

# CSAT Top-Screen

User's Manual

November 2008

Version 2.7.a



Homeland  
Security



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# Note to Users

This document is the User's Manual for the Chemical Security Assessment Tool (CSAT) Top-Screen — an information-gathering tool developed by the Department of Homeland Security (DHS) to help identify high-risk chemical facilities subject to the Chemical Facility Anti-Terrorism Standards (CFATS; 6 CFR Part 27), and to determine preliminary tier placements for those facilities.

6 CFR § 27.200 of CFATS authorizes DHS to collect information from chemical facilities on a broad range of topics related to the potential consequences of or vulnerabilities to a terrorist attack or incident. The CSAT Top-Screen is one method DHS may use under 6 CFR § 27.200 to gather such information.

If a facility possesses a chemical of interest (COI) that is on DHS's Chemicals of Interest list (6 CFR Part 27 Appendix A) at or above the Screening Threshold Quantity for any applicable security issue, the facility must complete and submit a CSAT Top-Screen to DHS. After analyzing a facility's Top-Screen information, DHS will make a preliminary determination whether a facility presents a high level of security risk and therefore must comply with additional requirements of CFATS. DHS has developed this User's Manual to assist facilities in completing the Top-Screen and submitting it to DHS.

All examples in this User's Manual are illustrative and intended to highlight a specific point. Each facility must carefully consider the unique characteristics and circumstances of its own facility to determine the relevance and appropriateness of each example.

CSAT users may call the CSAT Help Desk with questions regarding the CSAT Top-Screen. The CSAT Help Desk can be reached at 866-323-2957 between 7 a.m. and 7 p.m. (Eastern time), Monday through Friday. The CSAT Help Desk is closed for Federal holidays.



# Change Log

### Version 2.5.a -> Version 2.7.a

- Changed version number to 2.7.a
- Date changed to November 2008 on the cover page
- Updated Table of Contents
- Updated section 2.1 to reflect new facility description flow (no questions were added or removed, but general facility questions were moved to the Update Facility Information section).
- Added section 5.2.4 to include additional questions on gasoline aboveground storage.
- Split section 5.2.3 into two sections (5.2.3 and 5.2.5) to allow for the gasoline questions to be inserted.
- Bolded the sentence, The Total On-site Quantity (answered in the previous question) may be different from the total amount in the AHQ, in section 5.1.2, 5.2.2, and 5.3.2

### Version 2.0 -> Version 2.5.a

- Changed version number to 2.5.a
- Date changed to July 2008 on the cover page
- Updated Table of Contents
- Updated release-toxics section 5.1.3 to include additional questions on "Underground storage type" and "Is below grade containment covered?"
- Updated release-flammables section 5.2.3 to describe the revised underground storage questions. The underground storage questions were previously asked only for methane. They are now asked for all release-flammables.

### Version 1.4 -> Version 2.0

- Changed version number to 2.0
- Date changed to April 2008 on the cover page
- Added "Change Log" page
- Updated Table of Contents
- Changed "aboveground ground" to "aboveground" on pages 39 and 40
- Updated screen capture of the "You are not regulated" screen showing removal of the sentence, "you will receive a letter" (Figure 2-1)
- Changed height of "What is MTSA?" callout box to fit all text on page 19
- Corrected question number for CW/CWP chemical lists from Q:6.0-251 to Q:7.0-251
- Changed "count" to "account" in the phrase "need not count for" on page 41
- Changed author to "US Department of Homeland Security" and title to "CSAT Top-Screen User's Manual" in document properties
- Inserted missing period at the end of this sentence: "Where there are multiple security issues associated with a chemical, a facility must complete and submit a Top-Screen if it meets or exceeds the STQ for any of the applicable security issues" on page 5
- Inserted "that" in the phrase "implement a Site Security Plan that satisfies" on page 6
- Changed "e.g." to "e.g.," throughout the document



- Changed "signing into the" to "signing in to the" on page 6
- Inserted "that" in the phrase "information that each facility" on page 7
- Changed "Eastern Time" to "Eastern time" throughout the document
- Changed "Federal Holidays" to "Federal holidays" throughout the document
- Removed comma in this sentence: "The Preparer is authorized to enter data into the CSAT system, but not to submit the data to DHS." on page 7
- Changed "on" to "at" in the phrase "User Registration User's Guide on [www.dhs.gov/chemicalsecurity](http://www.dhs.gov/chemicalsecurity)" on page 8
- Changed case from "Research and Development personnel" to "Research and development personnel" on page 9
- Inserted "that" in the phrase "The first screen that a CSAT facility" on page 11
- Changed "(see" to "(see" throughout the document
- Changed "AS TO" to "OF" in the phrase "EXAMPLES AS TO WHAT IS AND IS NOT CVI" on page 12
- Changed the comma to a period in the text "Reg. 17715), Therefore" on page 11
- Changed "without completed information by a facility" to "without information completed by a facility" on page 12
- Centered Figure 1-1 and Figure 1-2
- Changed "has" to "have" in the phrase "all data that has been" on page 15
- Changed "on" to "for" in the phrase "instructions on completing " on page 19
- Changed "which" to "that" in the phrase "region which the facility" on page 23
- Changed "shorter" to "less" in the phrase "all distances shorter than" throughout the document
- Changed "farther" to "greater" in the phrase "distances 25 miles or farther" throughout the document
- Deleted fragmented sentence "In accordance with 27.200(a)," on page 37
- Changed "applies" to "apply" in the phrase "also applies when compiling the AHQ" on page 37, 44, and 46
- Changed headings "MINIMUM CONCENTRATION:" to "MINIMUM CONCENTRATION" throughout the document
- Changed height of "Ammonium Nitrate (AN)" theft text box to fit the text
- Inserted missing period at the end of this sentence "in laboratories toward the STQ" on page 45
- Fixed spacing and pagination of headers/tables with associated text
- Replaced references to "theft-EXP/IEDP" in the text related to theft-WME on page 48
- Replaced references to "theft-EXP/IEDP" in the text related to theft-CW/CWP on page 50
- Changed "release-flammable" to "release-explosive" in Release-Explosive section on page 44
- Changed height of "What Is Capacity Utilization Rate?" text box to fit the text
- Changed height of "What Is the National Emergency Production Rate?" to fit the text
- Changed height of survey completion validation text box to fit the text
- Changed "Submitter View (see Figure 6-3)" to "Submitter View (see Figure 6-5)"
- Removed "above" from this phrase: "as described in Section 1.1 above" on page 61
- Inserted the second comma in this sentence: "For facilities with chemicals located in more than one area, the amount in the AHQ might be found in a single large storage vessel, an area of densely



located processing equipment, or in storage areas for raw materials, intermediates, and final products." on page 72

- Added acronyms to "List of Acronyms Used in Top-Screen User's Manual" for ASME, CWC, DOT, IFR, LFL, and SPR
- Changed question number Q:5.1-233 to Q:6.1-253 on page 48
- Changed question number Q:5.1-234 to Q:6.1-254 on page 48
- Added Bulk Storage description bullet item for WME on page 49
- Changed question number Q:5.1-233 to Q:7.1-260 on page 50
- Changed question number Q:5.1-234 to Q:7.1-261 on page 50
- Changed question number Q:5.1-235 to Q:7.1-262 on page 50
- Changed link from <http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/index.html> to <http://www.epa.gov/emergencies/content/rmp/index.htm> on page 21
- Removed extra line break after "National Economy." on page 23
- Removed extra blank line before "Do not use commas" on page 45
- Removed extra period in the text "COI.. The" on page 45
- Added bullet "Is the Toxic COI Stored Underground?" on page 33
- Updated figure 5-3 and caption to include new question "Is the Release-Toxic COI Stored Underground?"
- Added text for question "Is the Release-Toxic Stored Underground?" on page 36
- Added new section "5.1.3 Underground Storage for Release-Toxic COI" on page 37
- Modified text in callout box regarding the COI propane on page 40
- Added paragraph on getting assistance for Top-Screen submissions on page 42
- Added new section "5.2.3 Underground Storage for Release-Flammable COI" on page 42
- Changed "propane" to "COI propane" as appropriate throughout the document
- Changed height of "What Is Capacity Utilization Rate?" box on page 55
- Changed height of "What Is the National Emergency Production Rate?" on page 56
- Fixed pagination of tables and headings throughout the document
- Removed header from Figure 6-1 (contained previous PRA expiration date) p 58
- Changed height of note box on page 60
- Updated links to RMP\*Comp and related documentation on pages 9 and 34
- Updated Treatment Works/Federal Water Pollution Control Act links on page 20
- Added continuation notice for footnotes if they split between pages
- Deleted extra period and blank line after second paragraph in Getting Additional Help section on page 10
- Removed inappropriate references to footnote 10 (regarding CAS number) from text pertaining to "articles" on pages 45, 49, 51, and 52. (The footnote had been removed but references within the text remained.)
- Added semicolon in "Contained in articles, as defined in 40 CFR § 68.3;" on page 47
- Added non-visible updates to aid in 508 compliance (alternative text created for images and defined tables for use with screen readers).



# Introduction

On October 4, 2006, President Bush signed the Department of Homeland Security (DHS) Appropriations Act of 2007, which provides DHS with the authority to regulate the security of high-risk chemical facilities (see Public Law 109-295 § 550). The Chemical Facility Anti-Terrorism Standards (CFATS; 6 CFR Part 27) Interim Final Rule (IFR) was published on April 9, 2007. [See 72 Fed. Reg. 17688](#). The IFR went into effect on June 8, 2007, except for the tentative list of Chemicals of Interest, which DHS published as Appendix A (DHS Chemicals of Interest list) to the IFR. DHS accepted comment on the list and published a final Appendix A Chemicals of Interest list on November 20, 2007. [See 72 Fed. Reg. 65396](#).

The purpose of 6 CFR Part 27 is to lower the risk posed by certain chemical facilities. 6 CFR Part 27 requires chemical facilities to provide DHS with information to determine whether they are a covered (i.e., high-risk) facility and therefore required to meet certain security performance requirements. In order to identify high-risk chemical facilities, the Department has identified COI for preliminary screening based on the belief that such chemicals, if released, stolen, diverted, and/or contaminated, have the potential to create significant human health and/or life consequences.

The first step for a facility to take in determining whether it is covered under CFATS is to review the exemptions listed in 6 CFR § 27.110. Unless a facility is exempt, it must review Appendix A to 6 CFR Part 27 to determine whether it possesses any COI at or above the listed Screening Threshold Quantity (STQ). DHS has listed the security issue(s) associated with each COI. Each chemical presents at least one security issue, and some chemicals present multiple security issues. Where there are multiple security issues associated with a chemical, a facility must complete and submit a Top-Screen if it meets or exceeds the STQ for any of the applicable security issues.

If a facility determines that it possesses a COI at or above any applicable STQ, the facility must register with DHS for access to the DHS Chemical Security Assessment Tool (CSAT),<sup>1</sup> and complete the DHS CSAT Top-Screen. Using the Top-Screen information, DHS will make a preliminary determination whether the facility presents a high level of security risk.

Upon completion of the Top-Screen, a facility will see one of two screens: a screen informing the user that a facility “may be regulated” or a screen informing the user that the facility “will not be regulated.”

- If DHS makes a preliminary determination that a facility is not high-risk, DHS will send a letter to the facility Submitter, stating such a determination. (see Attachment B for an example of such a letter.) For these facilities, the “will not be regulated” screen will appear.
- If DHS makes a preliminary determination that a facility is high-risk, DHS will send a letter to the facility. The letter will notify the facility of (1) its preliminary status as a high-risk facility, (2) its preliminary placement in a risk-based tier pursuant to §27.220(a), and (3) the specific COI and

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<sup>1</sup> CSAT is a suite of four applications, including User Registration, Top-Screen, Security Vulnerability Assessment, and Site Security Plan, through which the Department will collect and analyze key data from chemical facilities. CSAT is a secure, web-based system.





related security issues that need further analysis in the SVA. (see Attachment C for an example of such a letter). For these facilities, the “may be regulated” screen will appear.

If DHS makes a preliminary determination that a facility is high-risk, DHS will require the facility to complete a Security Vulnerability Assessment (SVA). A SVA is designed to identify and assess the security of a facility's critical assets in light of the security issues raised by DHS in the preliminary tier determination letter.

Following a facility's submission of the SVA and DHS's analysis of it, DHS will either confirm that a facility is high-risk or inform a facility that DHS no longer considers the facility high-risk or subject to further regulation under CFATS. For facilities confirmed to be high-risk, DHS also will communicate the final facility tier determination, after which a facility must develop and implement a Site Security Plan that satisfies the Risk-Based Performance Standards enumerated in 6 CFR § 27.230.

### **This User's Manual applies only to the CSAT Top-Screen.**

The CSAT Top-Screen follows a logical, two-step data collection process. First, it collects basic facility identification information. Second it collects information on the chemicals that facilities possess (e.g., manufacture, process, use, store, and/or distribute). Questions cover the following security issues:

- Release-toxic, release-flammable, and release-explosive chemicals with the potential for impacts within and beyond a facility;
- Theft-EXP/IEDP (explosive/improvised explosive device precursor) chemicals, theft-WME (weapon of mass effect) chemicals, and theft-CW/CWP (chemical weapon/chemical weapon precursor) chemicals;
- Sabotage/contamination chemicals; and
- Chemicals that are critical to Government Mission and National Economy.

