

Ownership matrix	USQ # NA-4
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TABLE OF CONTENTS

1.0 PURPOSE AND SCOPE2
2.0 IMPLEMENTATION2
3.0 RESPONSIBILITIES.....2
4.0 PROCEDURE2
 4.1 General Requirements.....2
 4.2 Evaluating Field Activities2
 4.3 Management of Exposure Assessments.....3
 4.4 Emission Point Evaluation.....4
 4.5 Exclusion Zone Posting and Control4
 4.6 Determining Control Measures.....5
 4.7 Develop Personal Sampling and Monitoring Protocols.....5
5.0 DEFINITIONS6
6.0 RECORDS7
7.0 SOURCES.....7
 7.1 Requirements7
 7.2 References.....7

TABLE OF ATTACHMENTS

ATTACHMENT A – TANK VAPOR WORK CLASSIFICATION GROUPS8
ATTACHMENT B – BOUNDARY SIGNS9

1.0 PURPOSE AND SCOPE

In accordance with 10 CFR 851, this procedure provides direction for managing potential exposures to tank waste vapors.

This procedure applies to activities performed by the Tank Operations Contractor (TOC) and its subcontractors where there is potential for worker exposure to chemical vapors from tank waste.

2.0 IMPLEMENTATION

This procedure is effective on the date shown in the header.

3.0 RESPONSIBILITIES

Responsibilities are contained within Section 4.0.

4.0 PROCEDURE

4.1 General Requirements

The area surrounding the tank farms in 200E/200W will be administratively controlled and posted as an Industrial Zone (IZ). All farms will either have breather filter isolation valve(s) (passively ventilated) or exhaust stacks (actively ventilated) and therefore will remain a Chemical Contamination Reduction Zone (CRZ). Exclusion Zones (EZ) shall be contained within a CRZ or connected to a CRZ for appropriate egress purposes. The boundary of each area will be posted as such. Refer to Attachment B for boundary signs.

The AY/AZ farm will also remain a CRZ although the exhauster is located outside of the farm. The exhauster 702-AZ will only be demarcated an EZ during RC 3 work activities that require access into the primary exhauster system (i.e., Preventive Maintenance, Paper Changes, etc.). A CRZ may also be posted to assist with appropriate egress, as necessary.

EZ(s) that are located outside of the CRZ farm boundaries (244-A, ER-311, etc.) will adhere to Table A-1 in Attachment A for guidelines Risk Classification (RC) classification.

4.2 Evaluating Field Activities

When assigning RCs for work activities, a standard set of criteria will be used for handling tank vapor control limits. Table A-1 in Attachment A describes the general RC work categories for tasks occurring in a Tank Farm area.

Industrial
Hygienist

1. Define work area(s) and work activities through a review of work planning information (e.g., work instructions, procedures).
2. Identify the RC from Attachment A, and document the necessary controls to be implemented during the planned work activities on the JHA work instructions or as applicable.
3. If containment systems (glove bag, sleeving, etc.) are used, give full consideration to the potential exposures during construction and removal of the containment systems.

- a. Ensure any necessary controls and monitoring are included in the work planning.

NOTE 1: Deviations from the sampling/monitoring requirements, and/or Industrial Hygiene Sampling Plans (IHSP) are permitted.

NOTE 2: Task specific Respiratory Protection Forms (RPF) are able to be generated if different from the Tank Vapor Information Sheet Respiratory Protection Form (TVIS RPF).

4. Document deviations to the RC controls and/or sampling/monitoring requirements on the appropriate work control forms (e.g., work record entry, Safety and Health Field Surveillance, Industrial Hygiene Field Deviation [A-6004-451], Site Wide Industrial Hygiene Database [SWIHD] Field Deviation screen, Industrial Hygiene Exposure Assessment).

NOTE: Task-specific RPF are able to be generated if they are different from the TVIS RPF.

