



# WRPS Integrated Chemical Vapor Hazard Control Program

# **Monthly Report – January 2019**







At the end of Fiscal Year (FY) 2016, Washington River Protection Solutions LLC (WRPS) was completing Phase I of the Implementation Plan for Hanford Tank Vapor Assessment Report Recommendations (WRPS-1500142), developed to address Tank Vapors Assessment Team (TVAT) recommendations. The implementation plan actions were originally planned to occur in two phases. Phase I was completed at the end of fiscal year FY 2016. During the latter part of Phase I, multiple assessments were conducted on the progress of the implementation plan and/or the overall Industrial Hygiene (IH) program, including those conducted by the National Institute for Occupational Safety and Health (NIOSH), Office of Inspector General (OIG), Center for Toxicology and Environmental Health, LLC (CTEH), and DOE-Office Environment, Safety, and Health Assessments (EA-32). Assessment results, feedback from stakeholders, and the Phase II actions were incorporated into a comprehensive vapor management strategy, focusing on the vision that all workers on the Hanford Central Plateau continue to be protected by the comprehensive approach to vapors management, and that workers are safe and feel safe. The Comprehensive Vapor Action Plan (CVAP), as the plan became known, presented the new implementation strategy, and replaced the *Implementation* Plan for Hanford Tank Vapor Assessment Report Recommendations.

The CVAP was organized around eight Key Performance Parameters (KPPs):

- **Lead** Engagement and effectiveness measurement
- **♣** Industrial hygiene technical basis
- Industrial hygiene program parity
- **4** Engineered controls
- Unrestricted work boundaries
- Single shell tank stewardship program
- Chemical vapor respiratory protection hierarchy of controls, and
- **♣** Support medical program enhancements

The Plan was implemented during fiscal years 2017 to 2018.

The Chemical Protection Program Office (CPPO) was established in October 2016. The mission of the CPPO is to provide independent monitoring of vapor action status, and facilitate the flow of clear and transparent information throughout WRPS and to stakeholders to promote understanding of Hanford tank vapors by:

- Providing independent measures of progress to ensure actions achieved the required intent
- Both leading and supporting vapors engagement and communication efforts

From FY 2017 to FY 2018, CPPO delivered KPP 1 of the CVAP: "[e]stablish a comprehensive vapor communication plan, engagement processes, and effectiveness measures," in part by publishing the *CPPO Weekly Report*. The weekly updated all the KPPs as described in the CVAP. WRPS's ongoing actions, aimed at managing chemical vapor hazards from the Hanford





Tank Farms, are now focused around the outcomes of the CVAP. Instead of describing the outcomes in terms of KPPs, WRPS is now using the following descriptors:

People, Programs and Processes

**➡** Mitigating actions/Engineering controls

**▶** Information Sharing/Communication

**Sampling and Monitoring** 

The CPPO Weekly Report is now the WRPS Integrated Chemical Vapor Hazard Control Program Monthly Report.





# 1. People, Programs, Processes

"People, Programs, and Processes describes actions to ensure employees are qualified and trained, processes are in place to perform work safely, and programs are developed and updated."

# Exposure Assessments January 2019 Update:

IH and the Office of River Protection (ORP) agreed to a new Exposure Assessment (EA) review process in January. No longer do exposure assessments require an ORP review prior to publication. Content-only reviews will be conducted post-publication and any necessary edits will be incorporated in subsequent revisions. In January, TOC-IH-EA-50042, *AX Farm Comprehensive Exposure Assessment*, was published. Also, IH initiated the SY Farm exposure assessment.

# IH Training January 2019 Update:

In the 1<sup>st</sup> Quarter Summary, CPPO incorrectly reported that IH had completed a *ToxiRAE Pro Laboratory Preparation & Calibration Training* for all IH Technicians, and had completed *ToxiRAE Pro Field Use Training* for all On-the-Job Trainer /On-the-Job-Evaluator (OJT/OJE) Qualified IHTs. In fact, IH is in the process of completing the training. IH's efforts to qualify all On-the-Job Trainer /On-the-Job-Evaluator (OJT/OJE) Qualified IHTs utilizing TFC-OPS-IHT-028, *Preparation and Field Use of the ToxiRAE PRO System,* is on-going.

# Health Process Plan (HPP) and Charter 71 January 2019 Update:

The following four HPP reports (also known as Charter 71 reports) were further developed by Pacific Northwest National Laboratory (PNNL) and WRPS in January:

- **Hanford Tank Farm Occupational Exposure and Risk Assessment Plan** (PNNL-25791): The report is currently in the WRPS SPF document control system in review.
- **♣ Proposed Risk-Based Approach for Nitrosamine Chemicals of Potential Concern** (PNNL-26787): Also in the WRPS SPF review process is report PNNL-26787.
- ♣ Chemical Mixtures and Modeling Recommendations (PNNL-27089): PNNL scientists have scheduled a meeting to prioritize the chemicals of potential concern (COPC) for development of Health Code Numbers to be used in calculating health risks from tank vapor chemical mixtures.





