CPPO’s June 21, 2018, Notebook discusses the results of the Chemical Protection Program Office 2018 Workforce-Vapors Information Survey. The survey results revealed that all-employee messages, manager briefings, and Solutions articles are the most favored sources for vapors information by the workforce.
1. CHEMICAL PROTECTION PROGRAM OFFICE (CPPO) ACTIVITIES STATUS

The FY2018-PI-MD-033, Evaluation of Implemented and Proposed Actions in Response to the Hanford Tank Vapor Assessment Report, hereafter called the Vapors Mid-Point Assessment, has been issued. The purpose of the assessment was to determine if WRPS’s corrective actions met the intent of SRNL-RP-2014-00791, Tank Vapor Assessment Report (TVAR) recommendations. The Vapors Mid-Point Assessment concluded that “the completed corrective actions were responsive to the original TVAR concerns, as are the still-open corrective actions. The completed actions were, with limited exceptions identified within the noted observations, well documented and provided both the objective evidence and the underlying rationale for considering an action complete.”

The CPPO Notebook distribution paths widened in May and June. ESH&Q’s Monday morning Safety Startup presentation began to include a link to the Notebook the first week of June. C&PR’s Solutions employee magazine began covering the Notebook in Issue 436, May 7, 2018, offering a link to the audio library. Furthermore, select editions of the Notebooks were added to the Tank Farm Change Trailers Kiosk/Industrial Hygiene Communications Boards (IHCB) in June.

The CPPO Weekly Report team, focused on the 3rd Quarter Summary, and in conjunction with the July 4 holiday, will not publish the July 5 and July 12 Weekly Reports.

CPPO Oversight and Tracking
CPPO Notebook

The CPPO Notebook is distributed on a weekly basis to managers, Safety Startup, and Solutions employee newsletter, providing vapors-related information to the WRPS workforce. In May, the CPPO released four Notebooks:

- A summary of the report from the most recent visit by EA-32
- A two-part series on the recent history of supplied-air respirator-use at the tank farms, and the path forward for FFAPR implementation
- The first of a two-part series on nitrous oxide, a chemical of potential concern (COPC)

The use of the Notebooks by managers is tallied via email ‘voting’ replies sent in response to the distribution email. Since the Notebook may be used weeks after distribution, the data regarding the utilization of individual editions may change over time (and is reflected in updates to monthly reporting). The data through May continues to show that an average of 20 managers each week reported making use of the Notebook. At the end of May, the Safety Startup began providing a link to the
notebook of the week. This may impact use of the notebooks by individual managers, thus the utilization count of the notebooks may be skewed low in future reporting.

Utilization of the CPPO Notebooks by subject and distribution date is shown in Figure 1. Since the beginning of FY2018, the data shows WRPS managers reported utilizing the Notebooks to present vapors-related information to the workforce 637 times.

The Notebook material is provided in multiple formats and includes a Subject Matter Expert (SME) narrated/video presentation, also posted to the intranet, and available to all WRPS staff. Figure 2 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. In May, Narrated Notebook files were accessed 1035 times. This is a three-fold increase from previous file access. While it is not possible to identify the cause with certainty, in May, CPPO began partnering with C&PR to highlight current Notebooks in Solutions, one of the top three sources from which workers obtain their vapors-related information as noted in the 2018 CPPO Vapors Information Survey.
Figure 1. FY2018 CPPO Notebook Utilization through May 2018
CPPO Production Metrics

The CPPO summarizes complex, technical vapors-related information and provides monitoring results, report summaries, presentations, a weekly report on WRPS vapors activities, and other information to the workforce through established mechanisms such as the Solutions newsletter and the HanfordVapors.com website. The vapor-related materials produced by the CPPO over the course of May, and the three month trend, are shown in Table 1. No Vapor Monitoring and Detection System (VMDS) data reports were provided this month. The VMDS turnover to operations is the focus, and reports are not produced on a weekly basis at this time. The CPPO produced and provided four Weekly Reports. In addition, four CPPO Notebooks were delivered. These materials provide vapors-related information to a variety of audiences and are distributed via email, and internal and external websites.

