49	240.0	3.8	WSW	245.7	13.327	17:03	C
14	5	29	19	0.22	50.0	4.4	NE	50.5	23.421	18:59	D
14	5	29	20	0.03	100.0	8.8	ESE	49.8	17.533	19:00	E
14	5	29	21	0.00	140.0	4.9	SE	132.0	12.065	20:02	F
14	5	29	22	0.00	300.0	6.6	NW	308.8	14.589	21:51	F
14	5	29	23	0.00	310.0	11.1	NW	321.2	16.481	22:49	F
14	5	29	24	0.00	310.0	10.9	NW	309.1	16.271	23:38	E

14 52924 682 676-999 560 570 574 571 580 589 598 598 99311199301999321931166

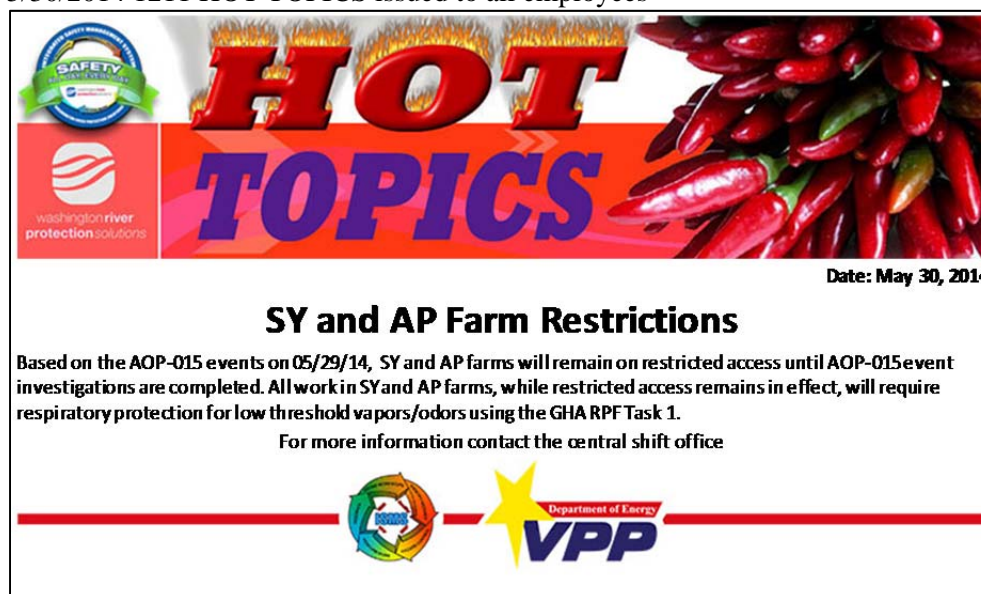
Delta T1 = T200 - T3 = 2.0	Pasquill Category = E
Delta T2 = T250 - T50 = 1.5	200 ft Winds = 3019
Delta T3 = T200 - T30 = 1.0 (NRC)	Least Dilution = 99.9 ALOFT

- 1125 IHT assigned to respond to the AOP-015 (IHT that performing monitoring on the LOTO Enraf job was assigned to respond to AOP-015).
- 1126 ST Team Area Day Shift Manager was notified that PF-1 exhibited symptoms of vapor exposure and was transported to HPMC. ST Team Area Day Shift Manager notified CSM.
CSM entered AOP-015 for 241-SY.
- 1140 PF-1 was transported from 200 West HPMC to Kadlec via ambulance. PF-2 was instructed by 200 West HPMC to report to HPMC at 1979 Snyder as the West Area office was full. PF-2's supervisor transported him to 1979 Snyder. At 1979 Snyder, PF-2 went to Kadlec for blood tests. PF-2's supervisor escorted him to Kadlec.

The affected worker indicated less than adequate evaluation/ processing by the medical provider. This issue to be addressed by the Chemical Vapor Solution Team.
- 1242 IHTs enter SY Farm for AOP-015 response.
- 1258 IHTs exit SY Farm and report observations: 52 ppb VOCs at the SY-101 Enraf where aerokroil was sprayed. 16 ppm ammonia and 176 ppb VOCs from SY Farm A-Train primary exhauster.
- 1517 CSM - Two employees from SY-Farm odor event were released to return to work. SOEN