**♣ Short-Duration Vapor Concentrations in Worker Breathing Zones in and near the Hanford Tank Farms: A Summary of Current Knowledge (RPP-RPT-61280):** The report, which examines the science supporting the TVAT bolus exposure hypothesis, will be issued to Vapors Management Expert Panel (VMEP) and Stoneturn Consultants (STC) reviewers once all of the cited **Official Use Only** reports have themselves been released.

## Chemical Worker Training January 2019 Update:

The CTEH toxicologists moderated Question & Answer (Q&A) sessions at the conclusion of each week's *Chemical Worker Training* in January. This gave the course trainees an opportunity to get answers to their questions regarding the toxicology and potential health impacts from tank vapor chemicals.

- ♣ January 9, 2019: Class trainees asked Dr. Pamella Tijerina about work being done to characterize "unknown" chemical vapor compounds. She spoke about the current capabilities of the analytical laboratory methods being employed and new technology being brought online to better define sampling data. Workers also mentioned concerns over potential exposures to metals, such as chromium, from dusts generated during site excavations. A question was asked about IH plans to assess hazards from exposure to vapor chemical mixtures. Dr. Tijerina noted that PNNL is still developing recommendations that will be forthcoming in their Chemical Mixture Methodology report to be released later this year.
- **↓ January 16, 2019:** Dr. Pamella Tijerina introduced the mission of the CPPO and CTEH's related risk communication support role. Trainees asked for some explanation to differentiate the concepts of vapor COPC vs total tank wastes.
- ♣ January 23, 2019: Drs. Tami McMullin and Mike Lumpkin answered questions related to potential dermal exposures of chemicals in the airborne vapors and whether localized rashes underneath clothing were likely to result. Dr. Lumpkin explained that the level of airborne compounds measured during IH monitoring and sampling would not be sufficiently high to cause an adverse effect. He said that a vapor concentration high enough to cause adverse skin reactions would result in effects observed on all exposed skin, not just a localized part of the skin under clothing.
- **↓ January 30, 2019:** Dr. Mike Lumpkin introduced the mission of the CPPO and CTEH's related risk communication support role. The trainees asked no questions.





# The Data Access and Visualization Tool (DAV) January 2019 Update:

PNNL and IH kicked off the Internal DAV (IDAV) project in November, the purpose of which is to add efficiencies to the process used to analyze the exposure assessment data. IDAV uses Tableau Server and scripting languages to augment critical IH and engineering data analysis functions. The fully automated tool sets are expected to assist qualified IH staff in updating exposure assessments. In January, a demonstration of the current state of the Tableau tools used for AX and SY exposure assessments was given to ORP during the HPP meeting. Additionally, in January:

- ♣ The Chemical Mixture Methodology (CMM) was incorporated into Tableau, and prototype visualizations were created for the AX Farm data set developed for the exposure assessment. Initial discussions with PNNL SMEs and WRPS IH staff were held to explore potential use cases.
- **♣** IH and PNNL began developing the design specifications for the IDAV Exposure Assessment module in January.
- ♣ Initial data conditioning for SY Farm Exposure Assessment was conducted using Tableau. The results were shared with WRPS IH for verification.

# Integrated Sampling & Monitoring Strategy January 2019 Update:

IH established the scope and purpose for the IH 200 Areas Surveillance Strategy and briefed the ORP; additionally, IH began drafting a sampling and monitoring strategy for the IH Program. Assignments were adjusted in January to accommodate personnel changes.

# ToxiRAE Implementation January 2019 Update:

IH began using the ToxiRAE personal ammonia sensor in the following farms in January:

- **♣** January 8: AP Farm for all RC1 & RC2 work activities
- **♣** January 15: AW Farm for all RC1 & RC2 work activities
- **♣** January 22: AN, AX, AY, and AZ Farms for all RC1 & RC2 work activities Mission Support Alliance Crane & Rigging and Teamsters personnel matrixed to the Tank Farm Contract were briefed on the ToxiRAE personal ammonia sensor on January 8 and January 10 respectively.







# **Provident States** Root Cause Analysis (RCA) **No Update:**

1st Quarter Summary:

The RCA Team reviewed and compiled all the past vapor data and vapors-related issues to develop a draft RCA report. An external team reviewed the draft in November, and its revision continued in December. The final report is due in the 2<sup>nd</sup> Quarter, FY 2019.