Table 1. CPPO Vapors Information Products Completed FY2018

<table>
<thead>
<tr>
<th>CPPO Vapors Information Products Completed FY18</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>FY-to-Date Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Report (Monitoring Data)</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>Presentations (includes CPPO Notebook and CVST)</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>33</td>
</tr>
<tr>
<td>CPPO Reports and Weekly Report</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>29</td>
</tr>
<tr>
<td>Information Requests</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Articles, Summaries, and Message Maps</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Surveys, Focus Groups, and Recommended Actions</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Website Requests/Site Updates</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Videos</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Monthly Totals</strong></td>
<td><strong>15</strong></td>
<td><strong>11</strong></td>
<td><strong>8</strong></td>
<td><strong>103</strong></td>
</tr>
</tbody>
</table>
WRPS Vapors-related Communication Distribution

The total number of documented WRPS vapors-related communications provided to the workforce in FY2018-to-date is shown in Table 2. The data for May shows a slightly elevated three month trend. The data include 533 documented vapors-related communications. Plan-of-the-day (POD) meetings remain the primary source of vapors-related information provided to the workforce, followed by the CPPO Notebook. The forecast for delivery of WRPS vapors-related communications to the workforce in FY2018, including monthly and cumulative estimates, is shown in Figure 3. The data trend indicates that at this rate, WRPS remains on track to deliver over 6,000 vapors-related communications to the workforce in FY2018 - largely through briefings and face-to-face interactions with the workforce.

Table 2. WRPS Vapors Information Distribution Avenue

<table>
<thead>
<tr>
<th>WRPS Vapors Information Distribution Avenue</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>FY-to-Date Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Employee Email/Meetings &amp; ESHQ Comm.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>27</td>
</tr>
<tr>
<td>CPPO Notebook*</td>
<td>73</td>
<td>87</td>
<td>75</td>
<td>686</td>
</tr>
<tr>
<td>CPPO Report and Weekly Report</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>29</td>
</tr>
<tr>
<td>Fact Sheet &amp; Information</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Meeting - CVST *</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Meeting - CVST Sub-team meeting *</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>26</td>
</tr>
<tr>
<td>Meeting - Hanford Advisory Board Briefing *</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Meeting/Briefing*</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>26</td>
</tr>
<tr>
<td>Meeting - Morning/Pre-Shift Brief *</td>
<td>392</td>
<td>408</td>
<td>430</td>
<td>3069</td>
</tr>
<tr>
<td>Presentation*</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Safety Start</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>SOEN</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Solution Article</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>Survey and Focus Group</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Tours*</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Website/Individual Inquiry †</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vapors Weekly Update or Website Post</td>
<td>2</td>
<td>16</td>
<td>9</td>
<td>113</td>
</tr>
<tr>
<td>Video</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Monthly Totals</strong></td>
<td><strong>482</strong></td>
<td><strong>524</strong></td>
<td><strong>533</strong></td>
<td><strong>4017</strong></td>
</tr>
</tbody>
</table>

* Face-to-face communication † Data reported with all vapor questions in quarterly metric
Figure 3. FY2018 WRPS Vapors-Related Communications: Current Distribution and Trending Forecast
2. COMPREHENSIVE VAPOR ACTION PLAN Key Performance Parameters

KPP 1. Engagement and Effective Measurement

CTEH

Update:
Toxicologists Drs. Pamella Tijerina, Michael Lumpkin, and John Kind were the CTEH representatives on site last week. Dr. Lumpkin attended a plan-of-the-day (POD) meeting with Shift Production managers and other SMEs to introduce CPPO and available information resources. CTEH continued developing CPPO Notebooks on basic toxicology and industrial hygiene principles. Drs. Tijerina, Lumpkin, and Kind hosted on-site office hours at the CPPO satellite office located in 2750E A230, available to answer toxicology- and vapors-related questions from workers.

Chemical Protection Engagement: Communications

Update:
Last week’s CPPO Notebook is titled *Chemical Protection Program Office 2018 Vapors Information Survey*.

The Shift Office Event Notification System (SOEN) alerted the workforce to an AOP-015 event on June 15, 2018, at 9:52 PM stating, “[e]ntering AOP-015 access restricted to 242-A pump storage room airlock unless authorized by shift manager.”

On June 16, 2018, a SOEN alerted the workforce to an event investigation stating, “[i]nitiated EIR-2018-020 242-A Pump Storage Room Airlock AOP-015 Entry.”

Later on June 16, 2018, a SOEN alerted the workforce to the AOP-015 sample analysis stating, “[s]ample analysis for the TF-AOP-015 event has been completed and the results are at or below background levels. Exiting TF-AOP-015.”

An all-employee email was distributed on June 18, 2018, communicating the AOP-015 events over the weekend.