5. Provide all the applicable forms (e.g., TVIS, IHSP, and RPF, etc.) for inclusion in the work control document package.
6. At completion of work activities, review/submit all the sampling/monitoring surveys into the SWHID database.
7. Update the corresponding Industrial Hygiene Exposure Assessments, as applicable.

4.3 Management of Exposure Assessments

IH Department
Manager
/Industrial
Hygienist

1. Use collected data to meet the requirements of TFC-PLN-34 and its definitions of Compliant, Non-Compliant Exposures, and Undetermined Exposures.
2. Update the Exposure Assessment (EA) for each tank farm accordingly.
3. Verify that the hazard control process is effective in controlling worker exposure to tank waste chemical vapors.

4.4 Emission Point Evaluation

The emission points (EP) on the TVIS will only be modified if the EP(s) within the EA have been created, newly identified, changed, modified or eliminated.

Industrial
Hygienist

1. Ensure the EP(s) in the EA have been identified and detailed on the TVIS.
2. Post an EZ around the EP(s) that are identified on the TVIS.
 - a. Maintain the posting until further engineering controls can be established and/or the source can be eliminated.
3. If during a work activity an EP is anticipated to be created, evaluate and determine the appropriate size of EZ.
 - a. Record the information in the appropriate work package documentation (such as JHA).
 - b. Post or control the area as an EZ.
 - c. Add the EP to the EA if the EP will remain once the work package is completed.

NOTE: The Industrial Hygiene communication board on the TOC Industrial Hygiene web page will be changed as the EA and TVIS are updated (refer to Section 4.4.1).

Industrial
Hygienist/IH
Records
Administrator

4. Post EPs and their EZs found in the EA on the TOC Industrial Hygiene Web Page.

4.5 Exclusion Zone Posting and Control

EZs will be established around EP(s), direct pathways or other tank vapor generating activities which have the potential to exceed 50% of the Occupational Exposure Limit (OEL). An EZ must be large enough to encompass the area around the location that has the potential to exceed 50% of the OEL with a minimum of a 5ft. radius.

EZ(s) will not require postings as long as they maintain a continual IH Technician (IHT) control and instrumentation presence. EZ(s) that are uncontrolled will require postings and demarcated boundaries.

NOTE: Exhaust stacks located outside of the farm that are inaccessible without special equipment (702-AZ) do not require the EZ/CRZ posting unless dictated in specific work packages.

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| FWS/Person in Charge (PIC) | 1. | Ensure that all EZ(s) have demarcated boundaries and are appropriately posted with a physical boundary if the EZ is left uncontrolled. |
| IHT | 2. | Validate implemented controls for EZs during the work activities with direct read instrumentation. |
| | 3. | Notify the Field Work Supervisor (FWS)/IH that EZs associated with the work activity can be down posted by the appropriate craft once the direct pathways are terminated. |

4.6 Determining Control Measures

EAs will be used to confirm/validate control methods for each standard RC control set. Routine work tasks will use standard control methodologies to maintain worker exposure below OEL.

All work activities will be expected to follow the RC controls for entering an EZ created during work evolution. Non-standard events may need task-specific risk evaluation and potentially an EA(s) as determined by the Tank Farm IH.

NOTE: If engineered controls present a greater hazard, other control methods must be evaluated and documented prior to use.

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| Industrial Hygienist | 1. | Document engineered controls currently installed and their required effectiveness, including method(s) of validation. |
| | 2. | If the EA results indicate that potential exposure to Chemicals of Concern (COC) and/or Chemicals of Potential Concern (COPC) for a given Tank Farm is unacceptable, or undetermined as defined by TFC-PLN-34, ensure that an alternative exposure control method according to hierarchy of controls is documented. |

4.7 Develop Personal Sampling and Monitoring Protocols

NOTE: Appropriate sampling protocols will be developed for each COC and COPC relative to the farm specific EAs as outlined in TFC-PLN-34.