# 2. Mitigating Actions/Engineered Controls

### **₩**AW Stack Extension

### January 2019 Update:

The scope of this effort is to extend the stack's current elevation from 27 feet to 60 feet. As a result of issues identified during the permitting review process, the schedule for completing the AW Stack extension was extended to FY 2019. The goals for FY 2019 are to complete the field installation and turn over the stack to Operations. Summarized below are the January accomplishments:

**♣ Permitting:** The radiological permit is currently with the Department of Health for review. The Department of Ecology notified WRPS that it had completed the non-radiological review; the permit is expected in March.

### **₩**A Farm Exhausters

#### January 2019 Update:

In FY 2018, construction of the concrete pad was completed. The goals for FY 2019 are to install the exhausters, exhauster valve manifold component, and all the ventilation cold tie-in components. Below is a summary of what was accomplished in January:

- **Exhausters:** Both the Exhauster Stack and the Exhauster Moisture Separator installations were completed in December. The installation of the 14" pipe spools between both the Exhauster and Moisture Separators continued in January.
- **Exhauster Valve Manifold:** The fabrication of the Exhauster Valve Manifold was completed. Preparations for the valve manifold sub-assemblies installation continued in January.
- Procurement/Fabrication: Two grout boxes were received in January.





# ►NUCON®¹ Thermal Oxidation Vapor Abatement Unit (VAU)

### **January 2019 Update:**

The current goals for FY 2019 are to start the detailed design of the next generation VAU and tank farm infrastructure, and to apply for environmental permits, as necessary. This is a collaborative effort between WRPS, PNNL, TerraGraphics, and NUCON®. Below is a summary of what was accomplished in January:

### **4** TerraGraphics:

- Continued disposition of the WRPS comments on the Thermal Oxidation System (TOS) Infrastructure 30% Design.
- Continued developing the *TOS Infrastructure 60% Design* package.

#### **NUCON®**:

- Prepared draft and received comments on draft of the FY 2019 work plan.
- Started work on the *TOS VAU Skid 30% Design Package*.
- Continued developing the *Preliminary System Design Description*, awaiting for final internal reviews and comments.
- Initiated the *Preliminary Functional Specification for VAU Skid.*
- Continued developing the preliminary piping and instrumentation of the VAU skid.

#### **WRPS:**

- Completed the review of the first revision of the test report and submitted comments to PNNL.
- Completed the review of NUCON® FY 2019 work plan and submitted comments to NUCON®.
- Collaborating with TerraGraphics on a path forward on two open design issues as follows:
  - Condensate management in the TOS infrastructure to avoid collection and disposal other than drain back to the tank.
  - The standardized rad sampling probe is too big for the size pipe planned for the TOS Infrastructure.





#### **PNNL:**

- Received comments on the first revision of the test report from WRPS, and is currently being edited.
- Started the electrical isolation engineering facility modification package, which was modified initially for the instrumentation trailer.

# →AP Farm Ultra-Violet Fourier Transformer Infrared Spectrometer (UV-FTIR)

### **January 2019 Update:**

The goal for FY 2019 is to turn the AP Farm UV-FTIR over to Operations. Below is a summary of what was accomplished in January:

- **Ammonia-Only Turn over:** A number of parallel activities are being prepared in support of the ammonia-only turn over and are discussed below:
  - Continued reviewing the ammonia-only results and continued interim reliability Operational Acceptance Test (OAT) testing.
  - Continued the no-gas OAT.
  - Instrumentation and Control Engineering continued developing the IDMS interface, and continued reviewing the UV-FTIR software installation plan.
  - Continued preparing the maintenance and operating procedures.
  - Continued compiling evidence to support the readiness of the UV-FTIR to Operations.
- **Multi-Gas Only Turn over:** A number of parallel activities are being prepared in support of the multi-gas only turn over, including:
  - Continued preparing the OAT procedure to support testing.
  - Continued procuring permeation tubes for calibration and testing.
  - Continued compiling evidence to support the UV-FTIR-to-Operations readiness.

# **≧**Continuous Emissions Monitor Sampler January 2019 Update:

The Continuous Emissions Monitor Sampler, previously called the Autosampler, is scheduled for modification in FY 2019.





# **➡**Stack Monitor Turnover/VMDS Upgrade No Update

1st Quarter Summary:

In FY 2018, VMDS stack monitors were installed on the AW, AX (2), AN, and 702-AZ exhausters. The goal for FY 2019 is to turn over the monitors to Operations. Summarized below are the January accomplishments:

- **♣ Set-point Calculation:** The sub-contract for the set-point calculation was awarded to ARES. ARES started preparing the draft calculations for all the farms in November.
- **Test Requirements:** Test requirements and OATs for all the farms were started in November.
- **AX Farm Stack Monitors:** The test plan supporting the interim OAT was drafted; the software development test matrix was started too.

