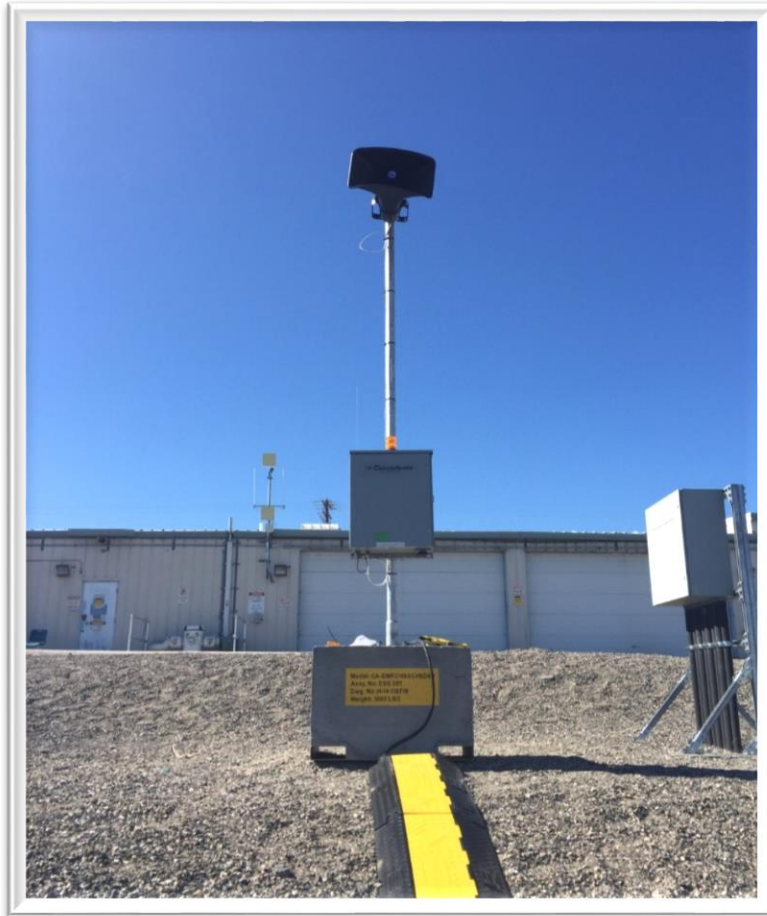




washington **river**
protection solutions



Installation of the Tank Farms Public Address (PA) Speaker System

Tank Operations Contract
Chemical **Protection Program Office Weekly Report**
October 20, 2016

Rebecca J. Sams – Chemical Protection Program Office Manager

1.0 CHEMICAL PROTECTION PROGRAM OFFICE (CPPO) ACTIVITIES STATUS

CPPO has initiated activities in support of overall vapors communications and integration. An overarching vapors schedule has been developed along with a detailed database and summary report for tracking the status of commitments set forth in WRPS-1500142, *Implementation Plan for Hanford Tank Vapor Assessment Report Recommendations*. The detailed database will be fully populated in early November.

A message summary / message map has been created for the AP Cartridge Testing. More detail is given in Section 2.0.

CPPO is working with IH to develop an Abnormal Operating Procedure (AOP)-015 summary report that will include an IH summary of AOP-15 event investigations. The summary report would be distributed to the WRPS workforce once developed and approved.

Development of a comprehensive vapors communication metric has been initiated. This metric will allow the CPPO to assess overall volume of communications and where communications are overly abundant, as well as areas where vapors communications can be bolstered. The metric will include Fiscal Year 2017 vapors communication data.

Other metrics under consideration for development by CPPO include:

- AOP-015 (number, in/outside fence, waste disturbing/non-waste disturbing, etc.)
- Vapor related Problem Evaluation Requests (PERs) (open, overdue, etc.)
- Vapor Assessments (open, scheduled, overdue, etc.)
- Chemical Vapor Solutions Team (CVST) (worker involvement/participation, open actions)
- Phase 2 Project performance (programmatic cost, schedule)

2.0 CPPO COMMUNICATIONS

Message maps on the AP Cartridge Testing have been drafted and will be reviewed and finalized with the project team and Industrial Hygiene (IH) team this week. The final maps will be reviewed with the CPPO Steering Team prior to distribution. Prior to initiating the message mapping, a Hanford Atomic Metal Trades Council (HAMTC) safety representative point of contact has provided a “top 11 questions” about the cartridge test report that various workers would like to see answered. Answers to these questions are included in the messaging. Once final, the information will be distributed using various communication avenues.