On June 19, 2018, Kent Smith, Production Operations Manager, described in an all-employee email the “vapor control strategy for the Air Lift Circulator (ALC) operation and campaign” scheduled to begin the weekend of June 29. “The strategy is based on industrial hygiene (IH) monitoring results from recent evaporator...
campaigns and has been reviewed by the Chemical Vapor Solutions Team and HAMTC leadership.

“Entering AOP-015 for 4th and Canton Avenue. All personnel stay clear of the area,” was the SOEN communication to the workforce on June 21, 2018, at 8:14 a.m.

At 9:00 a.m. on June 21, 2018, a SOEN communication to the workforce read, “Initiated Event Investigation for the AW Farm Exterior AOP-015 event.”

An all-employee email was issued on June 21, 2018, stating, “Industrial hygiene technicians are collecting samples in the area using direct-read instruments,” outside the AW Farm after odors were reported.

On June 21, 2018, at 1:59 p.m., a SOEN was published stating, “[s]ample Analysis for TF-AOP-015 event has been completed and results are at or below background levels. Exiting TF-AOP-015.”

“Industrial hygiene technicians collected readings and samples in the area [outside of AW Farm where odors were reported], which were below action levels. Access to the area has been restored,” reported an all-employee email issued on June 21, 2018, at 2:59 p.m.

At 5:59 p.m. on June 21, 2018, Hanford Vapors updated the external website with two posts describing the odors that were reported outside of the AW Farm.

“Final preparations are underway to start the next 242-A Evaporator campaign this coming weekend,” stated the Hanford Tank Vapors, Vapors Weekly Update published on June 21, 2018.

Chemical Protection Engagement: Chemical Vapors Solutions Team (CVST)
A CVST Communication Sub-team meeting was held on June 18, 2018.

A CVST Cartridge Sub-team meeting was held on June 20, 2018.

Chemical Protection Engagement: Hanford Vapors Website Updates
- Vapors Weekly Update – June 22
- Odors reported in 242-A pump storage room
- Odors reported outside of AW Farm
- UPDATE: Odors reported outside of AW Farm
Chemical Protection Engagement: Effectiveness Measures  
**Last update 6/14/2018:**

The results of the FY2018 Vapors Information Effectiveness Survey Report are being implemented by CPPO. Actions taken in **May and June** in response to the survey recommendations include the following:

- Scheduling site visits to individual worker groups to increase worker access to CTEH experts, increase awareness of the CPPO, and where to locate vapors information
- Working with C&PR to include information on CPPO and the Notebooks in the WRPS facility building monitors
- Including the CPPO Notebooks on reader boards in change trailers
- Including CPPO Notebook summaries with links to the audio file in *Solutions* (one of the top three avenues used by workers to obtain vapors information)
- Including CPPO Notebooks in the Safety Startup
- CTEH office hours at the CPPO satellite office on-site

A second survey/focus group(s), informed by the results of the FY2018 Vapors Information Effectiveness Survey Report, is planned for this summer.

Chemical Protection Engagement: Workforce Engagement  
**Last update 6/21/2018:**

The CPPO attended the Shift Production POD meeting, briefing the approximately 15-20 members in attendance about the CPPO group and what vapors information products are available and where to find them. This was the last of four consecutive meetings with the Shift Production team, which ensures all shift members have the opportunity to attend the briefing. The briefing was followed by a Q&A session, where the workforce asked questions about CTEH’s roll in IH sampling/monitoring data analysis, operational impacts of IHT coverage across shifts, and symptomology related to odors and vapor exposure.

Chemical Protection Engagement: Worker Feedback  
**Last update 6/21/2018:**

The CVST New Technologies team leader solicited feedback from the attendees how the meeting could be conducted moving forward as its chartered purpose has been met. The team members provided feedback on revising the charter, frequency of meetings, updating the sub-committee information on the CVST site, and the
approach for evaluating new technologies moving forward. The team leader said he would review the team’s suggestions and provide his input at the next meeting.

**KPPs 2 and 3. IH Technical Basis and IH Program**

**IH Manual and Technical Basis**

**Last update 6/21/2018:**

TOC-IH-58435, Industrial Hygiene Manual, saw updates to Section 1, Introduction; Section 2, Practices of the Industrial Hygiene Program; Section 3, Reporting Occupational Exposure and Medical Monitoring, and Section 4, Tank Waste Chemical Vapors: Sections 1-4 are issued to the IH website. Section 5, Reporting Occupational Exposure and Medical Monitoring, and Section 6, Emergency Response, continue in internal review. Required reading and IH communication for Sections 5 & 6 of the IH Manual are prepared.