In addition to the turn over activities, the design work for the installation of the ultra violet-differential optical absorption spectrometer stack (UV-DOAS) monitor in A Farm continued.

## **▶**Public Address System (PA) January 2019 Update:

FY 2018 saw the installation and turnover of the west and east area tank farms public address (PA) systems. The focus in FY 2019, to install all the reader boards associated with the PA system, is largely realized. Fourteen of fifteen reader boards were installed and functionally tested by January 21, 2019. The installation of the remaining reader board began in January. The *Integrated Test Plan* was submitted on January 22, 2019.

# SST Farm Automation January 2019 Update:

The purpose of the single-shell tank (SST) Stewardship Program is to identify and evaluate the procedures required for entry into the SSTs, and to determine whether those requirements can be eliminated or reduced. The goals for FY 2019 are to install the remote monitoring equipment at both TY and TX Farms with turn over to Operations. The following was accomplished in January:

**♣ SST Remote Monitoring Equipment:** Veolia Nuclear Solutions (VNS) was sub-contracted to perform the work early in the quarter. VNS performed design validations in TX/TY Farm on the liquid-level electrical and mechanical design modifications which were completed in December. In January, design changes were approved.





**T-Complex Field Construction:** The construction statement of work was drafted and routed for approval. The construction request for proposal will follow.

In January, Mission Support Alliance finished relocating the 2220 W Building network hub.

### FFAPR and PAPR

### January 2019 Update:

As part of the overall research and implementation of the FFAPRs in Tank Farms, an IH SME attended a tour of the Mine Safety Applications factory for respiratory cartridges in North Carolina in mid-January.





# 3. Information Sharing/Communication

# Chemical Vapors Solution Team (CVST) Meetings January 2019 Update:

The CVST held a meeting on January 9, 2019. Sixty people attended. The ESHQ Chemical Protection Integration Manager began the meeting by presenting the *HPMC Occupational Medical Services* (*HPMC OMS*) *CPPO Notebook*. He also gave an update on the rollout of FFAPRs in AP and AN Farms, as well as an update on the ToxiRae personal monitor rollout.

# **I** CVST Sub-team Meetings January 2019 Update:

**January 2019:** The CVST Communications Sub-team meeting met on January 28, 2019.

# HanfordVapors.com Metric January 2019 Update:

As depicted in **Figure 1**, the Hanford Vapors website logged over 2000 views in January 2019 marking a fifteen percent (15%) increase in views over December. In January, the website experienced an average of 69 hitsper-day, which is in-line with the average for FY 2019. Website traffic increased on January 30, coincidentally with questions posted to the webpage.







Figure 1. January 2019 - Hanford Vapors Website – Total Hits Per Month and Average Hits Per Day

Listed in **Table 1** are the three items posted to HanfordVapors.com in January, as reported by Communications and Public Relations (C&PR).

Table 1. HanfordVapors.com Website Posts – January 2019

#### EIR-2018-046

PNNL-27816, NUCON® Vapor Abatement Unit Performance on Hanford Tank Farm Chemicals of Potential Concern

WRPS Integrated Chemical Vapor Hazard Control Program Quarterly Summary





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The *CPPO Notebook* was developed as an additional mechanism for managers to share vapors-related information with the workforce. **Figure 2** depicts the FY 2019 notebook titles and reported management utilization numbers of each notebook. It is delivered on a weekly basis in multiple formats, including a one-sheet summary of the weekly topic, a PowerPoint presentation (with speaker notes), and a video narrated by a technical expert. Five notebooks were distributed in January, including:

- Medical Reporting to HPMC Occupational Medical Services
- Why Ammonia?
- Update on the AW Farm Stack Extension
- ♣ How the Health Insurance Portability and Accountability Act (HIPPA) Impacts Vapor Event Reporting
- **♣** Fugitive Emissions at the Hanford Tank Farms

