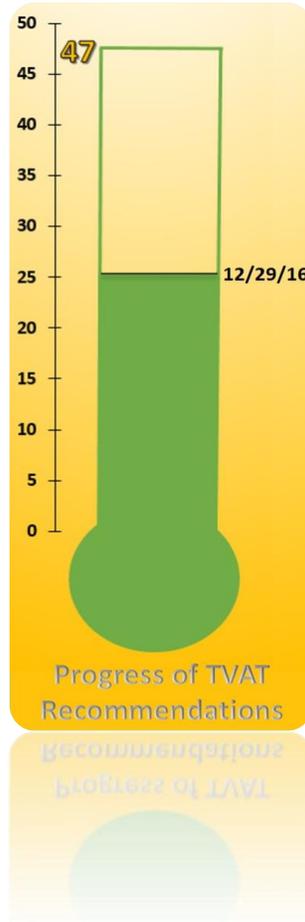




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**Tank Operations Contract
Chemical **Protection Program** Office Weekly Report
for the Week of December 29, 2016
and the Week of January 5, 2017**

1. CHEMICAL PROTECTION PROGRAM OFFICE (CPPO) ACTIVITIES STATUS

CPPO completed the summary of engineering control technologies that have been or are being evaluated for reducing or eliminating tank farm vapors. This document was developed in response to the U.S. Department of Energy (DOE) Office of Inspector General (OIG) special review report recommendation to summarize prior and ongoing engineering control evaluation reports and to share these with the workforce and the public. This document was posted to the HanfordVapors.com in December. The link is shown in the Communications section below.

Also in response to the OIG special review report, a recommendation to “Take action to input all vapor issues in the WRPS Problem Evaluation Request (PER) system, to ensure adequate tracking, closure, and visibility of corrective actions” was completed in December 2016. CPPO will be tracking the closure of the Tank Vapor Assessment Team (TVAT) PERs to ensure adequate closure.

Support to the DOE/WRPS Integrated Project team on Hanford Vapors Mitigation continues. Additionally, CPPO will be providing technical writing support to the Hanford Vapors Mitigation Implementation Plan that is in development.

This week, the CPPO is compiling and analyzing the data collected during retrieval operations during the month of December, starting 12/8/16 through 1/01/17. This includes all of the data collected by the retrieval Industrial Hygiene (IH) group in AX, AY, AZ, and AP Farms, as well as 702 AZ and non-farm areas. The mobile lab data was collected and provided by the RJ Lee Group Inc., a leading analytical laboratory that compiled almost 10 million data points from 12/9/16 to 12/13/16. The Vapor Monitoring and Detection System (VMDS) data was collected and analyzed by the Vapor Data and Analysis Team. The compiled data and associated documentation (charts, graphs, and data tables) is completed, and the assembled presentation depicting the volumes of data that are being collected in support of the Vapor Mitigation Program is in review.

An example of the summarized VMDS data can be found in Attachment 1.

2. CPPO COMMUNICATIONS

Discussions are being held with RJ Lee Group to determine the potential benefit of importing data files into Google Earth with the ability to plot the path of travel and the recorded data, and making it available to the workforce via a web-interface.

Communications with the Workforce

To support additional workforce vapors communication improvements, CPPO is facilitating a new “Bring the CVST to the Workforce” initiative. In January, the (acting) Chemical Protection Integration Manager, Environmental, Safety, Health & Quality (ESH&Q) Manager, and CPPO Manager will be visiting operational teams and will be providing information on vapors-related activities to the workforce. Two opportunities in January are currently scheduled — one with the AY/AZ Team and another with the 616/WS Team. Further interface with more Production Operations teams will follow.

To support improved vapors communications with the workforce, CPPO deployed a Manager's Notebook at the end of November. The first presentation was the Hanford Vapors ISMS Strategy. The presentation for the week of 12/7/16 was the AY-102 Retrieval Briefings. On 12/15/16, a presentation on the VMDS pilot program currently being tested at A and AP Farms was provided. The expectation is for WRPS managers to provide these vapor-related presentations to their workforce. In December, a confirmation system was put in place. The confirmation system will provide a count of how many WRPS managers presented this information at their POD/POW or team meetings.

A request for more information on cartridge testing was made by the workforce. Therefore, this week's presentation highlights the ongoing cartridge testing effort and includes answers to 12 workforce questions regarding the PNNL report (PNNL-25860, *Analysis of Respirator Cartridge Performance Testing on a Hanford AP Tank Farm Primary Exhauster Slipstream*).