TFC-PLAN-174, Industrial Hygiene Chemical Vapor Technical Basis Program Plan, TFC-ESHQ-S_IH-C-66 Identifying Chemicals of Concern in Hanford Tank Farms are being revised to express the requirements more clearly. TFC-ESHQ-S_IH-C-67 Maintenance of the Industrial Hygiene Chemical Vapor Technical Basis is being circulated as required reading. On June 11, 2018, TFC-PLN-173, Rev. A-3, Use of FFAPR in Actively Ventilated Tank Farms, was released. The AP Farm Exposure Assessment Procedure is complete and in the final stage of WRAP.

The Risk Communication Techniques and Crucial Conversations training courses are well underway with ~73% of the Industrial Hygiene workforce trained in Risk Communication Techniques and ~100% trained in Crucial Conversations.

**Health Process Plan (HPP)**

**Last update 6/7/2018:**

Six of the HPP studies that have transitioned in the TFC-Charter-71 process have been slated to be issued outright as version Rev 0. Three studies released at the end of May include Proposed $HTF_{OELs}$ for Chronic Exposures – COPCs with Regulatory Guidelines (PNNL-26777); Proposed $HTF_{OELs}$ for Chronic Exposures - Nitrile Class COPCs and 2,4-Dimethylpyridine (PNNL-26819); and Hanford Tank Vapors FY 2017 Chemicals of Potential Concern Update (PNNL-26820). Two studies scheduled for release in June are Proposed Acute Exposure Concentration Limits for COPCs with Regulatory Guidelines and Recommendations for Sampling and Analysis of Hanford Waste Tank Vapors. The report Hanford Tank Farm Occupational Exposure and Risk Assessment Plan is in review. The studies Proposed Risk-Based Approach for Nitrosamine Chemical of Potential Concern, Assessing the Potential for Chronic or Acute Health Effects from Exposure to COPC Mixtures, and Proposed Occupational
Exposure Limits for Furans, are in review by IH to assess the technical and economic impacts of implementing the study recommendations.

**Leading Indicators**

**Last update 6/21/2018:**

Pacific Northwest National Laboratory supported WRPS in improving its chemical vapors hazard management program with research, analysis, development, testing, and technical support focused on better identification and understanding of the vapor hazards. PNNL-27449, *FY18 Leading Indicator Phase 2 Report*, published last month, describes one part of an overall vapors program managed by WRPS, specifically addressing the identification of chemical vapor leading indicators (LIs). WRPS is reviewing the report to consider its potential implementation.

**Air Dispersion Modeling**

**Last update 6/7/2018:**

Industrial Hygiene submitted its final technical review of *The APGEMS – TF Atmospheric Dispersion Model for Tank Farms Applications* (PNNL-27530) and it was released at the end of May. The Air Pollutant Graphical Environmental Monitoring System (APGEMS) modeling software (version 1.0) and accompanying draft report were completed and delivered to WRPS by the Dispersion Modeling Project Team in March. The report describes the APGEMS software and discusses the technical limitations of the current version. Since then, the APGEMS software has been refined, resulting in version 1.1. PNNL delivered version 1.1 of the APGEMS-TF software for installation and testing by WRPS.

**Central Residence for Industrial Hygiene Technicians (IHT)**

**Last update 6/7/2018:**

Proposals to install the centralized mobile office (MO) for the IH Technicians (IHTs) have been received and evaluated. The trailer has been constructed and is currently stored in the Pac Mobile yard in Pasco. The installation site is in the 200 East area on 4th Street near 218A across from PUREX.
KPP 4. Engineering Controls

**A Farm Exhausters**

_Last update 6/7/2018:_

**Exhausters:** Over the last two weeks, crews continued constructing the A Farm exhauster retaining walls. The team poured the south retaining wall and completed the backfill and compaction between the north and south retaining walls, making ready to install the conduit.

**A/AX Farm Road Expansion:** The construction team backfilled and graded the A/AX Farm expansion road.

**Procurement/Fabrication:** A material request to procure the POR518/POR519 exhauster valve manifold and the manifold support and access platform was developed.