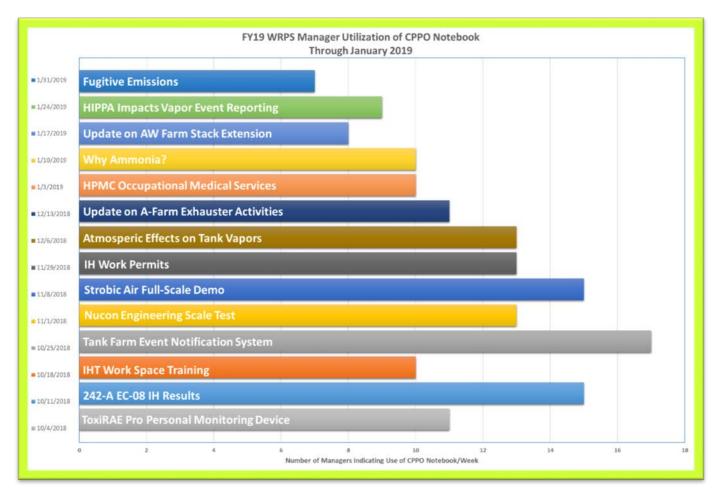


Figure 2. FY 2019 CPPO Notebook Use through January 2019





In January, an average of 9 managers a week reported using the notebook. Since the beginning of FY 2019, WRPS managers reported utilizing the *CPPO Notebooks* 149 times. The notebook material is provided in multiple formats, including an SME narrated/video presentation posted to the intranet, and available to all WRPS staff.

In January, narrated notebook files were accessed **428** times. There were three *Solutions* articles and five *CPPO Notebooks* released in January. **Figure 3** shows the monthly website traffic statistics for visits to the CPPO Multimedia Library since the beginning of the fiscal year. The data suggests a larger reach than that which is self-reported by the management distribution list.

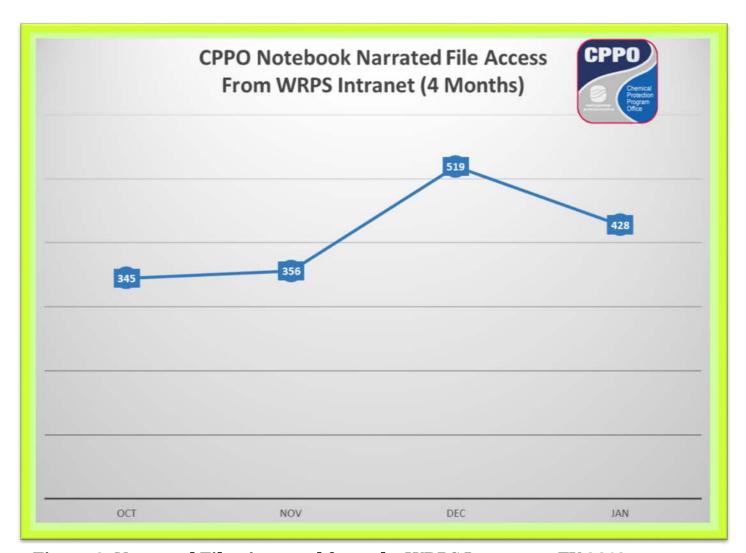


Figure 3. Narrated Files Accessed from the WRPS Intranet – FY 2019





# **№ CPPO Requests and Production Metrics January 2019 Update:**

The CPPO provides monitoring results, report summaries, presentations, and a monthly report on WRPS vapors activities to the workforce. The *Solutions* newsletter, the HanfordVapors.com website, the internal vapors website, and direct emails are the primary distribution paths for CPPO products. The vapor-related materials produced by the CPPO in January are shown in **Table 2.** In January, the CPPO produced and provided one monthly report, one report summary, a finalized focus group plan, and seven worker engagement activities. In addition, five *CPPO Notebooks* were delivered to the workforce.

Table 2. CPPO Vapors Information Products FY 2019

CPPO Vapors Information and Engagement Activities FY19	October	November	December	January	FY-to-Date Total
Presentations (includes CPPO Notebook and CVST)	4	4	2	5	15
CPPO Reports and Monthly/Quarterly/Annual Report	1	1	1	1	4
Articles, Summaries, and Message Maps	4	2	0	1	7
Surveys, Focus Groups, and Recommended Actions	1	1	0	1	3
Website Requests/Site Updates	10	76	8	10	104
Videos	0	0	0	0	0
Field Visits	3	4	7	7	21
Chem. Worker Training Support	3	3	1	3	10
Monthly Totals	26	91	19	28	164





Table 3. WRPS Vapors Information Distribution Avenue – FY 2019

WRPS Vapors Information Distribution Avenue	October	November	December	January	FY-to-Date Total
All Employee Email/Meetings & ESHQ Comm.	7	2	4	9	22
CPPO Notebook*	54	41	24	46	165
CPPO Report and Weekly Report	3	1	1	1	6
Fact Sheet & Information	0	0	0	0	0
Meeting - CVST *	1	1	0	1	3
Meeting - CVST Sub-team meeting *	1	0	2	1	4
Meeting - Hanford Advisory Board Briefing *	0	0	0	0	0
Meeting/Briefing*	5	0	6	8	19
Meeting -Morning/Pre-Shift Brief*	437	345	343	414	1539
Presentation*	0	0	0	0	0
Safety Start	2	2	1	4	9
SOEN	2	3	3	2	10
Solution Article	3	2	3	4	12
Survey and Focus Group	0	0	0	0	0
Tours*	0	0	0	0	0
Vapors Weekly Update or Website Post	11	76	8	10	105
Video	0	0	0	0	0
Monthly Totals	526	473	395	500	1894