The Top-Screen also contains additional focused questions for each of the following types of facilities:

- Chemical manufacturing, storage, use, and distribution;
- Petroleum refining; and
- Liquefied natural gas (LNG) storage (e.g., peak shaving facilities).

## Organization of this User's Manual

This User's Manual is generally organized in the same order as the questions and sections that appear in the Top-Screen itself.

The Introduction provides a brief overview of CFATS and the CSAT Top-Screen process, the organizational structure of the User's Manual, CSAT user access roles, a listing of information and individuals that may be helpful in completing the Top-Screen, and resources for getting additional help in completing the Top-Screen.

Section 1 covers procedures for signing in to the Top-Screen, the CVI authorizing statements, and instructions for navigating the Top-Screen and saving and validating progress.



Section 2 covers general facility information that each facility must provide.

Section 3 covers questions specific to petroleum refineries. Facilities that are not petroleum refineries may skip this section.

Section 4 covers questions specific to Liquefied Natural Gas (LNG) storage facilities. Facilities that are not LNG storage facilities may skip this section.

Section 5 covers questions that relate to possession of chemicals (i.e., e.g., chemical manufacturing, processing, use, storage, and distribution). All facilities must complete this section, including petroleum refineries and LNG storage facilities. Section 5 also provides instructions for entering data related to mission critical and economically critical chemicals.

Section 6 discusses validating, reviewing, and submitting facility data to DHS.

Attachment A contains worksheets and examples for calculating and reporting Total On-site Quantity and the Area of Highest Quantity.

For easy identification of questions, the question number that appears in brackets in the text of this User's Manual matches the Top-Screen itself. For example, [Q:1.0-66] appears next to the question requesting a Facility Name. This number will help users identify clearly which question in the online tool is associated with which explanation in the User's Manual. The question number is also a handy reference if a user contacts the CSAT Help Desk.<sup>2</sup>

## CSAT User Access Roles

For each facility, a variety of individuals can be authorized to use CSAT. Each registered individual will be assigned a specific role, with access privileges based on that role. The following roles are defined in CSAT:

- The Preparer is authorized to enter data into the CSAT system but not to submit the data to DHS. The Preparer is a qualified individual familiar with the facility in question.
- The Submitter is designated by the company to submit the information collected by the CSAT system to DHS in accordance with 6 CFR § 27.200(b)(3).
- The Authorizer is the individual who verifies to DHS that the Submitter and Preparer are authorized to complete the CSAT Top-Screen on behalf of a facility.
- The Reviewer, which is an optional role, is allowed to review information but not enter, edit, or submit information. This is a read-only role. A Reviewer does not have edit or approval privileges and must be invited by a known user from within the Top-Screen. Upon logging in, the Reviewer

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<sup>2</sup> The CSAT Help Desk has a toll-free number that CSAT users can call with questions regarding the CSAT Top-Screen and other elements of the CSAT. The CSAT Help Desk can be reached at 866-323-2957 between 7 a.m. and 7 p.m. (Eastern time), Monday through Friday. The CSAT Help Desk is closed for Federal holidays.



must agree to all use requirements and to the CVI Non-disclosure Agreement/Authorizing Statement.

The Preparer, Submitter, and Authorizer can be the same person or different individuals. A single individual can have a given role for one or more facilities within a single organization.

When the Preparer sends the Top-Screen to the Submitter for review, the Preparer will no longer be able to edit the information unless the Top-Screen is re-sent to the Preparer by the Submitter for revision. When the Submitter has access to the Top-Screen, the information may be revised by the Submitter. Once the Submitter transmits the information to DHS, it is no longer accessible to a facility.

More information on a facility registration process and facility roles may be found in the User Registration User's Guide at [www.dhs.gov/chemicalsecurity](http://www.dhs.gov/chemicalsecurity).

Prior to submitting the Top-Screen, the submitter is offered the opportunity to both (1) print out the Top-Screen, as well as (2) save an electronic copy of the Top-Screen. A facility is required to retain a copy of the completed Top-Screen. The copy is CVI and must be protected pursuant to 6 CFR 27.400.

If a Top-Screen submitted by a facility is rejected by DHS for any reason, the facility will need to repeat the screening process, and all of the information must be re-entered.

## Preparing to Complete the Top-Screen: Relevant Information and Resources

Prior to completing the Top-Screen, DHS recommends that a facility read and review the following materials, all of which are available on the DHS website at [www.dhs.gov/chemicalsecurity](http://www.dhs.gov/chemicalsecurity):

- A copy of 6 CFR Part 27 (see 72 Fed. Reg. 17688), available at <http://www.dhs.gov/chemicalsecurity>.
- A copy of the 2007 DHS Chemicals of Interest list with Screening Threshold Quantities (Appendix A to 6 CFR Part 27) (see 72 Fed. Reg. 65396), available at <http://www.dhs.gov/chemicalsecurity>.
- A copy of the downloadable PDF file with Top-Screen questions that may be used as a worksheet, available at <http://www.dhs.gov/chemicalsecurity>.
- A copy of the CVI Procedures Manual regarding protection of information, available at <http://www.dhs.gov/chemicalsecurity>.

In addition, before completing the Top-Screen, DHS recommends that facilities gather the following information:

- North American Industrial Classification System (NAICS) codes;
- Data Universal Numbering System (DUNS) numbers, available at <http://www.dnb.com>;
- Latitude and longitude of the center of the facility;
- Parent company name(s) and DUNS number(s);
- Joint venture name(s) and DUNS number(s);



- Host/tenant facility name(s);
- Environmental Protection Agency (EPA) Risk Management Plan (RMP)<sup>3</sup> identifier numbers for the facility and host/tenant facilities (if applicable);
- Number of employees and full-time resident contractors;
- Chemical inventory information, including the names and quantities of all DHS COI that are manufactured, processed, used, stored, or distributed at the facility, and the location of the Area of Highest Quantity (a 170-foot radius around the area where the greatest amount of the chemical with a release concern is located);
- The most recent EPA RMP submittal, including the EPA identifier number, covering processes, inventories of chemicals, and offsite consequence analyses. This information will be helpful in answering some of the questions related to toxic and flammable release;
- A copy of RMP\*Comp<sup>4</sup> to calculate information required for chemicals with a toxic-release concern. This resource will be needed for information related to toxic-release chemicals regardless of whether the facility itself is subject to the EPA RMP regulation;
- Records used to prepare the annual Tier 2 report under the Emergency Planning and Community Right-to-Know Act (EPCRA). These records will include inventory and storage locations for various chemicals at a facility;
- Records used to comply with the Chemical Weapons Convention (CWC); and
- Financial, sales, and marketing information that will be helpful in reporting production values, market share, capacity utilization rates, and product applications for economically critical and mission critical chemicals, if applicable. Census forms such as the *Annual Survey of Manufacturers* and the *Survey of Plant Capacity Utilization* also will be helpful if the company or facility has been asked to complete them previously. These forms are available from the U.S. Census Bureau's website at <http://bhs.econ.census.gov/BHS/index.html>.

For some facilities the following personnel typically can provide facility information in the areas noted and may be able to provide information and assistance in the preparation and submittal of the Top-Screen:

- Process safety personnel —RMP inventories and related information and documents.
- Environmental personnel — inventories of chemicals due to their responsibilities for compiling the EPCRA Tier 2 reports annually.
- Shipping/Receiving/Logistics personnel — inventories, sales and shipping information.
- Research and development personnel — amounts of COI used in pilot plants and/or laboratories at the facility.
- Marketing/sales personnel — information for completing the mission critical and economically critical sections, as well as end-use(s) for COI.
- Engineering personnel —replacement costs, capacities, and throughputs.

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<sup>3</sup> EPA's RMP regulation is located at 40 CFR Part 68.

<sup>4</sup> RMP\*Comp is a software tool used to perform the offsite consequence analysis required under the RMP rule. You can download an electronic copy from the RMP\*Comp website at [http://www.epa.gov/emergencies/content/rmp/rmp\\_comp.htm](http://www.epa.gov/emergencies/content/rmp/rmp_comp.htm).



### Getting Additional Help

More details on 6 CFR Part 27, information regarding CVI, and other related information is available on the DHS website at <http://www.dhs.gov/chemicalsecurity>.

For answers to specific technical or substantive questions related to the CSAT Top-Screen, individuals may contact DHS via the CSAT Help Desk. The CSAT Help Desk can be reached at 866-323-2957 between 7 a.m. and 7 p.m. (Eastern time), Monday through Friday. The CSAT Help Desk is closed for Federal holidays.



# 1.0 Getting Started

## 1.1 CVI Non-Disclosure Agreement/Authorizing Statements

A facility may register for the CSAT system by going to the user registration website and filling out a User Registration form at <http://www.dhs.gov/chemicalsecurity>.<sup>5</sup> Once a facility is registered with DHS to use the CSAT system, a facility will have access to the CSAT Top-Screen.

The first screen that a CSAT facility will see upon entering CSAT for the first time is the CVI (Chemical-terrorism Vulnerability Information) Authorizing Statements screen (see Figure 1-1). The Authorizing Statements briefly summarize the same information available through the DHS CVI Training. The CVI Authorizing Statements constitute a Non-Disclosure Agreement between DHS and the CSAT facility. Acknowledgement and agreement to abide by the CSAT Top-Screen Authorizing Statements suffices to make the CSAT facility an authorized user of CVI for access to CVI created by the completion of the CSAT Top-Screen. This specifically allows DHS to send a CVI letter to the submitter and/or preparer with their preliminary tier designation. Access to other CVI will require meeting additional criteria as specified by the Department of Homeland Security.

All users are required to abide by the CSAT Top-Screen Authorizing Statements before being allowed to proceed. Acknowledgement and agreement is shown by clicking the box next to each of the authorizing statements, followed by clicking the **Accept** button at the bottom of the page. If the user does not wish to abide by the requirements and is not willing to accept the conditions, the user will not be able to enter the Top-Screen.

All CSAT users who acknowledge and accept the CSAT Top-Screen Authorizing Statements are strongly urged to complete the DHS CVI training available at [www.dhs.gov/chemicalsecurity](http://www.dhs.gov/chemicalsecurity). Completion of the training and the non-disclosure at the end of the training will make the individual an authorized user of CVI. DHS will send a certificate to each individual with their CVI Authorized User Number. Becoming a certified Authorized User of CVI as soon as possible will facilitate potential future communications with DHS involving CVI. DHS expects that in the near future all Top-Screen Users will need to complete CVI training and become CVI certified.

All information entered into the CSAT Top-Screen is CVI. Both the information maintained by DHS (on servers prior, during, and after submission) and the resulting Top-Screen that DHS prepares and shares with a facility are CVI and will be marked accordingly.

Only information developed or submitted pursuant to CFATS' authorizing statute is considered CVI; thus, information developed under other statutory regimes or for a facility's own purposes may not be

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<sup>5</sup> For assistance in registering to use CSAT, please refer to the CSAT User Registration User's Guide, which is available online at [http://www.dhs.gov/xlibrary/assets/chemsec\\_csatuserregismanual.pdf](http://www.dhs.gov/xlibrary/assets/chemsec_csatuserregismanual.pdf).



considered (see CFATS IFR, 72 Fed. Reg. 17715). Therefore, some of the original information used by a facility to complete the Top-Screen and held by a facility may not be CVI. For more details regarding CVI and the protection of chemical facility security information, please refer to the CVI Procedures Manual, which is available at <http://www.dhs.gov/chemicalsecurity>.

## EXAMPLES OF WHAT IS AND IS NOT CVI:

- A printout of a Top-Screen screenshot (without information completed by a facility) is NOT CVI.
- A copy of the Top-Screen (in any media) submitted to DHS is CVI.
- The information residing on DHS servers entered by a facility but not yet submitted to DHS is CVI.

**CVI Authorizing Statements**

Please read the following information and check the boxes to indicate that you understand and accept these requirements.

- I understand that I will have access to Chemical-terrorism Vulnerability Information (CVI), in accordance with Public Law 109-295, Section 550, and 6 CFR 27.400. This information is exempt from release under the Freedom of Information Act (5 U.S.C. 552) and State and local disclosure laws. No part of this record may be disclosed to persons without a "need to know," as defined in 6 CFR 27.400(e), except with the written permission of the Secretary of Homeland Security. Unauthorized release may result in civil penalty or other action. Public disclosure is governed by 6 CFR 27.400(g).
- As a chemical facility representative I acknowledge that I may only share CVI with board members, employees, or contractors of this company. I agree to only share CVI with these eligible individuals that have completed the requirements to become an authorized user of CVI.
- I agree to abide by the above requirements and understand that this agreement only authorizes access to CVI created by the completion of the CSAT Top Screen. Access to other CVI will require meeting additional criteria as specified by the Department of Homeland Security.

**Storage:** When not in your possession, store in a secure environment such as in a locked desk drawer or locked container. **Do not leave this document unattended.**

**Transmission:** You may transmit CVI by the following means to an eligible individual who meets the access requirements listed above. In all cases, the recipient must accept the terms for Non-Disclosure Agreement before being given access to CVI.