**AW Stack Extension**

_Update:_

Over the last two weeks, the installation of the AW Farm Stack extension continued. The following was accomplished during the reporting period:

- The non-radiological and radiological permit application continues. The radiological permit is with ORP for review, and the non-radiological permit is with Washington State Department of Ecology for review.
- The stack foundation, fabrication, and installation activities continued. The concrete pour for the pad is ongoing and includes relocating the platform stairs.

**1Strobic® Air Dilution Fan**

_Update:_

Efforts focused on the Strobic® Air Dilution Fan off-site testing. The following was accomplished over the last two weeks:

- The test plan, design, and equipment list, all in support of off-site testing, have been approved.
- Hi-Line repaired the damages to the fan incurred during shipping from the Strobic factory. The unit has been assembled and is ready for testing.
Engineering-scale testing continued, and the following was accomplished over the last two weeks:

**TerraGraphics:**
- Continued to provide test engineering support to PNNL for the engineering-scale testing.
- Work continued on the *Technical Demonstration Conceptual Design* for BY-108, including resolving comments from the 60% conceptual design package, and in parallel, work continues on the 90% conceptual design package.

**NUCON®:**
Continued to provide test engineering support to WRPS and PNNL for the engineering-scale test.

**WRPS:**
WRPS met with PNNL to determine a path forward for solving analytical challenges with N-Nitrosodimethylamine (NDMA), and furans encountered during the engineering-scale test. As part of the path forward, baseline exhaust (sensitivity) samples were collected and analyzed for furans by 222-S and RJ Lee Mobile Laboratory. The results confirmed the existence of furan and interferences in the exhaust gas, making the proton transfer reaction mass spectrometry (PTR-MS) capability of the NUCON® test inadequate for demonstrating furan destruction. Subsequent testing with NO⁺ reagent ion is proving to be successful in eliminating the interferences.

**PNNL:**
Continued implementing the engineering-scale test plan and performed the following:
- Completed NO⁺ ionization modification on the PTR-MS to facilitate more accurate analysis of 1,3-butadiene & 2,4-dimethylpyridine.
- Completed test which confirms the ability to detect 1,3-butadiene, formaldehyde, 2,4-dimethylpyridine, acetaldehyde and acetonitrile in the exhaust stream at nominally 10% or less of the OEL.
- Completed 2 times (200%) OEL test for acetaldehyde and acetonitrile.
- Provided input to WRPS work plan for resolving identity of Furan & NDMA interferences and subsequent path forward. Testing for the detection of Furan and NDMA at 10% of OEL was completed.
KPP 5. Administrative Controls and Monitoring

Permanent Installation of VMDS Equipment in AP Farm

Last update 6/21/2018:

Efforts to obtain approvals on the Phase 2 Pilot-Scale Report, a report summarizing the results of the FY2017 pilot-scale activities, continue into June.

- The UV-FTIR installed at AP Farm is in the process of being turned over to Operations. The on-going activities supporting the turnover include the following:
  - The Operational Acceptance Test (OAT) has been split into two separate tests to optimize approval process. The first OAT addresses startup activities where no gas testing is required, while the second OAT addresses startup activities where gas testing is required.
    - No-Gas Testing OAT: The draft OAT test procedure was prepared and is currently in review.
    - Gas Testing OAT: The draft OAT is currently being prepared.
  - Continuing to obtain approvals for the uncertainty evaluation (RPP-RPT-60669).
  - The calibration gas calculation (RPP-CALC-62150) was approved.
  - Efforts continued on relocating and replacing the flowmeter, modifying the Human Machine Interface for readout location, preparing the operations, maintenance and calibration procedures, and procuring a vendor for calibration support.

Stack and Boundary Monitors

Last update 6/21/2018:

Activities in progress the first weeks in June include:

- Continuing the fabrication and factory acceptance testing of the Ultra Violet Differential Optic Absorption Spectrometry (UV-DOAS) units.
- Continuing to prepare work packages for installation of the 702AZ stack monitors.
- Continuing to review AW Farm stack monitor design package.
- Continuing to review and incorporate comments on the 90% design package for the AX Farm stack monitor.
Establishing Safe Unrestricted Boundaries
Last update 6/7/2018:
The Industrial Hygiene Basis for defining the Unrestricted Work Boundary, clarifying how WRPS will define work boundaries in and around the Tank Farms, was published on March 28, 2018. An internal review of the Industrial Hygiene Basis for defining the Unrestricted Work Boundary was conducted and a gap analysis performed. A revision to TFC-ESHQ-S_IH-C-48 Managing Tank Chemical Vapors was performed to address the gaps and incorporate necessary improvements to the process. C-48 is currently under review and comment resolution.