A review and summary of PNNL-25790, "*State of Knowledge Assessment: COPC/Exposure Limits*" has been completed and is in review prior to posting the summary and report to the HanfordVapors.com website. Input and feedback from the workforce has been provided. Answers to workforce questions regarding the PNNL-25790 report are included as part of the summary. The questions and comments are currently being incorporated into the message mapping.

The development of additional information on enhanced AOP 15 summaries on the external vapor's website is nearing completion. CPPO is working with legal to ensure information in the summaries is appropriate for the external website.

HanfordVapors.com Posts

[Preliminary report on cartridge filter testing](#)
[Vapors Weekly Update – December 29](#)
[Response to DOE Office of Inspector General](#)
[Proposed technologies for addressing chemical vapors](#)
[AY-102 retrieval information page](#)
[Vapors Weekly Update – December 21](#)
[New VMDS pilot-scale testing data sets 11/02/16 – 11/09/16](#)

3. PERFORMANCE TRACKING

In FY 2017, WRPS continues to resolve the chemical vapors recommendations gathered from various expert groups. To date this year, we have spent \$3.7M (25%) of our official NTE value of \$15M with a much more vigorous workload ahead. In the first quarter of the fiscal year, the CPPO was created and began its mission, and system testing and research documentation continued in preparation for implementation of additional engineering controls and monitoring. See Figure 1 for the first quarter costs incurred.

Figure 1. Costs Incurred for 1st Quarter FY 2017.



4. TVAT PHASE 1 AND PHASE 2 DETAILED STATUS

TVAT Recommendations 1 and 9; Headspace Sampling: As reported last week, for FY 2017, headspace sampling is being re-planned after the impacts to the transfer schedule caused by the switch of AP-106 and AW-106. There are only five waste disturbing activities planned so it is critical headspace sampling occurs during these five activities. Stack sampling (AP and 702-AZ) during AY-102 retrieval is being planned and anticipated to start in December.

TVAT Recommendations 2, 7, 16; Chemical Plating (Aerosol Study): As reported last week, the Statement of Work (SOW) for FY 2017 work is currently being drafted.

TVAT Recommendations 3-5; IH Instruments: No update.

TVAT Recommendation 6; IH Personnel Monitor Equipment: As reported last week, the C2Sense draft test plan has been received for FY 2017 testing. The plan is to test some of these ammonia sensors at Hanford conditions (with the AP exhaust stack) using lab support from RJ Lee Group. If viable, these sensors could be worn by workers for real time ammonia monitoring.

TVAT Recommendation 8; Dispersion Model Review: As reported last week, the draft SOW is in review for FY 2017 work. A meeting on 12/8/16 discussed plume modeling and what types of models are needed for near, intermediate, and far field predictions.

TVAT Recommendation 10; Review/Update Chemical of Potential Concern (COPC) Listing: No update.

TVAT Recommendations 11-13, 15, 17-18; PNNL Health Study Roadmap: As reported last week, the contact for FY 2017 work with PNNL has been put in place and a schedule has been drafted.

TVAT Recommendations 14; Evaluate Medical Surveillance Program: ORP Action. No status.

TVAT Recommendations 19, 20; Toxicology Studies: ORP Action. No status.

TVAT Recommendation 21; Rounds and Routines: As reported last week, the draft procedure is currently in the final review cycle.

TVAT Recommendation 22; Acute Bolus Assessment (RJ Lee Mobile Lab): As reported last week, the final FY 2016 report has been drafted and is undergoing reviews with WRPS. The FY 2017 contract was placed 12/6/16. The FY 2017 test plan should be out for WRPS review this week. RJ Lee personnel are being briefed on the AY-102 retrieval strategy this week and plan to be out monitoring during retrieval activities starting this weekend.

TVAT Recommendation 28; Chemical Vapor Guidance Manual: No update; currently on hold.

TVAT Recommendations 29, 30; Enhanced Training: As reported last week, Chem Worker training is on schedule. Tank Farms training is working on scope and module development.

Enhanced Chemical Hazards Awareness Training (CHAT) is on schedule for roll out at the end of January. This training will be used as a supplement while the Chem Worker training modules are developed and rolled out (anticipated summer 2017).

TVAT Recommendations 32, 36; Bolus Assessment/Medical Stakeholders: ORP Action. No status.

TVAT Recommendation 33; Vapor Monitoring Detection System (VMDS): The weekly VMDS reports are continually being updated and published on the website. The Phase 2 test plan is progressing as planned. Engineering will finalize the set-up for Phase 2 testing (i.e., calibrate remaining VOC sensors in Gastronics units, install sample media in autosampler, and establish RBA for stack sampling).

TVAT Recommendation 34; Vapor Control Zones/Vapor Reduction Zones (VCZs/VRZs): As reported last week, the task team is undergoing a review of the VCZ/VRZ procedures and reports to identify needed procedure changes.