<sup>\*</sup> signifies face-to-face communications

The number of documented WRPS vapors-related communications provided to the workforce in FY 2019 is shown in **Table 3.** The data for January mirrors the relatively steady rate of around 500 vapors-related communications of past months. Plan-of-the-Day (POD) meetings remain the primary source of vapors-related information, followed by the settlement agreement documents and the *CPPO Notebook*.





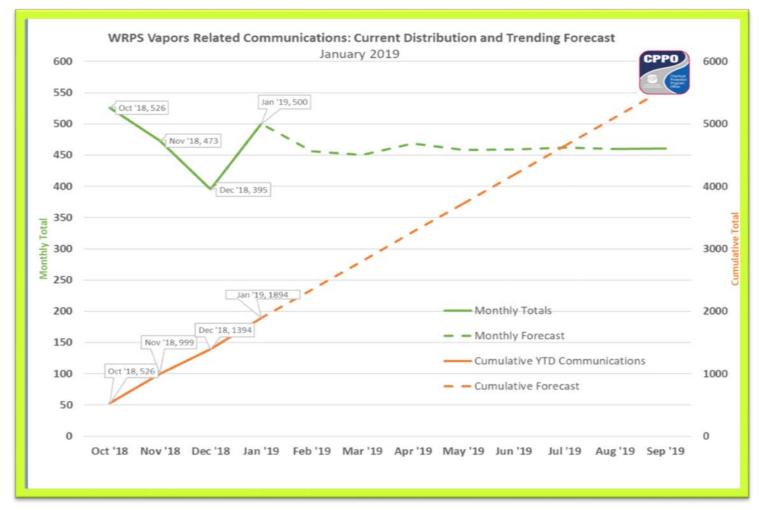


Figure 4 depicts the current distribution and trending forecast for FY 2019 WRPS vapors-related communications. At the current rate of distribution, WRPS is set to exceed 5000 vapors-related communications to the workforce by the end of FY 2019.

Figure 4. WRPS Vapor Related Communications Distribution/Trending Forecast Avenue – FY 2019



## **WRPS Vapors Communications**

### January 2019 Update:

January 3, 2019, Industrial Hygiene Communication:

Subject: "ToxiRAE Personal Ammonia Sensor AP Farm Implementation"

#### January 7, 2019, Solutions, Issue 465:

**Subject**: "ToxiRAE Personal Ammonia Sensor AP Farm Implementation" **Subject**: *CPPO Notebook* published an "Update on the A Farm Exhauster Installation Activities."

#### January 8, 2019, Industrial Hygiene Communication:

**Subject:** "Monthly Routine Testing Results – Chemical (Anions) and Bacterial Testing – Respiratory Protection Equipment and Surfaces, December 2018"

#### January 10, 2019, Industrial Hygiene Communication:

**Subject:** "ToxiRAE Personal Ammonia Sensor AW Farm Implementation"

#### January 14, 2019, Solutions, Issue 466:

**Subject:** CPPO released the *CPPO Notebooks* titled "HPMC Occupational Medical Services" and "Why Ammonia?"

### January 15, 2019, Industrial Hygiene Communications:

Subject: "Wintergreen Odor in Scott Masks"

### January 17, 2019, Industrial Hygiene Communications:

**Subject:** "ToxiRAE Personal Ammonia Sensor AX/AY/AZ Farm Implementation"

### January 21, 2019, Industrial Hygiene Communication:

**Subject:** "Correction: ToxiRAE Personal Ammonia Sensor an and AX/AY/AZ Farm Implementation"

### January 21, 2019, Safety Flash Industrial Safety:

Subject: "Chemical Exposure Evaluation Process"

### January 21, 2019, Solutions, Issue 467:

**Subject:** CPPO released the *CPPO Notebook* titled "AW Farm Stack Extension."



### January 28, 2019, 8:23 a.m. Shift Office Event Notification:

**Subject:** "Entered AOP-015 for odors reported inside 271-AP. Access to 271-AP is restricted unless authorized by CSM."

#### January 28, 2019, 5:20 p.m. Shift Office Event Notification:

**Subject:** "Sample analysis for the TF-AOP-015 event has been completed and the results are at or below background levels. Exiting AOP-015."