- **Hand Delivery:** Authorized individuals may hand carry material as long as access to the material is controlled while in transit.
- **Email:** Encryption should be used. However, when this is impractical or unavailable you may transmit CVI over regular email channels. If encryption is not available, send CVI as a password protected attachment and provide the password under separate cover. **Do not send CVI to personal, non-employment related email accounts.** Whenever the recipient forwards or disseminates CVI via email, place that information in an attachment.
- **Mail:** USPS First Class mail or commercial equivalent. Place in an opaque envelope or container, sufficiently sealed to prevent inadvertent opening and to show evidence of tampering, and then placed in a second envelope that has no marking on it to identify the contents as CVI. Envelope or container must bear the complete name and address of the sender and addressee. Envelope will have no outer markings that indicate the contents are CVI and must bear the following below the return address: **"POSTMASTER: DO NOT FORWARD. RETURN TO SENDER."** Adhere to the aforementioned requirements for interoffice mail.

**Fax:** You are encouraged, but not required, to use a secure fax. When sending via non-secure fax, coordinate with the recipient to ensure that the faxed materials will not be left unattended or subjected to unauthorized disclosure on the receiving end.

**Telephone:** You are encouraged, but not required, to use a Secure Telephone Unit/Equipment. Use cellular phones to discuss CVI only in exigent circumstances.

**Reproduction:** Ensure that a copy of the CVI cover sheet is the first page of all reproductions containing CVI. Clear copy machine malfunctions and ensure all paper paths are checked for CVI. Destroy all unusable pages immediately.

**Destruction:** Destroy (i.e., shred or burn) this document when no longer needed. For laptops or CPUs, delete file and empty recycle bin.

**Derivative Products:** Mark any newly created document containing CVI with "Chemical-Terrorism Vulnerability Information" on the top and bottom of each page that contains CVI. Mark "(CVI)" beside each paragraph containing CVI. Place a copy of CVI cover page over all newly created documents containing CVI. The CVI Tracking Number(s) of the source document(s) must be included on the derivatively created document in the form of a footnote.

- I agree to abide by the above requirements and understand that this agreement only authorizes access to CVI created by the completion of the CSAT Top-Screen. Access to other CVI will require meeting additional criteria as specified by the Department of Homeland Security.

If you do not accept these requirements, please logoff now by closing your browser.

**Accept**

WARNING: This record contains Chemical-terrorism Vulnerability Information controlled by 6 CFR 27.400. Do not disclose to persons without a "need to know" in accordance with 6 CFR § 27.400(e). Unauthorized release may result in civil penalties or other action. In any administrative or judicial proceeding, this information shall be treated as classified information in accordance with 6 CFR §§ 27.400(k) and (l).

Figure 1-1. CVI Authorizing Statements



Once a facility has completed the CVI Authorization, a sign-in screen will appear that lists each facility registered with DHS for which the logged-in user has access, and the status of the questionnaire for each of those facilities (see Figure 1-2). Via this screen, a facility has two options: (1) access the Top-Screen questionnaire for a given facility, or (2) add a Reviewer with read-only privileges for any of the facilities displayed.

To access the Top-Screen questionnaire for a given facility, click the blue bar containing the facility name.

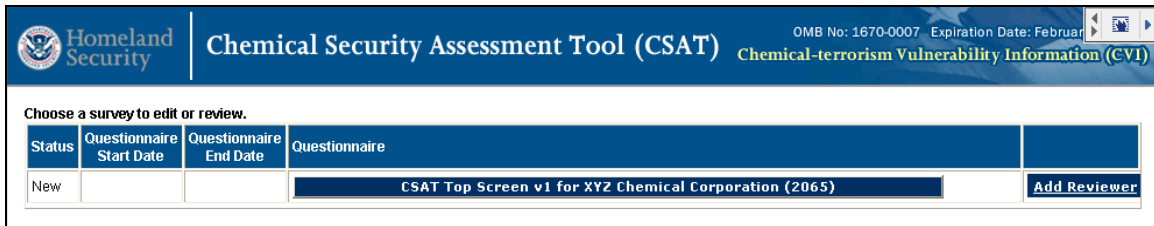


Figure 1-2. Choose Facility

At this point, a Reviewer with read-only privileges may be added to each facility. To add a Reviewer, click on the **Add Reviewer** button to the right of the applicable facility name. After clicking the **Add Reviewer** link, you will be directed to a screen asking whether you would like to grant Reviewer access to an existing CSAT user or a new CSAT user (see Figure 1-3). Select the appropriate choice by clicking on the blue bar and entering the requested information.

This process will grant read-only access to this survey to the individual specified as a Reviewer by one of the following methods:

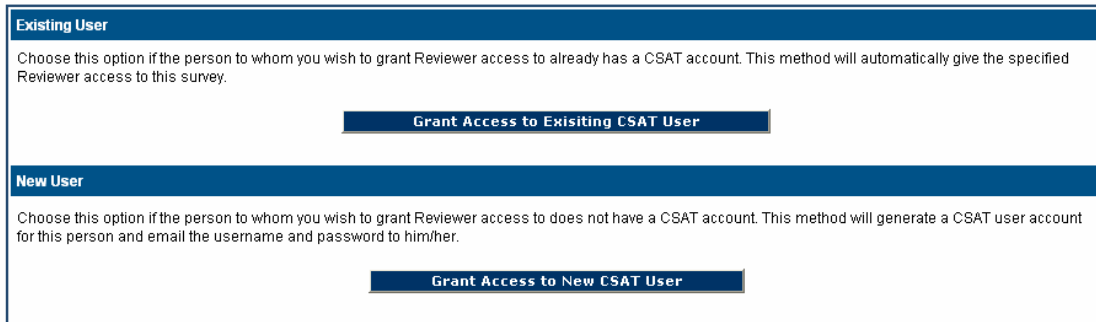


Figure 1-3. Granting Reviewer Access

**Note:** Do not grant yourself Reviewer privileges if you are an Authorizer, Submitter, or Preparer. Doing so will disable all editing privileges.

## 1.2 Navigating within the Tool

Navigation within the Top-Screen tool is simple. A facility can navigate to the next and previous screens by using the **Next** and **Back** buttons on the screen.





Using the **Next** and **Back** buttons will automatically save the information that was entered on the page.

**Warning:** Do not use the **Next** and **Back** buttons (or arrows) on your browser. Using the browser's navigation buttons can result in lost data.

Once the General section of the Top-Screen has been completed, a topical menu will appear on the left side of the screen (see Figure 1-4). Facilities can also navigate through the Top-Screen by clicking on the desired topic in that menu.

General
Release Toxics
Release Flammables
Release Explosives
Theft/Diversion EXP/IEDP
Theft/Diversion WME
Theft/Diversion CW/CWP
Sabotage/Contamination Chemicals
Mission Critical Chemicals
Economically Critical Chemicals
View Summary Report
<input checked="" type="checkbox"/> Validate Report
Logout

Figure 1-4. Top-Screen Menu

On some screens, more than one entry will need to be added. When more than one row is needed, use the **Add** button to add a row. The **Delete** button can be used to delete a row or an entry.



Delete

Add

A facility's session will "time out" after 20 minutes if the system is not in use. Users will need to log back in to restart the session. Data that have already been entered will not be lost, and users will be directed back to where they were when the session timed out.

### 1.3 Saving the Data

All data entered into the Top-Screen are saved automatically when the user clicks the **Next** or **Back** button. If a user clicks the back or forward arrows on the Web browser, information may be lost. Users can exit the program and return multiple times until the Top Screen is submitted — data that have been saved during the previous session will be available upon reentry into the Top-Screen. If a session "times out" after 20 minutes, all data that have been entered will be saved if the **Next** or **Back** button was subsequently clicked.

**Warning:** Use only the **Next** and **Back** buttons in the Top-Screen tool for navigation and saving data. The next and back arrows on the Web browser will not save the data.

### 1.4 Validating Facility Data

If data input fields are skipped or completed incorrectly, a Validation Error message will be displayed. The system allows the user to return to the error and correct it. For example, if the name of the Operator for a facility is not entered, the Error Report shown in Figure 1-5 will be displayed. The link will direct the user to the input area for correction.



Figure 1-5. Error Report Screen

Validation is done for logical and basic errors only. Accordingly, the validation function should not be relied upon to ensure that the Top-Screen has been completed without errors. The Submitter is wholly responsible for submitting accurate and correct information to the best of his or her knowledge.

After general facility data are entered, the menu shown in Figure 1-4 will appear on the left-hand side of the screen. Clicking **Validate Report** will allow the user to verify and correct errors at any time.



# 2.0 General Facility Information

All facilities completing the Top-Screen must begin by completing the General screens. This portion of the Top-Screen seeks basic information from a facility. On the basis of the information input into the General screens, the Top-Screen will verify whether a facility is statutorily exempt from the regulations.

The questions contained in the General screens of the Top-Screen are listed below, along with clarifying information or instructions on how to determine the appropriate answer. When a General screen requests information that does not exist for a facility or is not applicable, simply leave the answer blank and continue to the next question.

## 2.1 Facility Information

Review the facility information shown on the screen. If the information is incorrect or incomplete, click the *Update Facility Info* button. If the Facility Coordinates are incorrect, contact the Help Desk. If the information is correct, click *Next*.

### 2.1.1 Update Facility Information

#### Facility Address

**Facility Name.** The name must be specific to the facility. If the facility is one of a corporation's multiple facilities, the name should be the corporate name plus the location (for example, "ABC Oil Refining — Hightown Plant").

**Alternative Facility Name.** Provide any alternative name(s) by which a facility may be known (e.g., "Green Street Facility" or "Downtown Facility"). If a facility has no alternative name, leave this field blank.

**Facility Location Address.** Enter a facility's address for its physical location including the street, city, state, and ZIP code (including the four-digit extension, if applicable). This address might not be the same as a facility's mailing address. Use local street and road designations, not post office or rural box numbers.

#### Parent Company Information

**Parent Company Name(s) and DUNS number(s).** Enter the name and DUNS number of the corporation(s) or other business entity(ies) that own or operate at least 50 percent of the voting stock of the company that owns or operates the facility. If a facility is owned by a joint venture, enter the name and DUNS number of the first of the two major owners. If a facility does not have a parent company or is not owned or operated by a joint venture, leave these fields blank.



### Collocation Information

Choose the appropriate description of a facility's relationship to other entities, operations or businesses on its property (i.e., hosts a tenant on-site; is a tenant on another entity's facility, or is the sole occupant of the property). A facility that is collocated shares a site with another company's facility through either a host or a tenant agreement. If a facility does not share a site with another company's facility, it is the sole tenant.

If the facility is host to a collocated tenant facility or is a collocated tenant facility, please provide the name and EPA RMP ID for each host/tenant facility. Add additional rows if necessary. If the facility does not share its property with another facility, leave this field blank.

### Security Vulnerability Assessment (SVA)

**Has an SVA been conducted for the facility?** Click **Yes** or **No**. An SVA enables the identification and evaluation of security hazards, threats, countermeasures, and vulnerabilities. If **Yes** is selected, enter the methodology used for the SVA.

For facilities that have conducted an SVA previously, enter the date that the most recent SVA was completed at the facility. Use the following date format: mm/dd/yyyy (e.g., May 1, 2006, is entered as 05/01/2006).

### Additional Facility Information

**Facility NAICS.** Provide the five- or six-digit NAICS code that corresponds most closely to the primary activity of the facility as a whole. The first three digits of the code define a major business sector (e.g., 325 represents chemical manufacturing), and the last two or three digits indicate an establishment's specialty within the major sector (e.g., 325131 represents Inorganic Dye and Pigment Manufacturing). NAICS codes are maintained by the U.S. Census Bureau and can be found on the U.S. Census Bureau website at <http://www.census.gov/epcd/naics02/>.

**Facility DUNS.** The nine-digit DUNS number is a unique identifier that allows facility information to be cross-referenced with other business information. If a facility has a DUNS number, it should be available from the company's financial officer or corporate headquarters. It can also be located through Dun and Bradstreet at <http://www.dnb.com>.

**EPA RMP Facility ID** If a facility conducts EPA RMP-covered processes, fill in the unique 12-digit number assigned to the facility by the RMP Reporting Center. The RMP Reporting Center includes this number in the acknowledgment letter to the facility. If a facility does not operate an RMP-covered process, leave this field blank.

**Owner Name.** This may be a person, company, cooperative, state, municipality, or other entity. It may or may not be the same as the name entered for the facility operator.

**Operator Name.** Enter the name of the person or entity that has responsibility for the daily operations of the facility. This may be a person, company, cooperative, state, municipality, or other entity, and may or may not be the same as the name entered for the facility owner. If the owner and operator are the same, enter the same information in both data fields.



**Number of full-time employees.** Enter the maximum number of employees, and include the number of full-time (or resident) contractors at the facility at any given time, including shift changes. Do not include part-time or short-term workers, such as are brought in for turnarounds or construction, when determining this number.

### Latitude and Longitude

Latitude and longitude cannot be changed; contact the Help Desk to modify an incorrect latitude or longitude.

Click OK to make the changes.