On 10/13/2016, the redesigned and expanded website was launched that provides greater understanding of chemical vapors at the Hanford Site. The HanfordVapors.com website includes new content developed by a cross-section of workers at the site who are leaders in their fields of expertise.

The tools and information available on the website are part of broader efforts by WRPS to increase engagement with the workforce and stakeholders on the chemical vapors issue.

HanfordVapors.com Posts

[Vapors Weekly Update – October 13](#) (*Posted in the News & Updates section*)

Highlights: WRPS contract extension, web rollout, injunction hearing, next CVST meeting.

CPPO did not provide input into this website post.

Since the website launch on 10/13/2016, CPPO has provided website article *Enhanced Tank Farms Public Address (PA) Speaker System* for the enhanced vapor identification area of the website.

A website user group meeting was facilitated with (primarily) bargaining unit personnel. Feedback from this meeting will be recorded and used for improvements on the new Hanford vapors website.

CPPO has requested that all content to be posted to the website be reviewed by CPPO prior to posting. A desktop reference for content development is written and is undergoing proof of process testing prior to being finalized.

3.0 TRACKING/VERIFYING TANK VAPOR ASSESSMENT TEAM (TVAT) COMPLIANCE

Trending information summary to be provided monthly.

4.0 TVAT PHASE 1 AND PHASE 2 DETAILED STATUS

(Excludes status on TVAT Recommendations 24 – 28 and 31.)

TVAT Recommendations 1 and 9; Headspace Sampling: Head space sampling continues with obtaining the top sample at BY-108. This is the eighth tank to be sampled since initiation of the project. The results will also be evaluated against historic data to determine if there are any significant changes within the tanks sampled.

TVAT Recommendations 2, 7, 16; Chemical Plating (Aerosol Study): Savannah River National Laboratories (SRNL) and RJ Lee Group, Inc. conducted a scoping study to collect and analyze particulate material present at A, B, C, and AP Farms. The goal was to obtain preliminary data to guide and determine the feasibility of potential future studies into the collection and characterization of ultrafine particulates. Aerosol particle samplers were deployed in May, 2016 at predetermined locations and shipped to SRNL for analysis. Results are documented in SRNL-TR-2016-00193, Rev. 1, *Particle Collection and Analysis from Hanford Tank Farm Operations*.

TVAT Recommendations 3-5; IH Instruments: Exploration of the development of an inexpensive chemical vapor sensor based on an instrument developed by the University of Washington (UW) was completed. The technical immaturity of the product is too low to be considered for application at the Hanford Site. Further, there are currently a number of commercially available sensors that will provide the same or better capability than has been proposed for the prototype sensor. The projected cost and time that would be incurred to develop this new technology will bring the cost of the new sensor to parity with currently available sensors at the point of commercialization. Therefore, proceeding with this contract is not recommended ([Columbia Energy and Environmental Solutions] CEES-1335, *Acceptance Test Report for Fixed Location Sensors, Hand-Held Sensors and Alarm and Communications*, and CEES-1292, Rev. G, *Fugitive Vapor Source Identification Scoping Study Literature Reviews for Fixed Sensor, Hand-Held Sensor and Alarm & Communication Technologies*).

Moving forward into Phase 2, IH Programs will conduct an annual review of commercially available instruments.

TVAT Recommendation 6; IH Personnel Monitor Equipment: No status.

TVAT Recommendation 8; Dispersion Model Review: Consolidation of the dispersion modeling report has been received and the final review and acceptance is in progress.

TVAT Recommendation 10; Review/Update Chemical of Potential Concern (COPC) Listing: The final report from Pacific Northwest National Laboratory (PNNL) has been received (PNNL-25880, *Hanford Tank Vapors COPCs Update*).

