Access/Egress Corridor within Supplemental Respiratory Protection Required (RPR) Zone during initial Evaporator Campaign, EC-06
1. CHEMICAL PROTECTION PROGRAM OFFICE (CPPO) ACTIVITIES STATUS

As WRPS continues to draft the Comprehensive Vapors Action Plan (CVAP), the CPPO has developed a variety of metrics to support the CVAP monitoring dashboard. Metrics addressing Key Performance Parameters 1 thru 7 are in internal review. The metrics are designed to monitor progress on all CVAP KPPs. The metrics are summarized in the CVAP KPP Dashboard which also is being developed and in review.

The Table of Recommendations and corresponding actions continues to be worked as a priority within the CPPO. This table is the compiled list of actions in response to the recommendations from National Institute for Occupational Safety and Health (NIOSH), Tank Vapor Assessment Team (TVAT), Office of Inspector General (OIG), Office of Enterprise Assessments (EA-32), and Center for Toxicology and Environmental Health (CTEH) The table is developed and proceeding through a series of concurrence reviews prior to finalizing.

The CPPO continues to collect and deposit vapors related documents into the CPPO Library and the Integrated Document Management System (IDMS).

All employees have the opportunity to take the safety culture survey launched on July 17, 2017, by Oak Ridge Associate Universities (ORAU). The survey period ends on July 31, 2017. Links to the ORAU survey interface have been sent to non-bargaining unit personnel, while union workers have hard-copy surveys. WRPS management will receive a report in September.

CPPO Oversight and Tracking

CPPO Vapor Corrective Action Tracking

The CPPO tracks vapor-related problem evaluation requests (PERs) generated from recommendations in external assessments. The 117 TVAT actions are captured in WRPS-PER-2014-0602. The 3 DOE-OIG actions are captured in WRPS-PER-2016-2433 thru 2435. Sixty-three TVAT actions were completed during Phase I (FY16); their completions are documented in the ESTARS system. The Vapor Corrective Action Tracking metric shows the data from mid-month to mid-month. Figure 1 shows the difference between the number of TVAT and DOE-OIG corrective actions that have been completed and the corrective actions that are due.
Figure 1. WRPS met the June 2017 deadline to complete the first 66 actions. Fifty-four actions are due FY18.
2. COMPREHENSIVE VAPOR ACTION PLAN Key Performance Parameters

KPP 1. Engagement and Effective Measurement

Chemical Protection Communication

There are currently two vapors related communication plans in development. The Comprehensive Vapor Management Communication Plan is a requirement of KPP 1. The CVAP Communication Plan is a focused plan for communicating the content of the CVAP when it is completed and issued. Both plans are in draft. The Comprehensive Vapor Management Communication Plan is being included in the WRPS Hanford Communication Plan and then will be sent for internal review.

Last week’s CPPO Notebook is titled Vapor Management Expert Panel (VMEP) Assessment. This week’s CPPO Notebook is titled NUCON Thermal Oxidation Unit: Proof-of-concept testing.

The Message from Mark, published on July 17, reported on “…the collaboration that took place within the Chemical Vapor Solutions Team and with HAMTC leadership in developing the comprehensive industrial hygiene control strategy for the [242-A Evaporation] campaign. Area direct-reading instrumentation (DRI) readings in the general work areas during the campaign were well below action and occupational exposure limits.”

Solutions Issue 399, published on July 20, 2017, reported on the 242-A Evaporator Campaign and the comprehensive industrial hygiene (IH) control strategy in place during the campaign; the Vapor Monitoring and Detection System equipment selection; and the safety culture survey which is now in its second week.

Hanford Vapors Website Updates

Hanford Vapors Website posts the week of July 17, 2017, were the following:

- Vapors weekly update – July 20
- CVST Agenda June 28, 2017
- CVST Agenda June 14, 2017
- CPPO Weekly Report July 13, 2017
- CPPO Weekly Report July 6, 2017 (includes Q3 Summary Report)
**Data Analysis and Visualization Tool (PHOENIX)**

**Update:** After 3 weeks of testing and observations, feedback was compiled by the PHOENIX team for review. The comments are being folded into a comments matrix, which will be complete next week. The system remains on schedule to go live at the end of September.

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

- **Develop New or Revised Chemicals of Potential Concern (COPC)/Occupational Exposure Limit (OEL)**
  
  **Update:** Updates to RPP-22491, *Industrial Hygiene Chemical Vapor Technical Basis*, are underway. WRPS, Terra Graphics, and Dade Moller have met several times and reviewed the initial draft of the Requirements Implementation Matrix and Gap Analysis. The procedures that need to be updated or created are in review. The initial set of procedures to be revised have been added to the master schedule. Feedback and comments on the Gap analysis continue to be provided to the contractor. Weekly status meetings are held, ensuring the direction of the contractor is consistent with the expectations of IH management. A meeting has been scheduled with the Office of River Protection to update them on the progress of this effort.