## 2.2 Facility Description

**Facility Type.** [Q:1.1-65] From the drop-down menu, choose a facility type that best describes the facility. For example, if the facility uses anhydrous ammonia for refrigeration, choose ***Chemical manufacturing, use, storage, and distribution***. If the facility is a peak shaving facility, choose ***LNG storage***. The options for Facility Type include:

- Petroleum refining
- LNG storage (e.g., peak shaving facility)
- Chemical manufacturing, use, storage, and distribution — any public or private facility that manufactures, processes, uses, stores, or distributes chemicals. This type of facility can range, for example, from a large petrochemical manufacturing facility to a facility that uses anhydrous ammonia for refrigeration.

**Note:** All facilities, regardless of type, must answer the questions related to chemical manufacturing, processing, use, storage, and distribution. Guidance for answering questions about chemical manufacturing, processing, use, storage, and distribution is in Section 5.0 (Sections 5.8 and 5.9 specifically cover questions relating to mission critical and economically critical chemical production). However, if a facility is a petroleum refinery or an LNG storage facility, the Preparer will be asked to respond to additional questions tailored to that type of facility. In this User's Manual, guidance for answering petroleum refinery questions is in Section 3.0, and in Section 4.0 for LNG storage facility questions.

## 2.5 Statutory Exemptions

The next set of questions relates to the statutory exemptions from Section 550 of the DHS Appropriations Act of 2007 (P.L. 109-295), which DHS has incorporated into the regulation at 6 CFR Part § 27.110. A



facility that answers **Yes** to any one of these questions is exempt from the regulation and may exit the Top-Screen without providing any additional data. If a facility wishes to receive written confirmation from DHS, they should answer **Yes** and submit their Top-Screen. If a facility is entirely subject to one or more of the facility exemptions listed above, the following screen will appear:

**General**

< Back Next >

**Survey Completion**

**You are not regulated.**

In accordance with Section 550 of Pub. L. 109-295, and based upon the information supplied and your claim of an applicable statutory exemption, the chemical facility is not required to take any further action at this time. If circumstances change such that the facility is no longer exempt, the facility may then be required to complete and submit a Top Screen pursuant to 6 CFR §§ 27.200(b)(2), 27.210(a)(1)(i).

Press the [Next] button to continue the submittal process. You will have an opportunity to validate and print your survey before it is submitted to DHS.

< Back Next >

**Figure 2-1. Survey Completed Screen for Facilities Not Regulated**

Click **Next** and follow the instructions for completing and exiting the Top-Screen. See Section 6.0 for instructions on reviewing, validating, printing, and submitting the Top-Screen.

If a facility is not exempt or is partially exempt, the remaining Top-Screen questions applicable to the specific facility type must be completed and submitted to DHS.

**MTSA-regulated facilities.** [Q:1.3-85] If the entire facility is regulated pursuant to the Maritime Transportation Security Act of 2002 (MTSA), Public Law 107-295, as amended, answer **Yes** and follow the instructions to complete and exit the Top-Screen. MTSA facilities are exempt from CFATS. However, if a portion of the facility is regulated pursuant to MTSA and a portion of the facility is not regulated pursuant to MTSA, select **Partially** and continue to fill out the Top-Screen for the non-MTSA portion of the facility. For facilities not regulated pursuant to MTSA, select **No** and continue to fill out the Top-Screen. See the preamble to 6 CFR Part 27 for further information about facilities that may be regulated under MTSA.



### What is MTSA?

The Maritime Transportation Security Act (MTSA) was passed by Congress in 2002 to address intentional marine transportation incidents. It represents the U.S. implementation of the International Ship and Port Security Code. The U.S. Coast Guard published interim final regulations to implement the MTSA in July 2003. Many chemical and petrochemical processing facilities that have ship, barge, or pipeline operations along navigable waterways are covered by MTSA, which requires, among other things, a Facility Security Assessment and a Facility Security Plan. A facility that has property along the waterfront of a navigable waterway, but conducts no operations along the waterway, may not be covered by the MTSA regulations. Please contact the USCG Captain of the Port with questions about the MTSA. More information about MTSA is also available at <http://www.uscg.mil/HQ/G-M/MP/mtsa.shtml>.

**Public Water System.** [Q:1.3-86] If the facility is a Public Water System as defined by Section 1401 of the Safe Drinking Water Act, Public Law 93-523, as amended, click **Yes** and follow the instructions for completing and exiting the Top-Screen. If the facility contains a Public Water System as defined by the Safe Drinking Water Act, but also contains components that are not covered by that definition, select "Partially" and continue to fill out the screen for the portion of the facility not so defined under the Safe Drinking Water Act. If the facility is not a Public Water System as defined under the Safe Drinking Water Act, select **No** and continue to fill out the Top-Screen. For more information about the Safe Drinking Water Act, see <http://www.epa.gov/safewater/sdwa/>.

**Treatment Works.** [Q:1.3-87] If the facility is a Treatment Works as defined in Section 212 of the Federal Water Pollution Control Act, Public Law 92-500, as amended, click **Yes** and follow the instructions for completing and exiting the Top-Screen. If the facility contains a Treatment Works as defined by the Federal Water Pollution Control Act, but also contains components that are not covered by that definition, select "Partially" and continue to fill out the screen for the portion of the facility not so defined under the Federal Water Pollution Control Act. If the facility is not a Treatment Works as defined under the Federal Water Pollution Control Act, select **No** and continue to fill out the Top-Screen. For the definition of Treatment Works in Section 212, see <http://epw.senate.gov/water.pdf> (page 80). For more information on the Federal Water Pollution Control Act (commonly known as the Clean Water Act), see <http://www.epa.gov/lawsregs/laws/cwa.html>.

**Department of Defense-Owned or Operated Facility.** [Q:1.3-88] If the facility is owned or operated by the U.S. Department of Defense, select **Yes** and follow the instructions on completing and exiting the Top-Screen. Facilities owned and operated by the U.S. Department of Defense may include military bases. If a facility is not owned or operated by the Department of Defense, select **No** and continue to fill out the Top-Screen.

**Department of Energy.** [Q:1.3-89] If the facility is owned or operated by the U.S. Department of Energy, select **Yes** and follow the instructions on completing and exiting the Top-Screen. If the facility is not owned or operated by the Department of Energy, select **No** and continue to fill out the Top-Screen.

**Nuclear Regulatory Commission.** [Q:1.3-90] If the facility is regulated by the Nuclear Regulatory Commission, click **Yes** and follow the instructions on completing and exiting the Top-Screen.



DHS applies this statutory exemption to facilities where the Nuclear Regulatory Commission already imposes significant security requirements and regulates the safety and security of most of the facility, not just a few radioactive sources. For example, a power reactor holding a license under 10 CFR Part 50, a special nuclear material fuel cycle holding a license under 10 CFR Part 70, and a facility licensed under 10 CFR Parts 30 and 40 that has received security orders requiring increased protection will all be exempt from 6 CFR Part 27. A facility that possesses only small radioactive sources for chemical process control equipment, gauges, and dials is not exempt. See 72 Fed. Reg. 17699. If the facility is not regulated by the Nuclear Regulatory Commission, select **No** and continue to fill out the Top-Screen.

## 2.6 Status under EPA's RMP Regulations

**Does the facility operate any U.S. Environmental Protection Agency Risk Management Plan (EPA RMP)-covered process(es) — Program 1, 2, or 3?** [Q:1.41-395] Click **Yes** or **No**.

Program 1, 2, and 3 processes are defined under the RMP rule and denote the relative level of risk from an accidental release associated with the process (and hence the facility). A Program 1, 2, or 3 designation establishes the regulatory requirements with which the facility/company must comply. For more information on EPA RMP, see 40 CFR 68.10(b), (c), and (d), or Chapter 2 of EPA's General Guidance for Risk Management Programs (40 CFR 68). Additional information can be found at <http://www.epa.gov/emergencies/content/rmp/index.htm>.

# 3.0 Petroleum Refineries

The following refinery-specific questions must be answered if the facility type selected in Question 1.1-65 was **Petroleum Refining**. The CSAT system will skip this group of questions for all other facility types. After completion of the petroleum-refinery-specific questions, a series of standard questions will be asked about chemicals that may be present at a facility at or above their STQs.

These questions may assist the Department in identifying those chemicals and facilities that may be critical to Government Mission and National Economy. These questions may inform DHS as to the potential a facility could have to critical Government Mission and National Economy impacts.

## 3.1 Refinery Capacity

**Typical Operating Capacity.** [Q:1.5-386] Although referred to as "Operating" capacity in the Top Screen, enter the production capacity of the refinery in barrels per day. The production capacity, also known as the nameplate capacity, is the product output under conditions optimized for maximum quantity for the production facility, as demonstrated by one or more test-runs. Do not use commas when entering the numbers.

**Maximum Design Capacity.** [Q:1.5-387] Enter the design capacity, or theoretically calculated product output, of the refinery in barrels per day. The design capacity of an operable petroleum refinery is





expressed in terms of barrels per day of crude capacity, cracking capacity, desulphurization, or amounts of products by grade. Do not use commas when entering the numbers.

The throughput capacity of an operable petroleum refinery is expressed in terms of barrels per day of crude capacity, cracking capacity, desulphurization, or amounts of products by grade. In most cases, simply enter the number of barrels per day of crude oil processed into more refined products.

**Refinery Crude Sources.** This question asks for the source(s) of the crude oil that is refined at the facility. Enter the percentage of crude that arrives by:

- Ship/barge [Q:1.5-388]
- Pipeline [Q:1.5-389]
- Strategic Petroleum Reserve (SPR) [Q:1.5-390]
- Rail [Q:1.5-391]
- Truck [Q:1.5-392]

For each of the crude oil sources listed, enter the typical contribution as a percentage of the total barrels per day (0 to 100). Do not use commas or percent signs when entering the numbers. If a facility does not receive crude oil from a source on the list, enter a zero in the field.

**Regional Market Share.** For each product listed, determine the facility's percentage share of the regional market and the region to which it is supplied. If the refinery does not supply to a listed market, leave the field blank.

- Gasoline [Q:1.51-655]
- Diesel [Q:1.5-657]
- Jet fuel/kerosene [Q:1.5-659]
- LPG [Q:1.5-661]
- Home heating oil [Q:1.5-663]

In identifying the region that the facility supplies, facilities should include states or areas of the US (e.g., Northern California) to which the refinery ships its products.

## 3.2 Airport Fuels Supplier

If a refinery is a supplier to a major metropolitan airport [Q:1.52-374], choose **Yes** and enter the name of the airport(s). [Q:1.52-375] Then enter the facility's percentage of total deliveries of all the gasoline and/or jet fuel/kerosene supplied to the airport(s) from all sources. [Q:1.52-376, 378] Rows can be added if the refinery is a supplier to more than one major metropolitan airport.

A major metropolitan airport is an international airport or other airport serving a major urban area. General aviation, military, and other airports/bases are not considered major airports for the purposes of this question.



### 3.3 Military Installation Supplier

If a refinery is a direct supplier to a military installation [Q:1.54-380], choose **Yes** and enter the name of the military installation(s). For each military installation identified, enter the refinery's percentage share (0 to 100) of total deliveries of gasoline, diesel, and/or aviation fuel supplied to the installation from all sources. Rows can be added if a refinery is a supplier to more than one military installation. [Q:1.55-381 to Q:1.55-384] Enter a zero if the refinery does not supply that product. Do not leave the field blank.

At this point in the Top-Screen, a facility will be prompted to answer questions regarding DHS COI in 6 CFR Part 27 Appendix A. These include release-toxic COI, release-flammable COI, and release-explosive COI; theft/diversion-explosive COI and theft/diversion improvised explosive device precursor COI; theft/diversion-weapons of mass effect COI; theft/diversion-chemical weapon COI and chemical weapons precursor COI; and sabotage/contamination COI. For instructions on answering these questions, refer to Section 5.0.



## 4.0 Liquefied Natural Gas (LNG) Storage Facilities

The following LNG-specific questions must be answered by a facility if a facility chose **LNG Storage Facility** as the facility type in Question 1.1-65. If this facility designation is not applicable, do not complete this section. After completion of the LNG-storage-specific questions, the facility must complete the remainder of the Top-Screen questionnaire, including Section 5 of the Top-Screen.

These questions may assist the Department in identifying those chemicals and facilities that may be critical to critical Government Mission and National Economy impacts.

### 4.1 LNG Capacity

Enter the **LNG storage capacity** [Q:1.6-618] for the facility in cubic meters. If there are multiple storage tanks at the facility, enter the total capacity of all tanks. For example, if there are three 100,000-m<sup>3</sup> LNG storage tanks at the facility, then “300000” should be entered. Do not use commas when entering the numbers.

Enter the **regasification rate** (billion cubic feet per day).[Q:1.6-619] Report the annual average. Do not use commas when entering the data.

The regasification rate refers to the conversion of LNG stored as a liquid into a vapor for transport to users and is specific to the unit or facility. Check with the facility's Operations Department to determine the rate for the facility or process unit.

Enter the name of the **natural gas pipeline system(s)** [Q:1.6-620] the facility feeds. This should be the main tie-in point for natural gas from this facility.