Compensatory Measures

1. 5/29/2014 Restricted access into SY Farm in accordance with TF-AOP-015 procedure.
2. 5/29/2014 TF-AOP-015 response actions implemented.
3. 5/30/2014 Daily Report - Entered AOP-015 for unexpected odors in AP and SY Farms. Farms were evacuated, access restricted and IHTs collected samples. Awaiting sample results. Access is restricted for all work not required for safe operation.
4. 5/30/2014 1151 New red arrow: SY and AP Farms will remain on restricted access until AOP-015 event investigations are completed. While restricted access remains in effect, all work will be considered low threshold vapors/odors as defined in the GHA which requires respiratory protection using the GHA RPF Task 1. CSM (SOEN)
5. 5/30/2014 1156 Exiting AOP-015 for AP and SY Farms, sample results exhibited typical tank farm background concentrations. Access to AP and SY authorized per red arrow. CSM (SOEN)
6. 5/30/2014 1211 HOT TOPICS issued to all employees



The poster features a red and blue color scheme. At the top, the words "HOT TOPICS" are written in large, bold, red and blue letters, with a flame effect behind the word "HOT". To the right of the text is a photograph of several red chili peppers. On the left side, there is a circular logo with the word "SAFETY" and a smaller logo for "Washington River Protection Solutions". Below the main title, the text reads: "SY and AP Farm Restrictions". Underneath that, it states: "Based on the AOP-015 events on 05/29/14, SY and AP farms will remain on restricted access until AOP-015 event investigations are completed. All work in SY and AP farms, while restricted access remains in effect, will require respiratory protection for low threshold vapors/odors using the GHA RPF Task 1." Below this text, it says: "For more information contact the central shift office". At the bottom of the poster, there are two logos: a circular logo with the word "Solutions" and a yellow star logo with the text "Department of Energy VPP".

Date: May 30, 2014

SY and AP Farm Restrictions

Based on the AOP-015 events on 05/29/14, SY and AP farms will remain on restricted access until AOP-015 event investigations are completed. All work in SY and AP farms, while restricted access remains in effect, will require respiratory protection for low threshold vapors/odors using the GHA RPF Task 1.

For more information contact the central shift office

Discussion of Potential Causes

Based on interviews with the workers, the assumed source of the odors is from the SY Farm A-train exhaust stack.

Recommendations/Proposed Corrective Actions

Corrective actions to be addressed by the root cause analysis via WRPS-PER-2014-0602.

The affected worker indicated less than adequate evaluation/ processing by the medical provider. This issue to be addressed by the Chemical Vapor Solution Team.

Analyze data from the personal sample pumps worn by the PF-1 and the HPT.

SY-Farm Vapor Related Incident on May 29, 2014

Attachments:

1. List of personnel interviewed/contacted and Fact Finding Meeting Attendance Roster
2. S-Farm Complex
3. Log Book Entries – ST Team Area Day Shift Manager Log and Central Shift Manager Log
4. AOP-15 Vapor Exposure Communication

SY-Farm Vapor Related Incident on May 29, 2014

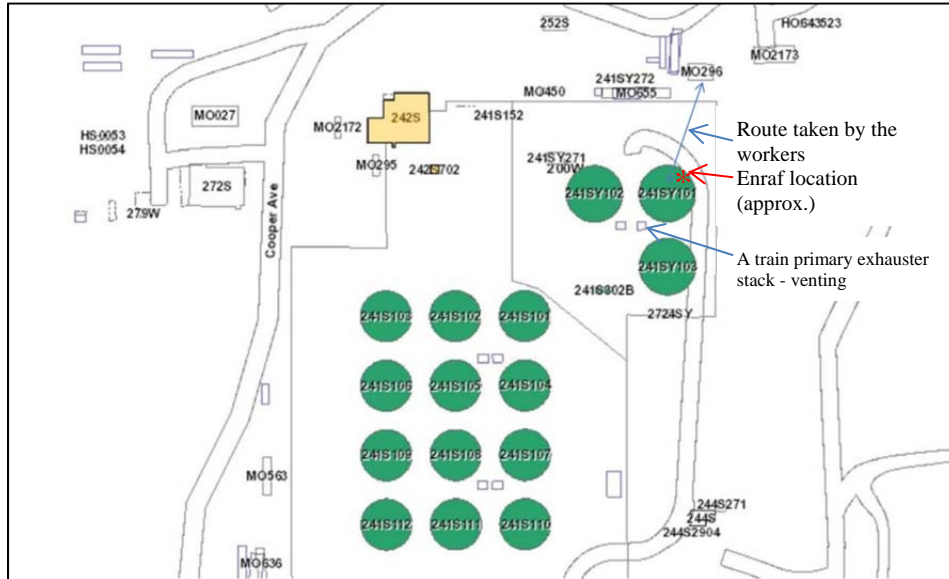
Attachment 1 - List of personnel interviewed/contacted