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| IH Programs Manager | 1. | Implement sampling and monitoring protocols for the leading indicator COCs to verify that control methods are effective at controlling exposure. |
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Industrial Hygienist	NOTE 1: The frequency of sampling for COC and COPC will be based on the minimum requirements identified in the exposure assessment.
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NOTE 2: If the work duration is anticipated to be less than the minimum time needed to collect a sample per the appropriate IHSP, then COC/COPC sampling is not required.

2. Document the personal exposure sampling and monitoring plan using the IHSP form (A-6004-732) format in accordance with TFC-ESHQ-IH-C-46.
3. If the IHSP supports active retrieval or transfer activities, obtain review and signature approval of the S&H Manager or the Industrial Hygiene (IH) Programs Manager.
4. Submit the IHSP to the Industrial Hygiene Records Administrator.

5.0 DEFINITIONS

Chemicals of Concern. Tank waste chemicals, based on statistical examination, which are reasonably likely to occur outside the tank headspace at a level at or greater than 50% of the OEL.

Chemicals of Potential Concern. Tank waste chemicals, based on statistical examination, which are reasonably likely to occur outside the tank headspace at a level at or greater than 10% of the OEL.

Chemical Contamination Reduction Zone. An administrative control boundary established around EZ(s). CRZs are areas where the potential for contact with tank vapors are less than 50% of the OEL(s) and additional training requirements are needed to access the area. This area typically will be designated as the Tank Farm fence line, but can be larger or outside of a tank farm if needed.

Emission Point (EP). An established engineering controlled pathway to tank headspace (e.g., breather filter isolation valves, exhauster stack openings during exhauster operations).

Engineering Control. Any permanent/temporary piece of equipment or change in the original tank system that prevents, mitigates or alters access to tank headspace (e.g., breather filter isolation valves, gloves bag, and active ventilation that maintains a negative pressure).

Exclusion Zone (EZ). An administrative control boundary established around emission points (when the Ventilation Tank Primary System (VTP) is off, temporary uncontrolled path to tank headspace or waste are created, or COC/COPCs have the potential to exceed 50% of OEL(s). The EZ boundary is to be identified using a physical barrier and signage unless actively controlled by IHT as outlined in Section **Error! Reference source not found.**

Fugitive Emission Source. Tank vapor emission source discovered outside of current control systems.

Industrial Zone (IZ). Also known as Administrative Zone. This zone is demarcated at the 200E and 200W fence lines by an Industrial Zone Posting and includes all areas inside the fence line unless otherwise marked as a CRZ or EZ. Inside an IZ, all administrative functions and various other support work can be performed without routine monitoring or sampling. Workers performing work in this zone exclusively do not require exposure or medical monitoring.

Tank Vapor Information Sheet. The TVIS is a written tool prepared by the Industrial Hygienist to communicate vapor hazards, COPCs, EPs, PPE and/or respiratory protection requirements, and

IH monitoring requirements in a specific tank farm. It is posted at the site and on the Safety and Health website under TVIS. The TVIS information applies to all EZs in a given tank farm.

6.0 RECORDS

The following records may be generated during the performance of this procedure:

- Industrial Hygiene Exposure Assessment (IH Records Administrator and/or Work Control)
- Industrial Hygiene Field Deviation (A-6004-451) (IH Records Administrator and/or Work Control)
- Industrial Hygiene Sample Plan (A-6004-732) (IH Records Administrator and/or Work Control)
- Tank Vapor Information Sheet (A-6004-063) (IH Records Administrator and/or Work Control).

Records generated will be uploaded to IDMS for record retention by the IH Records Management Administrator where indicated above and will be included in the appropriate work control process.

The record custodian identified in the Company Level Records Inventory and Disposition Schedule (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02, "Records Management."

7.0 SOURCES

7.1 Requirements

No documents external to this procedure are required for performance.