TVAT Recommendation 35; Cartridge Testing: As reported last week, documentation from the third party review of the AP Farm cartridge testing report was received 12/11/16. The report stated that the method used for testing of cartridges and their measured performance was acceptable for the conditions and exposures at the time of testing at the AP Farm exhaust. However, more testing is needed to determine the performance of the cartridges before they can be applied in respiratory protection in the farms.

Also as reported last week, the report PNNL-26041, *Analysis of Respirator Cartridge Performance Testing on Hanford Tank SY-102* was given to the Hanford Atomic Metal Trades Council (HAMTC) on 12/1/16 to start the third-party review of this report.

Fabrication of the new test jigs are underway to support FY 2017 testing of two different cartridges.

TVAT Recommendation 37; IH Improvements Tracking: As reported last week, the schedule of activities is continually being tracked. The 47 TVAT Recommendations are currently being added to the PER system.

TVAT Recommendations 38-39, 41; Management Commitment: No update.

TVAT Recommendation 40; Improve EJTA: No further actions required.

TVAT Recommendation 42; Revise Exposure Letter: No further actions required.

TVAT Recommendation 43; IH Covello Training: No update.

TVAT Recommendation 44; Public Address (PA) System: As reported last week, the three contracts are underway for support from Mission Support Alliance (MSA), ARES, and Safer. The conceptual design has been finished for location of the speakers and reader boards in all the farms.

Some feedback received on the PA system installed in AP Farm has been that the messages coming from the speakers are not as clear as they should be. The plan is to fix this when the permanent PA system gets installed.

TVAT Recommendation 45; Lab Support/Determination & Development of Similar Exposure Groups (SEGs): No update; currently on hold.

TVAT Recommendations 46, 47; Communications: No update; currently on hold.

OTHER VAPOR ACTIVITIES:

242-A Ammonia Analyzer Upgrade

As reported last week, the 242-A Ammonia Analyzer been kicked off to start Phase 1 of upgrades.

242-A Stack Extension

As reported last week, the 95% design had to be re-started due to an issue with the calculation that was noticed during peer review. The 95% design was expected to be finished in December 2016.

Leading Indicators

As reported last week, the leading indicator contract has been put in place to continue FY 2017 work.

Abatement Technologies

As reported last week, down-select criteria is being developed to support decision on vapor abatement scope definition for FY 2017.

SCBA Equipment Evaluation

Field testing of SCBAs during Phase 2 testing in a non-hazardous setting for approximately two weeks at the Volpentest HAMMER Federal Training Center was completed 12/07/16. The Phase 2 test report is currently drafted and is in the approval cycle. Release of the Phase 2 report in Smart Plant is scheduled for 1/31/17.

Certification of existing air-line equipment was completed the week of December 19th. Field crews will begin using air-line during single-shell tank and double-shell tank annulus videos by late January. This activity will serve as a pilot for determining if other projects can effectively utilize air-line systems across tank farms.

Kenexis

The Kenexis Tech Evaluation and Acquisition Planning document is receiving final signatures 1/03/17 with contract expected to be awarded in the next couple of weeks. Internal review of FY 2016 documents are on hold until Kenexis is on contract. Standard and Procedure development to define the Vapor Quantitative Risk Analysis process will commence this week.

AY-102 Retrieval

AY-102 retrieval is ongoing on nights and weekends. Operations were shut down on 12/31/16 at around 16:30 due to elevated ammonia readings from the AP ventilation stack, which exceeded action levels in the retrieval transfer procedure. Ammonia levels fluctuated, but remained high enough to prevent resumption of sluicing through night-shift on 1/1/17.

**Attachment 1. AY-102 to AP-102 Retrievals Summary
VMDS Data Information Collected From 12/8/16 – 1/1/17.**

LOCATION	INSTRUMENT	TOTAL READINGS (NH3 & N2O)	Total NH3 Reading	Total N2O Readings
AP FARM	506A OP-FTIR	56390	17479	38911
AP FARM	506B OP-FTIR	92929	34598	58331
A FARM	508A UV-DOAS	72390	72390	NA
AP STACK	507I UV-FTIR	93966	47061	46905
AP STACK	507U UV-FTIR	49222	49222	NA
Total Readings (Datapoints)		364897	220750	144147

LOCATION	LOCATION	NH3 Readings > AL	Peak NH3	N2O Readings > AL	Peak N2O
AP FARM	506A OP-FTIR	0	0	0	525 ppb
AP FARM	506B OP-FTIR	0	24 ppb	0	453 ppb
A FARM	508A UV-DOAS	0	44 ppb	NA	NA
Action Limit		12 ppm		25 ppm	