- **Institutionalizing the Vapors Program with the IH Program Requirements**
  
  **Last update 7/6/2017:** The Tech Basis and COPC update are expected to be finalized by the end of FY17.

- **Health Process Plan**
  
  **Update:** The Health Process Plan is broken down into seven tasks:
  - Task 1: Schedule: Complete.
  - Task 2: Establish Tank Operations Assessment Team. Accomplishments from last week:
    - Next Internal Review Panel (IRP) meeting is scheduled for 7/27/2017.
  - Task 3: Establish an External Peer Review Health Panel. Recommendations have been adopted into an internal procedure that has gone to ORP for concurrence.
    - Procurement is in process for putting External Expert Panel (EEP) members under contract.
  - Task 4: Implement Routine Analysis and Screening Process for Updating COPCs.
    - WRPS review of the sampling and analytical recommendation report draft and COPC update report are in progress.
Task 5: Establish Acute/Transient and Chronic Exposure Action Levels.
  o Comments from WRPS on the Nitriles reports were addressed.
  o Comments are currently being incorporated into the nitrosamine and furan reports and other nitrosamines are being included.

Task 6: Evaluate Computational Approaches for Predicting Exposure and Delivered Dose.
  o No new status.

Task 7: Database Implementation and Management.
  o Reviewed the Chemical Mixture Model (CMM) workbooks
  o Organized the site navigation bar
  o Small edits to CMM form on the test site
  o Planning data views to add in for CMM

Database Implementation and Management

Update: In FY16, Pacific Northwest National Lab (PNNL) developed a database to review and update the COPC list and associated OELs. See the Health Process Plan, Task 7 for updates.

Leading Indicators

Update: The weekly accomplishments as of July 21:
  ▪ Presented project status to DOE and WRPS.
  ▪ Continued to investigate the resources necessary to compile existing and new data sources (content, format, assumptions, etc.) for incorporation into analysis.
  ▪ Initiated an effective sample size investigation to determine how best to incorporate Proton Transfer Reaction – Mass Spectrometry (PTR-MS) time-series data.
  ▪ Continued to develop R-code, an initial macro development for the conversion of PTR-MS data files for use with R-code.

Parity Implementation with Established Programs

Last update 7/24/2017: Chemical Worker Tier 1 training has been reviewed and is in the process of being coded for computer based training in the Hanford General Employee Training. The schedule for coding is being developed for both Tier 1 and 2. Additional feedback and comments will be included in the final product prior to release. The Chemical Worker Tier 2 storyboard has been created and is being reviewed by the Training review team (IH, Management). Chemical Worker Tier 2 is being designed to address facility specific issues and applications with the target audience those individuals who work around the tank farms but will not enter.
them. Chemical Worker Tier 2 & 3 are being develop concurrently, and are on scheduled to be in place by year end. However, the current focus is on completing and implementing Tier 1.

**Update: Other Items:**

- An accelerated training plan has been created for the new 35 Industrial Hygiene Technicians (IHTs) that will be coming on board. The first group’s orientation was held July 3, 2017. Additional IHTs came on board July 17, 2017.
- IH Programs has brought on an intern who is helping to review procedures for inclusion in the next phase of the IH Manual (FY18), as well as working on the implementation plan for the roll-out of the FY17 work scope.

**KPP 4. Engineering Controls**

- **242-A Evaporator Stack Extension**
  The installation is complete, and the new stack is functional and operational.

- **Exhausters**
  **Update: SY-Farm:** Federal Engineers and Constructors continue site mobilization activities in support of upcoming installation. **A-Farm:** Fabrication of both exhauster units are on-going and scheduled to be completed the week of July 24. Factory acceptance testing of these units is currently scheduled to start the week of July 31. Efforts continue to prepare a draft statement-of-work to obtain engineering support for design of the exhauster pad re-location. The pad is being re-located to keep it farther away from personnel working adjacent to the 242-A Evaporator.

- **Strobic Air Dilution Fan**
  **Update:** A procurement specification and a statement-of-work are being drafted. These will be used to support upcoming factory acceptance testing to be performed by Strobic.