7.2 References

- 7.2.1 RPP-22491, "Industrial Hygiene Chemical Vapor Technical Basis."
- 7.2.2 TFC-BSM-IRM_DC-C-02, "Records Management."
- 7.2.3 TFC-ESHQ-IH-STD-03, "Exposure Monitoring, Reporting, and Records Management."
- 7.2.4 TFC-ESHQ-IH-C-46, "Industrial Hygiene Reporting and Records Management."
- 7.2.5 TFC-PLN-34, "Industrial Hygiene Exposure Assessment Strategy."
- 7.2.6 TOC-IH-58451, "Industrial Hygiene Basis for Defining the Unrestricted Work Boundary."

ATTACHMENT A – TANK VAPOR WORK CLASSIFICATION GROUPS

Tank vapor management will include implementation of a Risk Classification (RC) structure to assist in the work planning process for ongoing evaluation of potential exposures. RCs will be managed under a single set of criteria that will encompass all work within the tank farms where potential exposures exist. The RC IHSPs will define sampling protocol necessary for monitoring of Tank Vapor hazards. Multiple RCs may be applied as appropriate during a single work evolution as work scope permits.

Tank status and exposure pathway(s) will be recorded in the site wide Industrial Hygiene database (SWIHD) for each sampling or monitoring event. The RC evaluation will be conducted utilizing the RC assignment of the data based upon Table A-1.

Table A-1. RC Determination.

	RC
General farm entry	1
Any work inside the Tank Farm systems WITH validated controls	2
Any work inside the Tank Farm systems WITHOUT validated controls	3
Non-standard operating conditions	4

ATTACHMENT B – BOUNDARY SIGNS

Figure B-1. Administrative Boundary Signage – Industrial Zone.

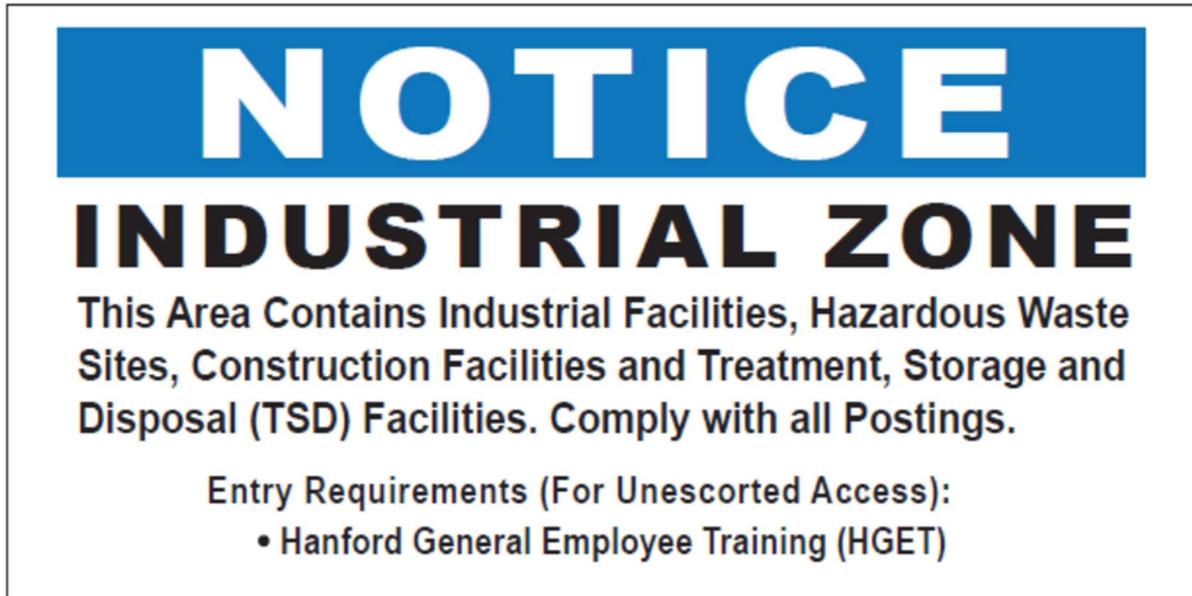


Figure B-2. Administrative Boundary Signage – Contamination Reduction Zone.



Figure B-3. Administrative Boundary Signage – Exclusion Zone.