Date: 6/2/2014	EVENT INVESTIGATION/CRITIQUE ATTENDANCE FORM	
Critique Title: SY-Farm Vapor Related Incident on May 29, 2014		
Critique Number: EIR-2014-018		
	Job Title	Organization
		HAMTC
		PF
		COMS
		P.F
		PF
		BO
		BO
		BO
		FWS/BO
		BO
		P.O.
		Prod Ops
		HAMTCSEF
		Customer Resource
		ST TEAM
		BO
		ST TEAM
		ESTHQ
		IH
	SAFETY	
	IH/BO	
	OE/BO	
	ESTHQ	
	Fac REP	
	OE/PU	
	Fac Steward	

A-9003-100 (06/01)

SY-Farm Vapor Related Incident on May 29, 2014

Attachment 2 - S-Farm Complex



Attachment 3 - Log Book Entries

ST Team Area Day Shift Manager Log

ST Team	
114	1230 (continued) Best Management Practice cannot obtain level this week due to Resource conflicts. EPA notified And no notification or Action is required per RPP-9937 3d which is currently in place due to change notice TPA-CM-621.
	1450 Due to changes in Resources & priorities, UY-202-A level obtained. Results in work pkg.
	1706 Relieved by CSM [REDACTED]
114	0556 ASSUMED DUTIES OF APM Person [REDACTED]
	1420 RELIEVED BY CSM [REDACTED]
4	0614 Assumed APM Dkt. dsh [REDACTED]
	0920 LOW Voltage into T-Farm
	1035 LOW Voltage out of T-Farm
	1652 Relieved by CSM [REDACTED]
114	0554 ASSUMED DUTIES OF APM. PATRICK MASON, [REDACTED]
	1047 TWO EMPLOYEES REPORTED SMELLING ONSLOW-LIKE ODDOR FOR 241-54 BUT BOTH HAD NO PHYSICAL SYMPTOMS FROM EXPOSURE. VERIFIED MET. DATA, WIND BLOWING FROM SPARK TO WALK AREA. EMPLOYEES FWS TO EXIT FROM PLANT. IAT FOUND 56 PPB VOL, 0 PPB W/3. CSM NOTIFIED.
1051	LOCKOUT/TAGOUT TSU-14-10 EXTENDED TO SUPPORT 54-101 ELECTR REPAIR.
1126	RECEIVED REPORT THAT EMPLOYEE FROM 1047 EARLY EXPERIENCED SYMPTOMS OF VAPOR EXPOSURE AND IS BEING TRANSPORTED TO HPMC. NOTIFIED CSM. CSM ENTERED AOP-15 FOR 241-54.

Central Shift Manger Log

143

5-27-14 A-Shift

1240 - (cont) was taken to HPMC. Notified DOEFR

1355 - Entered AOP-014 lightning within 10 miles of tank farms. SOEN sent. Notified DOEFR

1440 - Employee from entry 1240 released to work with "zone" restrictions. Notified Safety. Left message. Notified DOEFR [REDACTED]

1547 - AT/AZ Farm VCZ post maintenance, exhaustor running and operational

1600 - Exited to greater than 10 miles & reentered for lightning strikes within 10 miles radius, SOEN sent

1621 - IHT completed flamm gas readings for AT/AZ. All readings 0% LFL. Next AT/AZ Farms SR 3.7.1 due NLT

1659 - Relieved as CSML by [REDACTED]

1659 - Relieved [REDACTED]

1748 - AIOCI to APOCI admin condition re-established.

1750 - Exiting AOP-014 lightning greater than 50 miles. Radio announcement & SOEN complete.

1947 - TMACS reports that AIO Farm tank temps are reportedly

2037 - IHT & HPT farm sweeps complete for AT/AZ and VCZ has been downpested.

2252 - [REDACTED] reports POROS exhaustor was discovered shutdown. were unable to retrieve alarm history & have no indications of when & why exhaustor shutdown. Will leave shutdown until further investigation occurs.

2253 - Notified Em. On Call

5/29/14 D-Shift

0439 - Relieved as CSML by [REDACTED]

0439 - Assumed duties as CSML

0937 - Entered AOP-015 for AP-Farm for orders & NW of AP-Farm. SOEN sent, Radio Announcement.