### 4.2 LNG Exclusion Zone

Indicate whether this facility is sited according to Subpart B of the 49 CFR 193 (Liquefied Natural Gas: Federal Safety Standards) exclusion zone requirements [Q: 1.92-667] for thermal radiation and flammable vapor dispersion. If **No**, click the **Next** button and enter the reason why the facility was exempted from the regulation in the text field on the next screen. [Q: 1.91-669]



### What Is an Exclusion Zone?

An exclusion zone is an area surrounding an LNG facility in which an operator or government agency legally controls all activities in accordance with 49 CFR §193.2057 and 49 CFR §193.2059 for as long as a facility is in operation. These requirements are designed to prevent a flammable vapor cloud associated with an LNG spill from reaching a property line or to prevent the thermal radiation from ignition of vapors to exceed specified levels. These siting requirements are provisions to minimize the possibility of the damaging side effects of fire reaching beyond a property line. 49 CFR Part 193 incorporates National Fire Protection Association (NFPA) 59A (Standard for the Production, Storage, and Handling of Liquefied Natural Gas) by reference. For a copy of 49 CFR Part 193, go to [http://www.access.gpo.gov/nara/cfr/waisidx\\_06/49cfr193\\_06.html](http://www.access.gpo.gov/nara/cfr/waisidx_06/49cfr193_06.html).

## 4.3 LNG Exclusion Zone Details

Provide the distance (in feet) of the 5kW/m<sup>2</sup> **thermal radiation zone** using the 49 CFR Part 193 siting requirements (§193.2057). [Q:1.93-670]

Provide the distance (in feet) to **one-half the Lower Flammability Limit** (½ LFL) using the 49 CFR Part 193 siting requirements (§193.2059). [Q:1.93-671]

At this point in the Top-Screen, a facility will be prompted to answer questions regarding DHS Chemicals of Interest in 6 CFR Part 27 Appendix A. For instructions on answering these questions, refer to Section 5.0.



# 5.0 Chemical Manufacturing, Processing, Use, Storage, or Distribution<sup>6</sup>

All nonexempt facilities are required to answer the chemical-specific questions. For petroleum refineries and LNG storage facilities, these questions will appear after a facility answers the petroleum refinery and LNG storage questions.

The following terms are applicable throughout Section 5.0.

## (1) Screening Threshold Quantity (STQ):

The STQ is the quantity of a chemical of interest, upon which a facility's obligation to complete and submit the CSAT Top-Screen under 6 CFR 27.200(b)(2) is based. STQs are listed in Appendix A to 6 CFR Part 27. Counting provisions associated with STQs are located in the regulatory text, including 6 CFR §§ 27.203 and 27.204. The COI and STQs are also shown in the lists presented in the Top-Screen.

## (2) Minimum Concentration:

DHS has assigned a Minimum concentration provision to each chemical of interest in Appendix A. The Minimum concentration for each Appendix A COI is one of the following:

**Specific Percentage (1.00-50%):** If a specific percentage appears in the Minimum concentration column for a COI, a facility must count toward the STQ for that COI all quantities of that chemical that meet or exceed the listed minimum concentration amount.

**A Commercial Grade (ACG):** ACG is defined in §27.105 as "any quality or concentration of a chemical of interest offered for commercial sale that a facility uses, stores, manufactures, or ships. Appendix A chemicals are manufactured mainly in the chemical industry. However, they are used in the chemical as well as various other industries such as the automotive, agricultural, consumer products, pharmaceutical, and paints and coatings industries. These industries use Appendix A chemicals to produce commercial and consumer goods, such as paint, crop protection, detergents, and computers. Appendix A COI are thus manufactured in various commercial grades to satisfy the needs of diverse industries. For COI with a minimum concentration of ACG, a facility must count all commercial grades of such COI toward the STQ.

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<sup>6</sup> A facility has an obligation to complete a Top-Screen if the facility possesses any of the chemicals of interest at or above the listed STQs in Appendix A. See 6 CFR § 27.200(b)(2). Possession may include manufacture, use, storage, or distribution of chemicals of interest.



CUM 100g: A facility shall count any amount and concentration of COI with a minimum concentration of CUM 100g toward the cumulative STQ of 100 grams. For example, a facility that possesses isopropylphosphonyl difluoride and ethyl phosphonyl difluoride must count the total amount in any concentration of each COI toward the single cumulative STQ of 100 grams.

### (3) Article:

Pursuant to 6 CFR § 27.203(a)(6), in calculating whether a facility possesses a chemical of interest that meets the STQ for any security issue, a facility need not include chemicals of interest contained in articles, as defined in 40 CFR § 68.3. As defined in EPA's RMP regulation, an "article" is a manufactured item formed to a specific shape or design that has end use functions dependent on the shape or design and that does not release or result in exposure to a regulated substance under normal use or processing. See 40 CFR § 68.3

- Example: A facility need not count the quantity of vinylidene chloride contained in flexible plastic food wrap toward the facility's STQ of vinylidene chloride, because the flexible plastic food wrap is an article.
- Example: A facility that only possesses paint need not count the COI, such as aluminum powder, contained in **that** paint, because the paint is an article. However, a facility that manufactures paint (and possesses a commercial grade of **aluminum powder** with a minimum concentration of ACG to manufacture the paint) must count all commercial grades of the aluminum powder it possesses toward the STQ of 100 pounds.
- Example: A facility that possesses toothpaste containing potassium nitrate need not count that potassium nitrate toward its STQ for potassium nitrate, because the toothpaste is an article. However, a facility that purchases a commercial grade of potassium nitrate in order to manufacture toothpaste must count it towards its STQ for potassium nitrate.

The following terms apply **only to release COI in sections 5.1, 5.2, and 5.3:**

### (1) Chemicals of Interest and Transportation Containers:

In calculating either the Total On-site Quantity or the Area of Highest Quantity of a release COI, a facility must include COI in transportation containers used for storage not incident to transportation, including transportation containers connected to equipment at a facility for loading or unloading and transportation containers detached from motive power that delivered the container to the facility. Examples of transportation containers with COI that facilities should count toward their STQ include:

- A tank car containing COI that is attached to processing units;
- A tank car containing COI that is detached from the locomotive that had delivered the tank car to the facility.

### (2) Administrative Controls:

After the facility does its STQ calculation and determines that the facility possesses chemicals of interest in an amount that meets or exceeds the STQ, the facility must calculate the Total On-Site Quantity and Area of Highest Quantity (AHQ) of its chemicals of interest. If a facility uses documented administrative controls that limit the maximum quantity in a vessel (e.g., ASME fill capacity restrictions), this information can be



used to compile the Total On-site Quantity and Area of Highest Quantity (AHQ). If no administrative controls are in place, a facility must enter the total capacity of all vessels for purposes of reporting the Total On-site Quantity and AHQ.

## 5.1 Release-Toxic COI<sup>7</sup>

**Release-Toxic COI Present at a Facility.** [Q:2.0-121] Does the facility manufacture, process, use, store, or distribute any of the release-toxic COI at or above the screening threshold quantity? If a facility currently possesses any of the listed chemicals or possessed them within the past 60 days, in an amount at or above the applicable STQs, the facility should select the chemical(s) from the list (see Table 5-1)<sup>8</sup>. Some chemicals have more than one STQ. The default settings indicate that the chemical is **not** present at a facility; thus, a facility must affirmatively change the answer for each chemical it possesses or possessed at the facility within the past 60 days.

**Table 5-1. Summary of General Rules for Release-Toxic COI at 6 CFR Part 27**

Security Issue	STQ	COI to Exclude	COI to Include	Minimum Concentration
Release-Toxic COI	500-20,000 lbs	27.203(a) 27.203(b)(2)	27.203(b)(1) 27.204(a)(1)	27.204(a)(1)

<sup>7</sup> DHS identifies release-toxic COI as those with the potential to create a toxic cloud that would affect populations within and beyond a facility if intentionally released.

<sup>8</sup> If a facility later comes into possession of a COI on Appendix A at or above any of the applicable STQ(s), the facility must complete and submit a CSAT Top-Screen to DHS within 60 calendar days of the date the facility comes into possession of the COI in such an amount. 6 CFR § 27.210(a)(1)(i). See the preamble to the Appendix A Final Rule for a more complete discussion of how to handle a facility's subsequent possession of COI at or above the listed STQs.



**Release Toxic Chemicals of Interest**

The presence or amount of a particular chemical is not the sole factor in determining whether a facility presents a high level of security risk. This information informs the subsequent parts of the Department's assessment. The Department will use its best judgment and all available information in determining whether a facility presents a high level of security risk.

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**Do you manufacture, process, use, store, or distribute any of the following release toxic chemicals of interest (COI) at or above the screening threshold quantity at your facility?**

Check "Yes" if the facility either currently possesses or possessed within the past 60 days the COI at or above the screening threshold quantity.

*(The default settings on this list indicate that the chemicals are NOT currently present on site nor have been onsite within the past 60 days. At the end of the list, you must indicate that these settings have been changed as applicable to the facility.)*

These chemicals were determined by the US Department of Homeland Security to be a potential security risk at "high risk chemical facilities" as defined in Section 550 the Department of Homeland Security Act of 2007. A facility should indicate which COI it either currently possesses or possessed within the past 60 days at or above the screening threshold quantity.

Chemical Name	CAS#	Min. Conc.	Screening Threshold Quantity	Do you manufacture, process, use, store, or distribute any of the following release toxic chemicals of interest (COI) <u>at or above the screening threshold quantity</u> at your facility?
Acrolein [2-Propenal or Acrylaldehyde]	107-02-8	1.00%	5,000 lbs	<input type="radio"/> Yes <input checked="" type="radio"/> No
Allyl alcohol [2-Propen-1-ol]	107-18-6	1.00%	15,000 lbs	<input type="radio"/> Yes <input checked="" type="radio"/> No

[Q.2.0-121]

**Figure 5-1. Release-Toxic Chemicals of Interest**

To calculate whether a facility possesses any of the listed release-toxic COI at or above the STQ, a facility **shall only include COI:**

- In a vessel as defined in 40 CFR § 68.3 — any reactor, tank, drum, barrel, cylinder, vat, kettle, boiler, pipe, hose, or other container;
- In an underground storage facility — For purposes of 6 CFR Part 27, DHS defines an underground storage facility as a below-ground storage location for chemicals of interest or mixtures of chemicals of interest (e.g., petroleum-based materials) that are placed in a storage location (until needed) after having been extracted from the ground and refined or processed. Such facilities include, but are not limited to depleted reservoirs in oil and/or oil gas fields, aquifers, and salt cavern formations;
- Stored in a magazine as defined in 27 CFR § 555.11;
- In transportation containers used for storage not incident to transportation, including transportation containers connected to equipment at a facility for loading or unloading and transportation containers detached from the mode of power that delivered the container to the facility;
- Present as process intermediates, by-products, or materials produced incidental to the production of a product if they exist at any given time;





- In natural gas or liquefied natural gas stored in peak shaving facilities; and/or
- In gasoline, diesel, kerosene or jet fuel (including fuels that have flammability hazard ratings of 1, 2, 3, or 4, as determined by using the National Fire Protection Association's (NFPA) Standard System for the Identification of the Hazards of Materials for Emergency Response) stored in aboveground tank farms, including tank farms that are part of pipeline systems.

To calculate whether a facility possesses any of the listed release-toxic COI at or above the STQ, a facility **need not include COI:**

- Used as a structural component (e.g., a facility need not include a chemical of interest embedded in foam insulation toward the facility's STQ for that chemical);
- Used as products for routine janitorial maintenance;
- Contained in food, drugs, cosmetics, or other personal items used by employees;
- In process water or non-contact cooling water drawn from environment or municipal sources;
- In air as compressed air or as part of combustion;
- Contained in articles, as defined in 40 CFR § 68.3;
- In solid waste (including hazardous waste) regulated under the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.*, except for the waste described in 40 CFR § 261.33;
- In naturally occurring hydrocarbon mixtures prior to entry of the mixture into a natural gas processing plant or a petroleum refining process unit (e.g., condensate, crude oil, field gas, and produced water as defined by 40 CFR § 68.3); or
- In a laboratory at the facility under the supervision of a technically qualified individual as defined in 40 CFR § 720.3. This exemption, however, does not apply to specialty chemical production; manufacture, processing, or use of substances in pilot plant scale operations; or activities, including research and development, involving chemicals of interest outside the laboratory.

### MINIMUM CONCENTRATION

In determining whether a facility possesses COI that meet or exceed the STQ, the facility shall consider the release-toxic minimum concentration provision in 6 CFR §27.204(a)(1).

- If a release-toxic COI is present in a mixture, and the concentration of the chemical is equal to or greater than one percent (1%) by weight, a facility shall count the amount of the release-toxic COI in the mixture toward the STQ. For example, if a facility has 500 pounds of a toxic mixture containing five percent (5%) acrolein, the facility should count five percent (5%) of the weight of the mixture, or 25 pounds of acrolein, toward the STQ of 5,000 pounds.
- If a release-toxic COI is present in a mixture, and the concentration of the chemical is less than one percent (1%) by weight of the mixture, the facility need not count the amount of that chemical in the mixture in determining whether the facility possesses the STQ.
- Except for oleum, if the concentration of the chemical of interest in the mixture is one percent (1%) or greater by weight, but the facility can demonstrate that the partial pressure of the regulated substance in the mixture (solution) under handling or storage conditions in any portion of the process is less than 10 millimeters of mercury (mm Hg), the amount of the substance in the mixture in that portion of the vessel need not be considered when determining the STQ. The facility shall document this partial pressure measurement or estimate.



This approach to release-toxics is consistent with EPA's RMP regulation.