TVAT Recommendations 11-13, 15, 17-18; PNNL Health Study Roadmap: The Health Process strategy/plan report has been issued (PNNL-25791, *Hanford Tank Farm Occupational Exposure and Risk Assessment Plan*) as well as PNNL-25790, *State of Knowledge Assessment: COPC/Exposure Limits*.

TVAT Recommendation 14; Evaluate Medical Surveillance Program: Office of River Protection (ORP) Action. ORP contracted with NIOSH to perform the evaluation. The final report is waiting to be received by WRPS. No further actions after the report has been received.

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

TVAT Recommendation 21; Rounds and Routines: The Rounds & Routines procedure has been drafted. Turnover to IH Programs is currently ongoing to implement. Currently, IH is conducting weekly rounds for A and AP Farms.

TVAT Recommendation 22; Acute Bolus Assessment (includes RJ Lee mobile lab, Personal Sampling, and Rounds & Routines): RJ Lee Group, Inc. performed seven 1-week area monitoring events, intensive sampling at the AP Farm actively ventilated stack and the A-103 passive breather filter, and monitoring of emissions from the newly installed AP Farm ventilation stack. WRPS-1604060.1 Enclosure 10, *Chemical Vapor Initiative*, includes the data from four weeks of general area monitoring. A final report is being drafted to incorporate all results. See TVAT 6 on personal sampling and TVAT 21 for rounds and routines.

TVAT Recommendation 23; Medical Surveillance: Employee Job Task Analysis (EJTA) revision was completed; see TVAT 40. ORP has action for Phase 2.

TVAT Recommendations 29, 30; Enhanced Training: The Chem Vapor Worker I/II and Enhanced Chemical Hazards Awareness Training (CHAT) course modules have been developed. IH Programs will further evaluate and implement.

TVAT Recommendations 32, 36; Bolus Assessment/Medical Stakeholders: ORP Action

TVAT Recommendation 33; Vapor Monitoring Detection System (VMDS): The pilot scale testing of the VMDS is ongoing. The bulk of VMDS equipment are operational and are transmitting data to the Tank Farm Monitoring and Control System (TFMCS). Data is then transferred from TFMCS to OSI/PI software and then to Safer system. System performance and data (through 9/16/2016) form the basis for the Performance Based Incentive report, which has been completed. Punch list items are being worked to optimize system performance by the end of the calendar year. Bench-scale test report comment resolution complete.

Weekly reports on the monitoring system and data interpretation are being prepared and will continue throughout testing. These reports will be available on the updated vapors website.

TVAT Recommendation 34; Vapor Control Zones/Vapor Reduction Zones (VCZs/VRZs): Farm evaluations have been completed and documented. These reports are currently being issued in Smart Plant Foundation (TOC-IH-RPT-50002 through -50018). IH Programs will maintain/update these reports.

TVAT Recommendation 35; Cartridge Testing: The TVAT team has completed the sampling at eight different locations (AP exhauster, SY-102, BY-108, A-101, AZ-702 stack, AX-101, AW stack, and AN stack) to verify the protection capabilities of two air purifying cartridges (SCOTT'S 7422-SC1 and 7422-SD1). PNNL completed the lab analysis report from the AP exhauster location and a summary of the results is planned to be presented at the next CVST meeting. The remainder of the reports are being drafted.

The draft message map of this report is completed.

TVAT Recommendation 37; IH Improvements Tracking: WRPS created an independent project to track and report on TVAT Implementation Plan actions. There have been rigorous CVST, sub-team, and group briefings on these tracking activities.

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

TVAT Recommendation 40; Improve EJTA: TFC-ESHQ-S_IH-C-17, Rev D, *Employee Job Task Analysis*, has been revised. No further actions required.

TVAT Recommendation 42; Revise Exposure Letter: The exposure letter has been completed. No further actions required.

TVAT Recommendation 43; IH Covello Training: In FY 2016, WRPS scheduled multiple risk communication sessions with a nationally recognized risk communication expert, Dr. Vincent Covello. Dr. Covello's research on the topic of risk communication was specifically cited in the TVAT report. WRPS is planning another round of training and strategy sessions for select WRPS managers, employees, Industrial Hygiene Technicians, and front-line supervisors in FY 2017.