#### <u> January 28, 2019, Industrial Hygiene Communication:</u>

**Subject:** "Expectation of ToxiRAE Pro Use"

#### January 28, 2019, Solutions, Issue 468:

**Subject:** CPPO released the *CPPO Notebook* titled "How the Health Insurance Portability and Accountability (HIPPA) Impacts Vapor Event Reporting."

#### January 29, 2019, WRPS Communications & Public Relations:

**Subject:** "Odors reported at 271AP"

#### January 31, 2019, Industrial Hygiene Communication:

**Subject:** "Monthly Routine Testing Results"

# Engagement/Site Visits January 2019 Update:

Published: February 28, 2019

CPPO and CTEH have participated in over a dozen site visits with different WRPS teams since early FY 2018 with the goal of educating the workforce about CPPO. This particular workforce engagement activity is an FY 2019 CPPO priority, and is reported on in the *Monthly Report*. Furthermore, the HAMTC Safety Representatives requested that the interface meeting be held three times a month instead of four. CPPO and CTEH engaged the following groups in January:

- Productions Operations/Central Operations: January 9, 2019
- **SST Retrieval and Closure Radiological Controls Teams:** January 16, January 23, and January 30



# Focus Groups/Surveys January 2019 Update:

To evaluate the effectiveness of vapor information resources to first line supervisors, CPPO will conduct two assessment activities in FY 2019.

#### Mark AOP-15 Events

Published: February 28, 2019

#### January 2019:

January 28, 2019, 8:23 a.m. Shift Office Event Notification:

**Subject:** "Entered AOP-015 for odors reported inside 271-AP. Access to 271-AP is restricted unless authorized by CSM."

#### January 28, 2019, 5:20 p.m. Shift Office Event Notification:

**Subject:** "Sample analysis for the TF-AOP-015 event has been completed and the results are at or below background levels. Exiting AOP-015."

# **External Assessments Recommendation Status January 2019 Update:**

The recommendations status columns in **Table 4** below are defined as follows:

- **Complete** The scope and deliverable(s) (i.e. final report or documentation) addressing the recommendation is complete and closed. CPPO validated the deliverable(s) as complete.
- **Field Work Complete** The scope addressing the recommendation is complete, but the final deliverable(s) is not complete (i.e. final report or documentation).
- In Progress The scope addressing the recommendation is in progress.
- **♣ Pending Validation** Status of the scope addressing the recommendation and associated deliverable(s) is awaiting initial CPPO review.

CPPO validated that ninety-five (95) percent of the recommendations have been addressed by actions and/or deliverables that are either **Complete** or **Field Work Complete**. Of the 371 total recommendations:

- **Eighty-four (84) percent** have been verified Complete and are considered closed.
- **Twelve (12) percent** are verified as Field Work Complete and are awaiting final deliverables (i.e. documentation) to close.
- **Four (4) percent** have ongoing actions and are In Progress.



The majority of the remaining recommendations that are **In Progress** are scheduled to be completed in FY 2019.

Table 4. External Assessments Recommendations Status Table

Report	As of January 31, 2019						
	Total	Validated Complete	Field Work Complete	In Progress	Pending		
TVAT	117	100	10	7	0		
OIG	3	3	0	0	0		
NIOSH	54	43	9	2	0		
EA-32	31	26	3	2	0		
CTEH	24	23	1	0	0		
VMEP I, II	67	60	6	1	0		
Other	75	57	16	2	0		
Total	371	312	45	14	0		

**External Assessments Recommendations Status** 



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The CPPO tracks vapor-related Problem Evaluation Requests (PER), with the goal of communicating PER resolution status. The performance data in **Figure 5** below are defined as follows:

- **Current Due** Current corrective actions due for the month
- **♣ Number of Completed** − Number of corrective actions completed for the month
- Running Total Due Total cumulative actions scheduled to be completed
- Total Remaining Total cumulative actions remaining to be completed
- **Cumulative Schedule Performance** Total cumulative actions to be completed to the Running Total Due

The 128 CVAP actions are captured in the PERs listed in **Figure 5** below, including the 3 Office of Inspector General (OIG) actions captured in WRPS-PER-2016-2433 thru 2435 and 4 Office of River Protection (ORP) Facility Representative Surveillance (17173-TF) actions captured in WRPS-PER-2018-0551 thru 0554. Sixty-three TVAT actions were completed during Phase I (FY2016) and the OIG actions were completed in FY 2017; the completions are documented in the Electronic Suspense Tracking and Routing System (E-STARS). The remaining TVAT actions have been rolled into the CVAP. The remaining recommendations from National Institute of Occupational Safety and Health (NIOSH), EA-32, CTEH, and the VMEP were added to the PER system and corrective actions launched. **Figure 5**, following a couple corrective action due date extensions, depicts the status of the CVAP total corrective actions and shows that 2 actions were completed in January, ahead of schedule. CVAP actions are right on schedule. In addition, of the remaining open actions, approximately 35% are scheduled to be completed in the 2<sup>nd</sup> Quarter of FY 2019.