- **NUCON Thermal Oxidation Vapor Abatement Unit (VAU)**
  **Update:** WRPS received an updated test report for the proof-of-principle test from NUCON which incorporated the comments provided by WRPS on the initial report. TerraGraphics submitted the RPP-RPT-60211, *Demonstration of NUCON Vapor Abatement Unit*, into SmartPlant on July 20, 2017. The report is designated as Official Use Only; therefore, access is limited currently to the authors. The comments on the *Functions and Requirements* (F&R) document, which is being used to support the upcoming bench-scale testing activities, were reviewed and
dispositioned. TerraGraphics continued work on the *Demonstration Site Selection Report*. In support of this report, meetings with the following groups were held:

- Hilane, with whom to review their facilities and experience.
- PNNL, with whom to ascertain their interest in supporting the bench-scale and discuss their facility capabilities.
- Columbia Basin College and Washington State University to determine their level of interest.

A walkdown is scheduled for the week of July 24 at the Cold Test Facility to discuss bench-scale testing capabilities.

**KPP 5. Administrative Controls and Monitoring**

**Permanent Installation of Vapor Monitoring and Detection System (VMDS) Equipment in A and AP Farms**

**Update:** Efforts are on-going to complete the equipment viability assessments, pilot-scale testing summary reports, and quantitative risk analyses. Efforts to remove the Gastronics Fixed Instrument Skids have begun. A material request has been processed for procuring 13 Ultra-Violet-Differential Optical Absorption Spectrometer (UV-DOAS) units for perimeter monitoring along the A Complex corridor.

**Stack and Boundary Monitors**

**Update:** Draft design packages for the AN, AW and 702AZ stack monitors are being prepared. The target completion date is the end of September.

**Establishing Safe Unrestricted Boundaries**

**Update:** The latest air dispersion modeling report is in review. The co-author and editor of the report have completed their reviews.

**Public Address System**

**Update:** Excavation and conduit installations were completed at AW, AN, AY; concrete was poured for the mounted poles. Crews also re-located to AY/AX Farms to support conduit and burial activities, as well as concrete pouring of the sonotube locations. Work is expected to be completed by the week of July 24. In parallel, the public address equipment successfully underwent factory acceptance testing. The equipment is currently scheduled to be shipped the week of July 31 to Total Energy Management for functional testing.
KPP 6. Tank Operations Stewardship

**Pilot SST Stewardship Program**

**Update:** Efforts are on-going to design the upgrades for TY Farm and procure equipment needed to support the construction activities to be done in FY18.

KPP 7. Hierarchy of Controls

**Cartridge Testing and SCBA Alternatives**

**Last Update 7/24/2017:** Initial feedback from meetings with StoneTurn Consultants (STC) appear to be very promising for near term use of air purifying respirator/powered air purifying respirator (APR/PAPR) in lieu of self-contained breathing apparatus (SCBA) in ventilated farms.

**Mobile Laboratory**

**Update:** Weekly accomplishments as of July 19:
- Supported EC06
- Initiated monitoring activities to establish background levels for furans and nitrosamines
- Mobile Lab to Broadmoor RV for generator repairs on July 13
- Trouble shooting PTR-MS data acquisition on July 14
- Trouble shooting PTR-MS data acquisition on July 17
- Technician training on July 18
- Walk down of background study sites on July 19
- Technician training on July 19

**Personal Vapor Monitor**

**Update:** The personal device development plan submitted by C₂Sense focuses on testing the prototype device and its integration with cellular phones and servers. The accomplishments for the week of July 17 include the release of the updated wearable enclosure/cartridge designs for prototyping.

KPP 8. Medical Support

The scope of KPP-8 is to support DOE Richland Operation Office (RL) medical program enhancements in conjunction with other Hanford Site organizations.
# 4. Vapors Mitigation Program Plan - Top Risks - CPPO Weekly Update

The subset of the Vapors Mitigation Risk Register this week is shown in Table 1.

Table 1. Vapors Mitigation Risk Register

<table>
<thead>
<tr>
<th>CVAP ID Number</th>
<th>Current Status</th>
<th>Handling Actions</th>
<th>Current Risk Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>022</td>
<td>Currently longer than expected procurement lead times are affecting CVAP project schedules. Critical procurement list tracking and updating is ongoing. Expediters are working with vendors to ensure procurement timeliness.</td>
<td>1. Identify and track project designated high priority procurements for equipment and services. (Ongoing)</td>
<td>Medium</td>
</tr>
<tr>
<td>004</td>
<td>Integration of field work for VMDS implementation and associated execution concerns for SY, A-Farm, and AW stack upgrades. Installation and turnover of PA system to tank farm operations.</td>
<td>1. Identify key program interfaces early. (Ongoing) 2. Engage with program/project managers early. (Ongoing) 3. Maintain weekly communication and IPT meetings. 4. Incorporate instrumentation (stack monitor) installation into future design of equipment.</td>
<td>Medium</td>
</tr>
</tbody>
</table>