0943 - Notified DOEFR [REDACTED] of SR mgmt [REDACTED]

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5-29-14 A-Shift

0955 - Sent 4 employees to HPMC for symptoms
all 4 for metallic smell + taste and 1 of
the 4 reported having headache, 3 NCOs, 1 peer
D.H.R. Notified DREFOR [redacted] on night
[redacted] SOEN sent,
Individuals reporting to HPMC where,
[redacted] 4th employee
no symptoms.
All people [redacted] involved in prep for transfer
route. All taken to HPMC by [redacted]
0959 - Radio announcement made to stay clear of
AR-Farm and its perimeter for 09143 entry
@ 0923
1046 - [redacted] report Odors in SY-Farm, three
employees reported on in type smell, no
symptoms, VOCs reported at 58 ppb, no ammonia.
Cleared SY-Farm as precaution. winds out of
1053 - AT-Farm Environmental equipment
AT101 - STA-LO151 changed required date
to 7/1/14 per [redacted]
1126 - Entered AOP-015 for odors in SY-Farm.
8 individuals report smell of odors from entry
@ 1046. 2 employees taken to HPMC for
evaluation they were [redacted] th symptoms
of Dry Heaves, second individual in
with no symptoms. FWS was [redacted]
making 9 people. Notified DREF
So night [redacted] SOEN sent, message
announcement made, SKIM performed
1150 - Entry 1126 winds out of S, SW 6-16 mph
resulting in blowing across exhausters
toward the Field crew located at SY101
while perform LOTO for ball valve replacement [redacted]

5-29-14 A Shift
 1150 - ~~entry~~ on the entry SY 101-WST-LT-101.
 [redacted] transported the two individuals
 to HPME both rice filters. [redacted] stayed on
 site HPME [redacted] taken to HPME down
 town due to proximity to affected worker. People on work
 crew were, [redacted] (PF); [redacted] (PF),
 [redacted] (HPT), [redacted] (Elec), [redacted] (Elec),
 [redacted] (FWS), [redacted] (JH), [redacted] (MS),
 and [redacted]

1200 - Notified by [redacted] that
 [redacted] was taken to HPME for personal medical
 for light-headedness. HPME directed him to report
 to his medical provider. Notified DOE FR

1244 - Notified by [redacted] that the
 employee from the SY farm AOP-015 entry
 pg 144 @ 1124 [redacted] is being transport via ambulance
 to Kadlec DOE FR [redacted] Sergeant
 [redacted] EOC [redacted] - inspect, SOEN sent

1303 - Event Investigation initiation for AP and SY
 AOP-015 odor response. Notified DOE FR [redacted]
 SOEN sent. AP odor Report # 2014-017 POC [redacted]
 [redacted] SY odor Report # 2014-018 POC [redacted]
 PER owner for AP [redacted], PE [redacted]
 SY [redacted]

1355 - Notified by [redacted] that 4 employees from
 entry pg 144 @ 0955 returned to work no restrictions but
 with rice administrative restrictions awaiting
 blood results. SOEN sent

1443 - Late entry 1350 Employee from SY AOP-015
 [redacted] elected to go to Kadlec for
 Blood analysis, also notified by [redacted]
 that employee released with no restrictions with
 rice administrative restriction SOEN sent for entry
 1453 - ~~four~~ and Notified DOE FR [redacted]

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5-29-14 A-Shift

1500- Notified DOEER [redacted] of pg 14501355

1500- [redacted] notified CSO that [redacted]

Released to work w/ restrictions. [redacted] administrative restriction until completion of bond work

1550- [redacted] reports while performing routine

surveys of farm around perimeter on west side found rodent feces 50,000 spm/1 [redacted]

no alpha was found. RAC HPT bagged & disposed

[redacted] sterilization. Notified [redacted] This

~~PAT-HPT~~ did not meet any levels of the KWF.

Not reportable per OTC OPS-OPER-C-24.