Once the facility has selected all COI that the facility possesses at or above the STQ from the look-up table, select **Yes** to affirm that the facility has diligently reviewed the list. [Q2.0-631]

The list above has been reviewed and all chemicals of interest that the facility either currently possesses or possessed within the past 60 days at or above the screening threshold quantity have been indicated by selecting "Yes."

[Q:2.0-631]

Yes

No

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Figure 5-2. Chemical of Interest Review Affirmation

**Topography Near the Facility.** Indicate the **topography** [Q:2.1-122] representative of the area in which a facility is located. For release-toxic COI evaluated using RMP\*Comp (section 5.1.1), topography is required in order to determine the Distance of Concern.

The characteristics of the topography surrounding a facility will have an effect on the dispersion of a toxic gas cloud. Uneven or rough terrain causes fluctuations in the wind profile and more turbulence. This contributes to a more rapid dispersion and shorter Distance of Concern. The Top-Screen uses the same definition of *urban* and *rural* as EPA.

**Urban** means that there are many obstacles (e.g., buildings, trees) in the immediate area. An area that may be away from a populated area, but has hills, trees, or canyon walls may be considered urban (not open).

**Rural** means that there are few or no buildings in the immediate area and the terrain is flat and unobstructed. An area with few buildings or trees should be considered rural (open).

If a facility is covered by RMP, the selection of urban or rural under CFATS should be consistent with the facility's current RMP on file with EPA. If a facility is not covered by RMP and the terrain surrounding the facility differs depending on the approach to the facility, select the topography that is most representative of the facility's location. If still unsure, select **Rural**.

### 5.1.1 Reporting the Total On-site Quantity and Distance of Concern for Release-Toxic Chemicals of Interest (using RMP\*Comp).

After all release-toxic COI at a facility in quantities at or above the STQ have been identified, they will be displayed with their CAS number <sup>10</sup> in a list on the next screen. A facility will be asked to provide:

<sup>10</sup> A Chemical Abstracts Service (CAS) Registry number is a unique numeric identifier for chemical compounds, polymers, mixtures and alloys assigned by the Chemical Abstract Service to every chemical that has been described in open literature. Referring to chemicals by CAS number helps avoid confusion among different nomenclature systems and conventions.



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- The Total On-site Quantity and Distance of Concern (see Figure 5-3);
- The amount in the Area of Highest Quantity and Distance of Concern; and
- Whether the Toxic COI is stored underground.

Enter the total on-site quantity of the release toxic COI in pounds. Enter the distance of concern reported by RMP\*Comp in miles.

The total on-site quantity is the highest amount that the facility either currently possesses or possessed within the past 60 days. Round the quantity to two significant digits (e.g., round 247500 pounds to 250000 pounds, and round 7625 pounds to 7600 pounds). Do not use commas when entering data.

The Distance of Concern that should be reported is the downwind distance calculated using RMP\*Comp for total on-site quantity of the regulated chemical, using additional process conditions for this chemical. Report all distances shorter than 0.1 mile as 0.1 mile, and all distances 25 miles or longer as 25 miles. (RMP\*Comp can be downloaded from <http://yosemite.epa.gov/swser/ceppoweb.nsf/content/comp-dwn.htm>)

Under CFATS, a COI is considered stored underground if it is physically buried in the ground (i.e. basement level storage is not considered underground). If any amount of the COI is stored underground the facility must check yes, and will then be required to answer a series of specific questions on underground storage.

Chemical Name	CAS#	Min. Conc.	Screening Threshold Quantity	Total On-site Quantity (pounds)	Distance of Concern (miles)	Is the Toxic COI Stored Underground?
Acrolein [2-Propenal or Acrylaldehyde]	107-02-8	1.00%	5,000 lbs	<input type="text"/>	<input type="text"/>	<input type="radio"/> Yes <input type="radio"/> No
Allyl alcohol [2-Propen-1-ol]	107-18-6	1.00%	15,000 lbs	<input type="text"/>	<input type="text"/>	<input type="radio"/> Yes <input type="radio"/> No
Ammonia (anhydrous)	7664-41-7	1.00%	10,000 lbs	<input type="text"/>	<input type="text"/>	<input type="radio"/> Yes <input type="radio"/> No

**Figure 5-3. Total On-site Quantity, Distance of Concern, and Underground Storage**

First, enter the maximum **Total On-site Quantity** [Q:2.1-124] of each release-toxic COI in pounds that a facility possessed at any time within the past 60 days. This is the single highest amount of each release-toxic COI currently present on-site or within the past 60 days, not the aggregate amount within the past 60 days. Compute the total On-site Quantity using the same provisions a facility shall consider when determining whether it possesses a COI at or above the STQ (see Section 5.1 above).

The records prepared by a facility to comply with other programs, such as Emergency Planning and Community Right-to-Know Act (EPCRA) and RMP, contain information that may be useful in compiling the Total On-site Quantity of a given COI consistent with Section 5.1. However, a facility shall compile the Total On-site Quantity of a COI under CFATS irrespective of the interconnection of processes and equipment, or the proximity of different storage containers or locations, which are considerations in RMP as well as in Occupational Safety and Health Administration's (OSHA) Process Safety Management (PSM). Interconnection is not a consideration for compiling the Total On-site Quantity of a COI under CFATS.

Do not use commas when reporting quantities. Round to two significant digits and report quantities as follows (similar to the way quantities are rounded and reported in RMP):

- 5,333 pounds should be reported as 5300 pounds.
- 107,899 pounds should be reported as 110000 pounds.
- 2,128,000 pounds should be reported as 2100000 pounds.

Facilities may refer to Attachment A of this document for worksheets and an example of how to assemble information for reporting Total On-site Quantity.



**Distance of Concern.** For each listed release-toxic COI, the **Distance of Concern** [Q:2.1-126] must be reported. A facility must report all distances shorter than 0.1 mile as 0.1 mile, and all distances 25 miles or greater as 25 miles.

The Distance of Concern for purposes of the Top-Screen is the downwind distance calculated using RMP\*Comp for the COI's Total On-site Quantity and additional process conditions for this chemical. Facilities can download RMP\*Comp from the EPA website at [http://www.epa.gov/emergencies/content/rmp/rmp\\_comp.htm](http://www.epa.gov/emergencies/content/rmp/rmp_comp.htm). For more information about RMP\*Comp, see the EPA's Risk Management Program Guidance Consequence Analysis document at <http://www.epa.gov/ceppo/pubs/ammonia/achap-04.pdf>.

Use the following instructions for calculating the Distance of Concern:

**Step 1 — Open RMP\*Comp.** When RMP\*Comp is opened, a welcome screen with some background information on the tool is displayed. Click the **Next** button to continue.

**Step 2 — Choose the chemical to be analyzed.** On the next screen, verify that the “Single Chemical” option is selected and then click on the chemical to be evaluated. Use the scroll bar to the left of the chemical name, CAS number, and Threat (indication of toxic or flammable properties as defined under EPA RMP\*Comp). Click the **Next** button to continue.

**Step 3 — Type of Scenario to Analyze.** For the Top-Screen, all toxics must be analyzed using the “Worst-case” scenario type (Figure 5-4). Select **Worst-case** and click the **Next** button to continue.

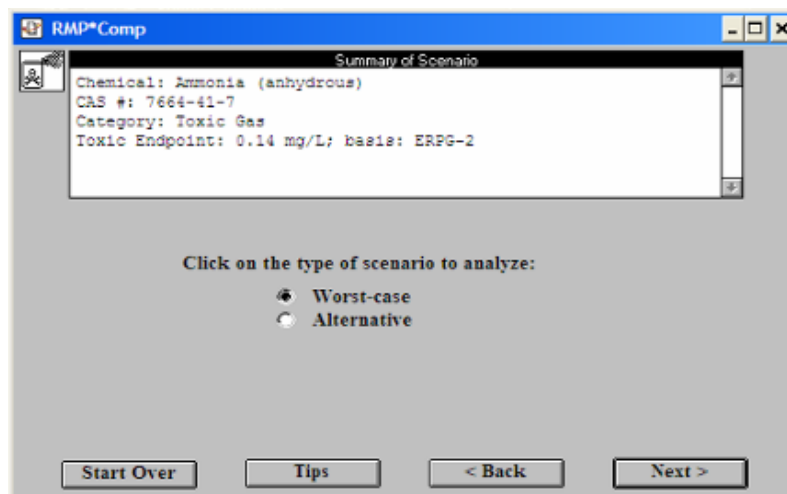


Figure 5-4. RMP\*Comp Scenario Type Selection

**Step 4 — Chemical Phase.** Depending on how the chemical is stored and processed, it can be a gas, a gas stored as a liquid (under refrigeration or pressure), or a liquid. If the chemical selected for evaluation is a toxic gas, a facility must provide additional information into RMP\*Comp to determine if the chemical is “unliquefied” or “liquefied.” Toxic gases include all listed toxic substances that are gases at ambient temperature (25° C, 77° F).



- Select **Unliquefied** if the chemical is used or stored as a gas under normal operating conditions for your facility.
- Select **Liquefied** if the chemical is used or stored as a liquid under normal operating conditions for your facility.

If **Liquefied** is selected, the storage conditions need to be specified. The choices in RMP\*Comp are **Liquefied by refrigeration** and **Liquefied by pressure**. Select the appropriate option and click **Next** to continue.

If the chemical selected is a toxic liquid, then the previous screen will not be shown in RMP\*Comp. For toxic liquids, a facility needs to provide only the operating temperature. The operating temperature for a toxic liquid is requested on the same screen as topography (see Step 6, below).

Because one chemical may exist in different physical states as it is processed and/or stored on-site, the physical state selected should be the state that is most representative of the COI while at a facility, or the state that results in the greatest Distance of Concern using RMP\*Comp.

**Step 5 — Quantity Released.** Enter the Total On-site Quantity of the listed toxic chemical (see Figure 5-5). This is the same quantity that was entered in response to the Top-Screen question regarding Total On-site Quantity. It must be entered here for RMP\*Comp to calculate the Distance of Concern.

Documented administrative controls that limit the maximum quantity in tanks and vessels can be accounted for in the estimate of the Total On-site Quantity. If no administrative controls are in place, the total capacity of all vessels, tanks, and piping should be entered. Click **Next** to continue.

RMP\*Comp Summary of Scenario

Chemical: Ammonia (anhydrous)  
CAS #: 7664-41-7  
Category: Toxic Gas  
Scenario: Worst-case  
Liquefied by refrigeration  
Toxic Endpoint: 0.14 mg/L; basis: ERPG-2

Type in the quantity released:  
10000 pounds

The quantity that you type in should be the largest quantity of the substance present in a single vessel or pipe at your facility, or else a smaller vessel closer to your facility boundary or in which the substance is at elevated temperature or pressure. When determining the maximum quantity, you may take into account administrative controls that limit the maximum quantity (e.g., a procedural limit of 75% full on all tanks).

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Figure 5-5. RMP\*Comp: Quantity Released

**Step 6 — Topography.** Enter the same topography description that was used to answer the Top-Screen questions about topography described above. RMP\*Comp requires this information to be entered to calculate the Distance of Concern. Click **Next** to continue.

**Step 7 — Mitigation Measures.** RMP\*Comp collects information on passive mitigation systems. These mitigation measures may include release into dikes, release into buildings, and release in an enclosed space.



Because the Top-Screen is evaluating an intentional release rather than an accidental release, passive mitigation systems should not be included in the determination of the Distance of Concern. **Do not select any option** and click *Next* to continue.

**Step 8 — Estimated Distance of Concern.** Once all of the chemical and quantity-specific information is entered, RMP\*Comp produces an Estimated Distance to Toxic Endpoint. This distance (in miles) is what is entered into the Top-Screen as the Distance of Concern, if applicable. A facility must report all distances shorter than 0.1 mile as 0.1 mile and all distances 25 miles or farther as 25 miles.

For the example shown in Figure 5-6 it can be seen that 10,000 pounds of anhydrous ammonia liquefied by refrigeration at a facility with urban terrain results in a Distance of Concern of 0.6 miles.

Repeat these steps using RMP\*Comp for each listed release-toxic COI for which the Top-Screen requests a Distance of Concern.

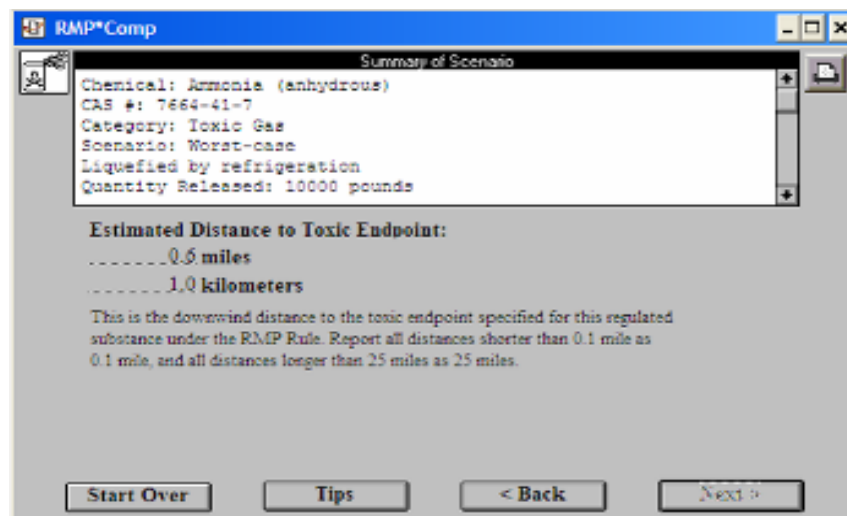


Figure 5-6. RMP\*Comp Distance of Concern Summary Page

**Is the Release-Toxic COI Stored Underground?** For each listed release-toxic COI, the facility should answer the question **Is the Release-Toxic COI Stored Underground?** [Q:2.1-7958] If any amount of the COI is stored underground, the facility must check yes, and will then be directed to a series of specific questions on underground storage. A COI is typically considered stored underground if it is stored in a containment vessel (e.g. a tank) that is physically buried in the ground (i.e. basement level storage would not be considered underground).