TVAT Recommendation 44; PA System: Testing of an enhanced Tank Farms PA Speaker System for event notification was completed in AP Tank Farm. In this pilot demonstration, four new PA towers (see Figure 1) were strategically placed based on an area/location sound propagation study. The system can be heard throughout and just outside the AP Tank Farm complex and is designed so that workers will hear instructions even if they are in self-contained breathing apparatus (SCBA), behind equipment, or working in or near a crane. When activated, the PA system also has a flashing strobe light so that the system provides both audio and visual notification. Current planning is for all 18 tank farms to have the upgraded PA systems by summer 2018.

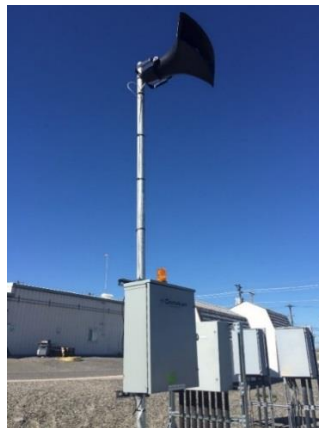


Figure 1. One of the Tank Farms Public Address (PA) Speaker System Towers

TVAT Recommendation 45; Lap Support/Determination & Development of Similar Exposure Groups (SEGs): Additional staff and equipment have been provided to the lab to support timely throughput of samples/analyses. The draft SEG evaluation has been completed. IH Programs will further evaluate and implement.

TVAT Recommendations 46, 47; Communications: Glyn Trynchard and WRPS hosted the WDOH Secretary John Weisman, members of his staff (Bouton, Forham) and the local WDOH (Randy Utley, other) for a quick overview of the VMDS at AP Farm. The overview lasted about 20 minutes. Glyn introduced the tank farms and our operations generically, and a discussion followed on the VMDS system, including the new exhauster. The tour was received very positively, and they were impressed with the efforts that we were making in the vapor protection arena.

Also see Sections 2.0 and 3.0 in this report.

OTHER VAPOR ACTIVITIES:

On October 12, 2016, US. District Judge Thomas Rice heard arguments related to the State and Citizens group's motions for preliminary injunction in the vapors litigation. Judge Rice plans to issue a detailed ruling as soon as possible.

A tally of Phase 1 completion/current status is currently being determined and will be issued by the end of October in the *Performance Trends & Recurring Occurrence Analysis Quarterly Report Quarter Ending September 2016*.

Results from the first phase of vapor projects are being compiled and summarized into one report which is targeted to be complete by end of November. Lessons learned from phase one activities and additional recommendations will be provided and used to determine what additional actions WRPS will take moving forward into Phase 2 of the TVAT implementation plan.

TF Automation Upgrades

Tank Farm Automation successfully powered up the new Safety Significant, International Society of Automation (ISA)-84 compliant alarm panel in the 274-AW Central Control Room (see Figure 2). This alarm panel will receive signals from safety significant instrumentation supporting the double-shell tanks. Construction acceptance testing is scheduled to begin next week.



Figure 2. Construction Acceptance Testing TFSPS Annunciator in 274AW Central Control Room

AZ Farm Permanent Power

Construction field work is ongoing to support permanent power installation in AZ Farm. The addition of permanent power will provide electrical service for work crews to utilize for equipment during maintenance, sampling, and pit work activities performed in the farm.

242-A Stack Extension

Although the current stack heights are sufficient for protecting workers, a defense-in-depth evaluation to provide additional protection using dispersion modeling revealed 242-A, AP & AW Farm Stacks were the largest contributors to odor events (RPP-RPT-58955, Rev. 00, *Atmospheric Dispersion Modeling of 200 East Area Tank Farm Stacks*). Preliminary design evaluations for the 242-A stack indicate the stack height can be increased by about 50 ft with minimal structural modifications. Dispersion modeling demonstrates up to a 95% reduction in near field ground concentration. As of 10/06/2016, 30% design review has been completed. The design team is incorporating comments and transitioning to 90% design. On 10/13/2016, the construction team completed facility scans and measurements (see Figure 3).



Figure 3. Construction Crew Completing the Facility Scans/Measurements on the 242-A Stack