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Attachment 4 - AOP-15 Vapor Exposure Communication

WASHINGTON RIVER PROTECTION SOLUTIONS Industrial Hygiene Program		AOP-15 VAPOR EXPOSURE COMMUNICATION FORM			
Event	Date: 5/29/2014	Odor Location: SY 101 ENRAF General Area			
	Farm/Site: SY-Farm	Source Location: SY-Farm A-Train Exhauster Stack Sample Port			
DRI	AGENT	@ ODOR	@ SOURCE	EXPOSURE LIMIT	REPORTING LIMIT
	Ammonia	0 ppm	16.000 ppm	25 ppm OEL/35 ppm STEL	>0 ppm
	Total VOCs	52.000 ppb	176.000 ppb	2,000 ppb AL	>0 ppb
	Mercury	5.000 ng/m ³	13.000 ng/m ³	25,000 ng/m ³ OEL	16 ng/m ³
	Nitrous Oxide	1.000 ppm	1.200 ppm	25 ppm AL	>0 ppm
GC/MS	AGENT	@ ODOR	@ SOURCE	EXPOSURE LIMIT	All Analytes 20 ppb
	All Analytes	~35 ppb	133.02 ppb		
	NPH		52.309 ppb		
	Methyl methacrylate		~0.6 ppb	50 ppm TWA (ACGIH)	
	Styrene monomers		~0.17 ppb	20 ppm TWA (ACGIH)	
Comments:					
<p>IH was already at the shift office assisting with the earlier AP-Farm AOP-015 Response.</p> <p>10:46 Shift office was called: Strong onion odor reported by 3 employees at SY farm, however, said they were not experiencing any symptoms.</p> <p>Notes from the SY IHT that was with the work crew during the odor event:</p> <ul style="list-style-type: none"> -wind S/SW at 17 mph -work crew was located directly downwind from SY primary exhauster -58ppb VOCs and no Ammonia found. -work crew was applying AeroKroil to bolts on ENRAF <p>10:50 H&S Manager was briefed by 2 Prod. Ops. IHTs supporting job in SY farm: 2 people (a pipe-fitter and an HPT) were wearing sample pumps at the time that the odor was reported by request during a SEG1 work activity (Air survey #14-0268 and #14-0270). The SY IHT was performing monitoring at the request of the craft (DRI survey #14-02910). Prod. Ops. IHT reported smelling both exhauster odors and portable toilet odors.</p> <p>11:01 IHT supervisor contacted the SY IHT that was supporting the work crew when they had reported smelling odors in SY farm to obtain additional information. IHT stated they were downwind of the SY exhauster and it had smelled like the normal tank farm odors. At the time the odors were noted, there was 0ppm ammonia and 58ppb VOCs with the direct reading instruments. Workers were also wearing sample pumps at the time the odors were noted. IHT had mentioned to the workers that they could voluntarily upgrade respiratory protection if they wanted, and the employees stated they probably would for the additional work tasks after lunch.</p> <p>11:07 SY IHT called the IHT supervisor to clarify the pumps were being worn by the HPT and pipe-fitter at the time the odors were noted. Also, IHT DRI monitoring was not required because it was a SEG 1 work activity, however, the employees had requested monitoring when they were hanging PAW, so that is why the IHT was performing monitoring at that portion of the work activity.</p> <p>11:25 Prod. Ops. IH contacted the IH Program PhD Analytical Chemist to notify him of the AOP-015 being entered in SY farm and notify him that personal samples were being worn at the time odors were noted. Asked for confirmation regarding the sample media that should be analyzed due to the short duration work task and minimum sample volume obtained.</p> <p>11:25 Prod. Ops. IHT Lead and Prod. Ops. Safety and Health Manager contacted the IHT supporting they SY work crew to instruct him to respond to the AOP-015 in SY because he was familiar with the locations they had been at earlier.</p>					