### 5.1.2 Reporting the Area of Highest Quantity and Distance of Concern for Release-Toxic COI

After all quantities of the release-toxic COI at a facility have been identified, and the sums have been determined to be at or above the STQ, they will be displayed with their CAS numbers in a list on the next screen (see Figure 5.7). Enter in pounds the **total maximum amount within the Area of Highest Quantity (AHQ) for each release-toxic COI** [Q:2.2-2792] that a facility possesses or has possessed within the past



60 days. **The Total On-site Quantity (answered in the previous question) may be different from the total amount in the AHQ.** If release-toxic COI is found in only one location at a facility, enter the same amount as reported for Total On-site Quantity.

The AHQ is defined as an area within a radius of 170 feet in which the greatest amount of the release-toxic COI is located. The same counting rules that a facility applies in determining whether it meets or exceeds the STQ for release-toxic chemicals COI, also apply when compiling the AHQ.

Please refer to Attachment A of this document for worksheets and an example of how to assemble information for reporting the AHQ.

**Distance of Concern for the Amount Located in the Area of Highest Quantity.** [Q:2.2-2793] For each listed release-toxic COI, the Distance of Concern for the AHQ is the downwind distance calculated using RMP\*Comp. If the amount of COI in the AHQ is different than the Total On-site Quantity, calculate the Distance of Concern using the new amount by following the instructions in Section 5.1.1 for calculating Distance of Concern with RMP\*Comp. A facility should report all distances shorter than 0.1 mile as 0.1 mile and distances 25 miles or greater as 25 miles.

**Enter the quantity of the release toxic COI in the Area of Highest Quantity in pounds. Enter the distance of concern reported by RMP\*Comp for each AHQ in miles.**

The Area of Highest Quantity (AHQ) is defined as an on-site area, with a radius of 170 feet, where the greatest amount of the release toxic COI is either currently present or has been present at any one time within the past 60 days. This amount may differ from the total on-site quantity. **Round the quantity to two significant digits** (e.g., round 247500 lbs. to 250000 lbs., and round 7625 lbs. to 7600 lbs.) Do not use commas when entering data.

Chemical Name	CAS#	Min. Conc.	Screening Threshold Quantity	Quantity in AHQ (pounds)	Distance of Concern for AHQ (miles)
Acrolein [2-Propenal or Acrylaldehyde]	107-02-8	1.00%	5,000 lbs	[Q:2.2-2792] <input type="text"/>	[Q:2.2-2793] <input type="text"/>
Allyl alcohol [2-Propen-1-ol]	107-18-6	1.00%	15,000 lbs	<input type="text"/>	<input type="text"/>
Ammonia (anhydrous)	7664-41-7	1.00%	10,000 lbs	<input type="text"/>	<input type="text"/>
Sulfur trioxide	7446-11-9	1.00%	10,000 lbs	<input type="text"/>	<input type="text"/>

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Figure 5-7. AHQ and AHQ Distance of Concern

### 5.1.3 Underground Storage for Release-Toxic COI

For each release-toxic COI that is stored underground, the facility should answer the following questions:

- **Number of Underground Tanks:** Enter the number of underground storage tanks. [Q:2.3-7933]



- **Collective Capacity of Underground Tanks (pounds):** Enter the collective capacity of the underground storage tanks (in pounds). [Q:2.3-7934]
- **Distance to Nearest Infrastructure (feet):** Enter the distance from the underground tank(s) to the nearest infrastructure (in feet) that is not associated with the underground storage operation. Infrastructure may include buildings, bridges, or other above ground structures or pipelines. [Q:2.3-7938]

On the next screen, for each release-toxic COI that is stored underground, answer the following questions:

- **Pressure Rating of Tank(s) (psig):** Enter the pressure rating of tank(s) (in psig). [Q:2.4-7954]
- **Tank(s) Double Walled?:** Is/Are the tank(s) double walled? Answer **Yes** or **No**. [Q:2.4-7955]
- **Depth of Underground Tanks (feet):** Enter depth (from ground surface to tank top) of underground tanks (in feet). [Q:2.4-7956]
- **Underground Storage Type:** Select buried or below grade. Buried storage is set in the ground and covered by soil. Below grade storage is set entirely below the surface of the ground in a storage pit but is not covered by soil. [Q:2.4-12760]

For each release-toxic COI that is stored below grade answer the following question:

- **Below Grade Containment Covered?** If the below grade containment area is covered by enclosure or other protective structure, answer **Yes**. If the below grade containment is open to atmospheric conditions, answer **No**. [Q:2.4-12762]

## 5.2 Release-Flammable Chemicals of Interest<sup>9</sup>

**Release-Flammable COI Present at a Facility.** Does the facility manufacture, process, use, store, or distribute any of the release-flammables COI at or above the screening threshold quantity? If a facility currently possesses any of the listed chemicals or possessed them within the past 60 days, in an amount at or above the applicable STQs, the facility should select the chemical(s) from the list (see Table 5-2)<sup>8</sup>. Some chemicals have more than one STQ. The default settings indicate that the chemical is **not** present at the facility; thus, the facility must affirmatively change the answer for each chemical it possesses or possessed at or above the STQ at the facility within the past 60 days. Select all applicable chemicals from the look-up table and select **Yes** at the end to affirm that the facility has diligently reviewed the list. [Q:3.0-632]

Pursuant to 6 CFR § 27.200(a), the release-flammable chemicals section of the Top-Screen asks questions about release-flammable COI from Appendix A as well as questions about some fuels, such as diesel, that do not routinely contain Appendix A chemicals. If a facility is completing a Top-Screen because it possesses a release flammable COI, the facility must also provide information about these fuels that do and do not contain Appendix A release-flammable COI. A facility that possesses only fuel(s) must: 1) indicate the type of fuel it possesses; and 2) provide the total amount of the fuel it possesses at the facility. This facility need not select from the list of release-flammable COI any or all constituents of that fuel.

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<sup>11</sup> DHS identifies release-flammable COI as those with the potential to create an explosive cloud that would affect populations within and beyond the facility, if intentionally released.





EXAMPLE (for fuels that do not contain Appendix A COI): Diesel does not routinely contain any Appendix A chemicals of interest. A facility that possesses diesel need only select "Fuel: Diesel" and enter the total weight in pounds of diesel at the facility.

EXAMPLE (for fuels that contain Appendix A COI): Gasoline typically includes Appendix A chemicals of interest. A facility that possesses gasoline need only select "Fuel: Gasoline" and enter the total weight in pounds of gasoline at the facility. The facility should not select the constituents of its gasoline (e.g., butane) from the list of release-flammable COI in the Top-Screen.

Table 5.2. Summary of General Rules for Release-Flammable COI at 6 CFR Part 27

Security Issue	STQ	COI to Exclude	COI to Include	Minimum Concentration
Release-Flammable	10,000–60,000 lbs (RMP STQ except COI Propane)	27.203(a) 27.203(b)(2) 27.203(b)(3)	27.203(b)(1) 27.204(a)(2)	27.204(a)(2)

To calculate whether a facility possesses any of the listed release-flammable COI at or above the STQ, a facility **shall only include COI:**

- In a vessel as defined in 40 CFR § 68.3 — any reactor, tank, drum, barrel, cylinder, vat, kettle, boiler, pipe, hose, or other container;
- In an underground storage facility — For purposes of 6 CFR Part 27, DHS defines an underground storage facility as a below-ground storage location for chemicals of interest or mixtures of chemicals of interest (e.g., petroleum-based materials) that are placed in a storage location (until needed) after having been extracted from the ground and refined or processed. Such facilities include, but are not limited to depleted reservoirs in oil and/or oil gas fields, aquifers, and salt cavern formations;
- Stored in a magazine as defined in 27 CFR § 555.11;
- In transportation containers used for storage not incident to transportation, including transportation containers connected to equipment at a facility for loading or unloading and transportation containers detached from the mode of power that delivered the container to the facility;
- Present as process intermediates, by-products, or materials produced incidental to the production of a product if they exist at any given time;
- In natural gas or liquefied natural gas stored in peak shaving facilities; and/or
- In gasoline, diesel, kerosene or jet fuel (including fuels that have flammability hazard ratings of 1, 2, 3, or 4, as determined by using the National Fire Protection Association's (NFPA) Standard System for the Identification of the Hazards of Materials for Emergency Response) stored in aboveground tank farms, including tank farms that are part of pipeline systems.

A tank farm is an industrial facility for the storage of oil and/or petrochemical products and from which these products are transported to end users or further storage facilities. A tank farm typically has tankage, either aboveground or below grade, and gantries for discharge of products into road tankers or other vehicles or pipelines.



For purposes of applying this provision, the flammability hazard ratings are defined in NFPA 704: Standard System for the Identification of the Hazards of Materials for Emergency Response [2007 ed.].

To calculate whether a facility possesses any of the listed release-flammable COI at or above the STQ, a facility **need not include COI:**

- Used as a structural component (e.g., a facility need not include a chemical of interest embedded in foam insulation toward the facility's STQ for that chemical );
- Used as products for routine janitorial maintenance;
- Contained in food, drugs, cosmetics, or other personal items used by employees;
- In process water or non-contact cooling water drawn from environment or municipal sources;
- In air as compressed air or as part of combustion;
- Contained in articles, as defined in 40 CFR § 68.3;
- In solid waste (including hazardous waste) regulated under the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.* except for the waste described in 40 CFR § 261.33;
- In naturally occurring hydrocarbon mixtures prior to entry of the mixture into a natural gas processing plant or a petroleum refining process unit (e.g., condensate, crude oil, field gas, and produced water as defined by 40 CFR § 68.3); or
- In a laboratory at the facility under the supervision of a technically qualified individual as defined in 40 CFR § 720.3. This exemption, however, does not apply to specialty chemical production; manufacture, processing, or use of substances in pilot plant scale operations; or activities, including research and development, involving chemicals of interest outside the laboratory.

**Note:** Special provisions apply to the COI propane. The COI propane refers to products containing at least 87.5 percent of the chemical propane, as well as other release-flammable COI. The STQ for the COI propane is 60,000 pounds. Also, in calculating whether a facility possesses an amount that meets the STQ for the COI propane, a facility need not include tanks of 10,000 pounds or less (see 6 CFR § 27.203(b)(3)).

### MINIMUM CONCENTRATION

In determining whether a facility possesses COI that meet or exceed the STQ, a facility shall consider the release-flammable minimum concentration provision in 6 CFR §27.204(a)(2).

#### Release-Flammable Mixtures that are not Fuels

- If a release-flammable chemical of interest is present in a mixture in a concentration equal to or greater than one percent (1%) by weight of the mixture, and the mixture has a National Fire Protection Association (NFPA) flammability hazard rating of 1, 2, or 3, the facility need not count the mixture. **The facility need only count the amount of the release-flammable COI equal to or greater than one percent (1%).**



- If a release-flammable chemical of interest is present in a mixture in a concentration equal to or greater than one percent (1%) by weight of the mixture, and the mixture has a NFPA flammability hazard rating of 4, the facility must count the entire amount of the mixture. **The facility must count the entire amount of such a mixture whether it is stored in a below ground or aboveground tank farm.**

### Release-Flammable Mixtures that are Fuels

- If a release-flammable chemical of interest is present in gasoline, diesel, kerosene or jet fuel (including fuels that have flammability hazard ratings of NFPA 1, 2, 3, or 4) stored in an aboveground tank farm, including tank farms that are part of pipeline systems, in a concentration equal to or greater than one percent (1%) by weight of the mixture, the facility must indicate the type of fuel it possesses and provide the entire amount of the fuel.
- If the same release-flammable chemical of interest is present in a fuel stored in an aboveground tank farm, including tank farms that are a part of pipeline systems, in a concentration less than one percent (1%) by weight of the mixture, and the mixture has a NFPA flammability hazard rating of 1,2, 3 or 4, the facility need not account for the release-flammable COI or mixture.

The following examples illustrate the requirements for release-flammable COI and release-flammable mixtures that are fuels:

EXAMPLE: A facility that stores gasoline with a NFPA 2 flammability hazard rating below ground is not required to count this release-flammable mixture and fuel. Release-flammable mixtures with a NFPA flammability hazard rating of 1,2, or 3 only count at aboveground tank farms. See 6 CFR §§ 27.204(a)(2) and 27.203(b)(v).