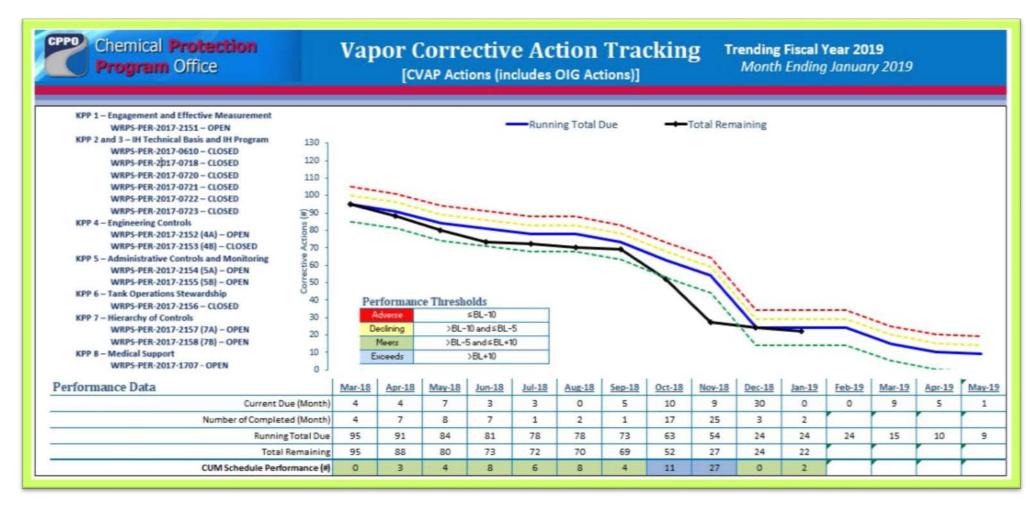


Figure 5. Vapor Corrective Action Tracking

Publication Date: February 28, 2019





# 4. Sampling and Monitoring

### **Mobile Lab**

### January 2019 Update:

The mobile lab started its *Winter Background Study*, and performed area monitoring in support of the AP Pump removal.

# Cartridge Test Reports No Update

1<sup>st</sup> Quarter Summary:

Cartridge testing, to support efforts for the switch to full-face air purifying respirator (FFAPR) in the farms, was completed during FY 2018. The results of the testing were presented to the third party reviewers, STC, for review and comment. The review allowed the implementation of FFAPR in the double shell farms with the tested cartridges, but due to issues with facial charcoal dusting, the use of FFAPR is now under a stop work. The cartridge testing effort in the 1st Quarter of FY 2019 focused on issuing the AX Exhauster report, titled, *Analysis of Air-Purifying Respirator (APR) and Powered Air-Purifying Respirator (PAPR) Cartridge Performance Testing on a Hanford AX Tank Farm Exhauster*, and were numbered PNNL-27860 Vol. 1 and Vol. 2. Following the issue of the AX Exhauster report, efforts focused on processing the data from BY-108 (PAPR) and BY-110 (APR) field testing. The results were included in a draft report that is in the 30 day review process. The AP Exhauster data is still being processed.

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WRPS has a routine monthly testing program to evaluate randomly-selected Respiratory Protective Equipment (RPE) and surfaces for chemicals and bacteria. This program involves IH wipe sampling on 60 randomly-selected RPE (face pieces and regulators) for chemical and bacterial presence from the three main Mask Issue and Sanitizing Stations (2704 HV, 278 AW, and MO 2256). Samples for chemical content are analyzed at ALS Labs in Salt Lake City Utah. Samples for bacterial content are analyzed at TriCities Labs, Kennewick, WA.

Analytical results from January 2019's testing indicated that there were no instances of chemical disinfectant contamination on any of the RPE tested. Likewise, the results of bacterial testing on RPE and Mask Issue Station surfaces continue to indicate that they are considered



exceptionally well-sanitized. Please note that there are no known federal standards or guidelines for "clearance" levels of either chemical (anions) or bacteria on RPE and related surfaces. Results are available on the WRPS Respiratory Protection Intranet.

<sup>1</sup>NUCON is a registered trademark of Nucon International, Inc., Columbus, Ohio. <sup>2</sup>RAE Systems by Honeywell, San Jose, California.