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WASHINGTON RIVER PROTECTION SOLUTIONS Industrial Hygiene Program		AOP-15 VAPOR EXPOSURE COMMUNICATION FORM (CONTINUED)	
Event	Date: 5/29/2014	Odor Location: SY 101 ENRAF General Area	
	Farm/Site: SY-Farm	Source Location: SY-Farm A-Train Exhauster Stack Sample Port	
<p>11:26 AOP-015 ENTRY. Shift manager was informed that 1 pipe-fitter reported symptoms (dry heaves).</p> <p>11:29 Prod. Ops. IH made decision to analyze sample media taken during the initial odor event for analysis. However, nitrosamines sample media did not have minimum volume so it could not be analyzed.</p> <p>11:32 Shift manager reported to Prod. Ops. IH that 10 people were supporting the ENRAF isolation ball valve replacement job in SY Farm when odors were initially reported. No systems were breached at the time of the event and all people located downwind of the exhauster reported smelling odors.</p> <p>11:34 SOEN: "Entering AOP-015 for odors for SY farm. All personnel evacuate SY Farm. CSM"</p> <p>11:34 Safety and Health Manager Contacted the Prod. Ops. Mask Issuer at 278AW to inform that AOP-015 was being entered in SY farm and SCBA would be required for the IHT's to respond. Asked if she would be available to issue mask during lunch hour, she said yes and she would call the 2704HV mask issuer to inform him that another IHT would also need SCBA issuance from the 2704HV mask station.</p> <p>11:39 Prod. Ops. IHT received SCBA from 278AW mask station.</p> <p>11:40 Pipe-fitter Manager contacted the Central Shift Manager to inform him that another pipe-fitter was being transported to the 1979 Snyder HPMC as a precaution, no symptoms were reported. The 200W HPMC was out of room for Patients.</p> <p>11:43 Prod. Ops. IHT Lead contacted the SY IHT and informed him the Prod. Ops. IHT's would be leaving MO-267 and instructed him to get his SCBA from the 2704HV mask station.</p> <p>11:49 IHT Lead contacted the responding SY IHT to inform him that the CSM said to report to the SY OE to get briefing prior to entering farm to respond to AOP-015.</p> <p>12:01 Prod. Ops. IH and IHTs reported to 274 WA area team office.</p> <p>12:07 S Team Day Shift Personnel contacted 200W ACES station to ensure IH and IHTs could get ACED in.</p> <p>12:12 to 12:20 1 Prod. Ops. IH and 1 Prod. Ops. IHT ACED in.</p> <p>12:25 Prod. Ops. IHTs and Prod. Ops. IH reported to SY farm change trailer and began preparation of SCBA and sample media, and IHTs got dressed in whites.</p> <p>12:42 SY IHT and Prod. Ops. IHT entered SY Farm</p> <p>12:44 IHTs pulled bag sample and conducted DRI monitoring around SY 101 ENRAF</p> <p>12:49 IHTs pulled bag sample and performed monitoring directly from sample port on SY Farm A-Train primary exhauster.</p> <p>12:50 FWS for SY Farm isolation ball valve replacement job stated to Prod. Ops. IH that odors were noticed in the parking lot prior to farm entry and that all employees on the job had reported smelling odors.</p> <p>12:58 IHTs exited SY Farm and reported observations to Prod. Ops. IH: 52 ppb VOCs at the SY 101 ENRAF where AeroKroil was sprayed. 16 ppm ammonia and 176 ppb VOCs from SY Farm A-Train primary exhauster. (Refer to DRI survey #14-02882 and air survey #14-02875 for additional information)</p> <p>13:14 IHT left SY change trailer with bag samples to 2704 HV for analysis.</p> <p>15:25 Bag samples analyzed for Nitrous Oxide and Mercury</p> <p>23:40 Ph.D. Analytical Chemist reported interpretation of GCMS results; observing the chromatogram overlay of the farm area sample and stack sample were identical in identified compounds and relative concentrations.</p> <p>The Ph.D. Analytical Chemist's conclusion regarding the analysis and interpretation of the SY exhauster source sample "The stack concentration is very low. A very small amount of methacrylate and styrene monomers were observed. Most of the background is NPH's (~39% of total VOC's). No individual noxious material was identified, particularly at any concentrations that might have caused lasting symptoms."</p>			

SY-Farm Vapor Related Incident on May 29, 2014

WASHINGTON RIVER PROTECTION SOLUTIONS Industrial Hygiene Program		AOP-15 VAPOR EXPOSURE COMMUNICATION FORM (CONTINUED)	
Event	Date:	Odor Location:	
	5/29/2014	SY 101 ENRAF General Area	
Event	Farm/Site:	Source Location:	
	SY-Farm	SY-Farm A-Train Exhauster Stack Sample Port	
<p>05/30/14</p> <p>09:50 Prod. Ops. IH emailed Central Shift Manager "Based upon the analytical results from samples taken in AP and SY Farms on 05/29/2014, which exhibited typical tank farm background concentrations, IH Production Operations recommends exiting AOP-015."</p> <p>11:51 Received SOEN "New red arrow: SY and AP Farms will remain on restricted access until AOP-015 event investigations are completed. While restricted access remains in effect, all work will be considered low threshold vapors/odors as defined in the GHA which requires respiratory protection using the GHA RPF Task 1."</p> <p>11:56 Received SOEN "Exiting AOP-015 for AP and SY Farms, sample results exhibited typical tank farm background concentrations. Access to AP and SY authorized per red arrow."</p>			
Prepared by: _____			