Public Address (PA) System
Last update 6/21/2018:
Activities in June thus far include the following:
- Continuing activities to support turnover of the second set of PA systems (AW, AN, AP and C Farms). Efforts are focused on resolving switch and filter issues.
- Fieldwork at S, SX, and SY Farms were completed (excavation, trenching, wiring, and conduit installs) with the exception of the wire run number issues identified during termination activities. In addition, the team completed excavating the trench at T Farm and started wiring and conduit installation.

KPP 6. Tank Operations Stewardship
Pilot SST Stewardship Program
Last update 6/21/2018:
Activities completed as the first week of June include the following:
SST Remote Monitoring Equipment:
Efforts to start MSA network development and installation activities resume as MSA is working contract issues with their construction subcontractor. The draft 60% TX Farm design package was completed and is currently in review.

KPP 7. Hierarchy of Controls
Cartridge Testing and SCBA Alternatives Update:
Recently, IH began developing hazard assessments for SEG 1& 2 work in the ventilated farms. PNNL began circulating its draft report of APR testing performed in SX Farm during June 2017. The report for PAPR
Cartridge testing conducted at SX-101 and SX-104 was released. Recent cartridge testing data collected from the AX Exhauster has been analyzed and the report is in draft. AW Stack cartridge testing, scheduled for the weekend during which waste disturbing activities are occurring, was completed last week. SCBA chest straps ordered early in the quarter, are arriving. APR cartridge testing for excess charcoal dust was completed. The inventory of concern was returned to the manufacturer and replaced with fresher/newer cartridges. WRPS began the work package to support PAPR testing in BY-108. All six cartridge tests were completed; the last 2 tests on the AW Stack were completed on June 9, 2018. On June 25th, WRPS updated TFC-PLN-168, Industrial Hygiene Sampling, and Analysis Plan for Respirator Cartridge Testing, to incorporate Wastren Advantage Incorporated, Hanford Laboratory (WHL).

**Mobile Laboratory**

**Last update 6/7/2018:**

**RJ Lee Mobile Laboratory:** The lab is supporting the 4C2Sense® data collection from the AP Stack, the AP Stack ammonia spike testing (part of the stack monitor startup), and the evaporator EC-09 campaign.

**New Mobile Laboratory:** TerraGraphics is in the process of building a new mobile laboratory for lease by WRPS. The new mobile laboratory features enhanced capabilities, including a more sensitive PTR-MS, Ultra-Violet-Differential Optical Absorption Spectrometer (UV-DOAS), and Fourier transform infrared spectrometer (FTIR). In support of the new van, the 3CEREX® UV-DOAS/FTIR cabinet was shipped to TerraGraphics to be incorporated into the mobile laboratory. The FTIR module was subsequently returned to CEREX® for warranty repair on the circuit board.

**Personal Vapor Monitor**

**Update:**

The C2Sense® field test cell is shown in Figures 4 and 5. The devices with the orange paneling are the 5Ventis™Pro V detectors. The yellow devices are the 6ToxiRAE Pro detectors. The gray boxes on either side of the cooler are the C2Sense® monitors. Between the two Ventis™Pro V detectors and the two ToxiRAE Pro monitors are the 7GfG Micro IV monitors. Above the two ToxiRAE Pro devices is a tube where gas is pumped to the AreaRAE. Two pumps are in the middle of the cooler. The monitor field tests are underway, and C2Sense® works to finalize the algorithms for the C2Sense® ammonia detector.
Figure 4. The C₂Sense® field test cell: the orange paneled devices are the Ventis™Pro V detectors.

Figure 5. The C₂Sense® field test cell: the yellow devices are the ToxiRAE Pro detectors.
KPP 8. Medical Support

The scope of KPP-8 is to support RL medical program enhancements in conjunction with other Hanford Site organizations.

Key Performance Parameter 8
Support medical program enhancements in conjunction with responsible Hanford Site organizations and establish update to WRPS process/procedures.

1Strobic Air is a registered trademark of MPC Inc., Wilmington, Delaware.
2NUCON is a registered trademark of Nucon International, Inc., Columbus, Ohio.
3CEREX® Stack Monitor CEREX trademark by TECAN SP, INC. Baldwin Park, California.
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