EXAMPLE: A marketing terminal has an aboveground tank farm that stores 15,000 pounds of a release-flammable mixture that contains 2% of butane. The release-flammable mixture has a NFPA flammability hazard rating of 3. This facility must select "Fuel: Gasoline" from the release-flammable list, apply the entire amount of the release-flammable mixture, and submit a Top-Screen because it possesses an amount that exceeds the STQ of 10,000 pounds for the release-flammable mixture.

### 5.2.1 Reporting the Total Quantity of Release-Flammable COI at a Facility

After the facility identifies all of the release-flammable COI that the facility possesses at or above the STQ, the Top-Screen will display all of the release-flammable COI with their CAS numbers in a list. Enter the maximum **Total On-site Quantity** [Q:2.1-124] of each release-flammable COI in pounds that a facility possessed at any time within the past 60 days. This is the single highest amount of each release-flammable COI currently present on-site or within the past 60 days, not the aggregate amount within the past 60 days. Compute the total On-site Quantity using the same provisions a facility shall consider when determining whether it possesses a COI at or above the STQ (see Section 5.2 above).

The records prepared by a facility to comply with other programs, such as Emergency Planning and Community Right-to-Know Act (EPCRA) and RMP, contain information that may be useful in compiling the Total On-site Quantity of a given COI consistent with Section 5.2. However, a facility shall compile the



Total On-site Quantity of a COI under CFATS irrespective of the interconnection of processes and equipment, or the proximity of different storage containers or locations, which are considerations in RMP as well as in Occupational Safety and Health Administration's (OSHA) Process Safety Management (PSM). Interconnection is not a consideration for compiling the Total On-site Quantity of a COI under CFATS.

Do not use commas when reporting quantities. Round to two significant digits and report quantities as follows (similar to the way quantities are rounded and reported in RMP):

- 5,333 pounds should be reported as 5300 pounds.
- 107,899 pounds should be reported as 110000 pounds.
- 2,128,000 pounds should be reported as 2100000 pounds.

Please refer to Attachment A of this document for worksheets and an example of how to assemble information for reporting Total On-site Quantity.

### 5.2.2 Reporting the Quantity of Release-Flammable COI in the Area of Highest Quantity

Enter the **total maximum amount within the Area of Highest Quantity (AHQ)** for each release-flammable COI in pounds. [Q:3.1-2794] **The Total On-site Quantity (answered in the previous question) may be different from the total amount in the Area of Highest Quantity.** If the release-flammable COI is found in only one location at a facility, enter the same amount as reported for Total On-site Quantity.

The AHQ is defined as an area within a radius of 170 feet in which the greatest amount of the release-flammable COI is located. The same counting rules that a facility applies in determining whether it meets or exceeds the STQ for release-flammable COI, also apply when compiling the AHQ.

For release-flammables, the reported AHQ for a COI should include the release-flammable COI in addition to other release-flammable COI in adjacent process equipment, or several listed release-flammable COI within the 170-foot radius. All listed release-flammable COI released in an intentional event could contribute to a secondary flammable consequence, therefore, all listed release-flammables within 170 feet of the COI need to be evaluated when determining the AHQ and reported as an aggregate number, consistent with the counting provision in Section 5.2 and 6 CFR §27.203(b)(1). For example, a facility with a single flammable storage area (all within a 170-foot radius) with three COI — 70,000 pounds of COI propane, 50,000 pounds of butane, and 30,000 pounds of pentane — the same AHQ of 150,000 pounds would be reported for each flammable COI. The approach to compiling the AHQ for release-flammable COI is distinct from the approach used for release-toxic COI. Release-toxic COI are counted individually, regardless of their proximity.

Please refer to Attachment A of this document for worksheets and an example of how to assemble information for reporting AHQ.

For assistance in determining if a Top-Screen submission is required and how to complete the Top-Screen for release-flammable mixtures, fuels and/or the chemical or COI propane, please see the CFATS website or <http://edocket.access.gpo.gov/2008/pdf/08-1059.pdf>.



### 5.2.3 Underground Storage for Release-Flammable COI

**Is the Flammable COI Stored Underground?** For each listed release-flammable COI, the facility should answer the question **Is the Flammable COI Stored Underground?** [Q:3.1-7967]. If any amount of the COI is stored underground, the facility must choose **Yes**, and will then be directed to a series of specific questions on underground storage. Under CFATS, a COI is considered stored underground if it is stored in a containment vessel (e.g., a tank) that is physically buried in the ground, is stored in a containment vessel below grade, or is stored in cavern or non-cavern type containment. Basement level storage would not be considered underground if the containment vessels are portable.

### 5.2.4 Gasoline Specific Questions

Facilities that select Gasoline as a COI will be asked additional questions about storage.

**Aboveground storage.** [Q:3.11-13415] If the facility stores any gasoline in aboveground atmospheric tanks answer **Yes**, otherwise answer **No**.

Facilities that answer Yes will be directed to a series of specific questions on aboveground storage.

#### Gasoline Stored in Aboveground Atmospheric Tanks

For the questions in this section, round quantities to two significant digits (e.g., round 24750 gallons to 25000 gallons, and round 3625 feet to 3600 feet).

**Maximum Storage Capacity** [Q3.12-13416] What is the facility's maximum gasoline storage capacity (in gallons, based on design capacity) taking into consideration Federal, State, and local laws and regulations?

**Single Largest Storage Vessel** [Q3.12-13417] What is the facility's single largest gasoline storage vessel (in gallons, based on design capacity) taking into consideration Federal, State, and local laws and regulations?

**Shortest Distance to Offsite Business** [Q3.12-13418] What is the shortest distance (in feet) from a large gasoline storage tank to offsite businesses or retail areas where another company's employees or members of the public would be located? For purposes of this question, typically a "large storage tank" is defined as 30,000 gallons or greater (based on design capacity) taking into account Federal, State, and local laws and regulations, however enter the shortest distance from the largest gasoline storage tank at the facility.

**Shortest Distance to Offsite Residences** [Q3.12-13419] What is the shortest distance (in feet) from a large gasoline storage tank to offsite residences? For purposes of this question, typically a "large storage tank" is defined as 30,000 gallons or greater (based on design capacity) taking into account Federal, State, and local laws and regulations, however enter the shortest distance from the largest gasoline storage tank at the facility.

**Largest Population** [Q3.12-13420, Q3.12-13422, Q3.12-13423] What is your estimate of the largest population (either daytime or nighttime) other than onsite employees/contractors within 250, 500 and 1,000 feet from any large gasoline storage tank or containment area?

**What is the source or basis for this estimate?** [Q:3.12-13421] Provide an explanation of how the previous question's response was determined.



### 5.2.5 Underground Storage for Release-Flammable COI Detail

For each release-flammable COI that is stored underground the facility should answer the questions **Is the COI stored in bulk tanks?** [Q:3.2-12712] and **Is the COI stored in cavern/non-cavern type containment?** [Q:3.2-12713] Bulk tanks are cylindrical or spherical containers, typically of metal fabrication, and “cavern/non-cavern containment” refers to underground earth formations including aquifers, salt caverns and depleted reservoirs. If the answer to either question is **Yes**, the facility will then be directed to specific questions on bulk tanks or cavern/non-cavern storage.

For each release-flammable COI that is stored underground in bulk tanks, answer the following questions. Bulk tank storage can be for both below grade and physically buried tanks. The following questions regarding underground storage should only be answered about the amount of release-flammable COI stored underground:

- **Number of Underground Tanks:** Enter the number of underground storage tanks. [Q:3.3-7960]
- **Collective Capacity of Underground Tanks (pounds):** Enter the collective aggregate capacity of the underground storage tanks (in pounds). [Q:3.3-7961]
- **Distance to Nearest Infrastructure (feet):** Enter the distance from the underground tank(s) to the nearest infrastructure (in feet) that is not associated with the underground storage operation. Infrastructure may include buildings, bridges, or other above ground structures or pipelines. [Q:3.3-7962]

On the next screen, for each release-flammable COI that is stored underground in bulk tanks answer the following questions. The following questions regarding underground storage should only be answered about the amount of release-flammable COI stored underground:

- **Pressure Rating of Tank(s) (psig):** Enter the pressure rating of tank(s) (in psig). [Q:3.4-7964]
- **Tank(s) Double Walled?:** Is/Are the tank(s) double walled? Answer **Yes** or **No**. [Q:3.4-7965]
- **Depth of Underground Tanks (feet):** Enter depth (from ground surface to tank top) of underground tanks (in feet). [Q:3.4-7966]
- **Underground Storage Type:** Select buried or below grade. Buried storage is set in the ground and covered by soil. Below grade storage is set entirely below the surface of the ground in a storage pit but is not covered by soil. [Q:3.4-12714]

For each release-flammable COI that is stored below grade in bulk tanks, answer the following question:

- **Below Grade Containment Covered?** If the below grade containment area is covered by an enclosure or other protective structure, answer **Yes**. If the below grade containment is open to atmospheric conditions, answer **No**. [Q:3.41-12717]

For each release-flammable COI stored underground in a cavern/non-cavern type formation, select the Describe button and answer the following questions. The following questions regarding underground storage should only be answered about the amount of release-flammable COI stored underground.



- **Is the Release-Flammable COI stored in cavern or in non-cavern storage?** Choose Cavern or Non-Cavern. Cavernous formations refer to porous rock formations. Non-cavernous formations refer to old gas or oil fields that are no longer productive. [Q:3.5-12771]
- **How many wells are in the storage field?** [Q:3.5-12772]
- **What is the aerial extent of the storage formation (in acres)?** [Q:3.5-8791]
- **What is the total storage weight (in pounds)?** [Q:3.5-12773]
- **List the well heads, if any, located in High Consequence Areas (HCA) as defined by Department of transportation (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) in 49 CFR Part 192**—Enter the following information for each well head located in the HCA. Click the **Add** button to enter information for another well head.
  - **Enter the Name or ID of the Well Head** [Q:3.5-8813]
  - **Depth of Well (feet)** [Q:3.5-8831]
  - **Maximum Pressure at Well Head (psig)** [Q:3.5-8833]
  - **Absolute Open Flow Rate at Maximum Pressure (mmcf/min)** [Q:3.5-8832]
  - **Distance to Closest Infrastructure Not Associated with Storage Operation (feet)** [Q:3.5-8834] Use the distance (in feet) from the well head to the nearest infrastructure that is not associated with the underground storage operation. Infrastructure may include buildings, bridges, or other above ground structures or pipelines.

When each release-flammable COI stored underground in a cavern/non-cavern type formation is complete, click Next to continue to Release-Explosives.

### 5.3 Release-Explosive COI<sup>10</sup>

**Release-Explosive COI Present at a Facility.** Does the facility manufacture, process, use, store, or distribute any of the listed release-explosive COI at or above the screening threshold quantity? If a facility currently possesses any of the listed chemicals or possessed them within the past 60 days, in an amount at or above the applicable STQs, the facility should select the chemical(s) from the list (see Table 5-3)<sup>8</sup>. Some chemicals have more than one STQ. The default settings indicate that the chemical is **not** present at the facility; thus, a facility must affirmatively change the answer for each chemical it possesses or possessed at the facility within the past 60 days.

Select all applicable chemicals from the look-up table and select **Yes** at the end to affirm that the facility has diligently reviewed the list. [Q:4.0-711]

**Table 5-3. Summary of General Rules for Release-Explosives COI at 6 CFR Part 27**

Security Issue	STQ	COI to Exclude	COI to Include	Minimum Concentration
Release-Explosive COI	5,000 lbs	27.203(a)	27.203(b)(1)	27.204(a)(3)

<sup>10</sup> DHS identifies release-explosive COI as those with the potential to affect populations within and beyond the facility, if intentionally detonated.



To calculate whether a facility possesses any of the listed release-explosive COI at or above the STQ, a facility **shall only include COI**:

- In a vessel as defined in 40 CFR § 68.3 — any reactor, tank, drum, barrel, cylinder, vat, kettle, boiler, pipe, hose, or other container;
- In an underground storage facility — For purposes of 6 CFR Part 27, DHS defines an underground storage facility as a below-ground storage location for chemicals of interest or mixtures of chemicals of interest (e.g., petroleum-based materials) that are placed in a storage location (until needed) after having been extracted from the ground and refined or processed. Such facilities include, but are not limited to depleted reservoirs in oil and/or oil gas fields, aquifers, and salt cavern formations;
- Stored in a magazine as defined in 27 CFR § 555.111;
- In transportation containers used for storage not incident to transportation, including transportation containers connected to equipment at a facility for loading or unloading and transportation containers detached from the mode of power that delivered the container to the facility;
- Present as process intermediates, by-products, or materials produced incidental to the production of a product if they exist at any given time;
- In natural gas or liquefied natural gas stored in peak shaving facilities; and/or
- In gasoline, diesel, kerosene or jet fuel (including fuels that have flammability hazard ratings of 1, 2, 3, or 4, as determined by using the National Fire Protection Association's (NFPA) Standard System for the Identification of the Hazards of Materials for Emergency Response) stored in aboveground tank farms, including tank farms that are part of pipeline systems.

To calculate whether a facility possesses any of the listed release-explosive COI at or above the STQ, a facility **need not include COI**:

- Used as a structural component (e.g., a facility need not include a chemical of interest embedded in foam insulation toward the facility's STQ for that chemical);
- Used as products for routine janitorial maintenance;
- Contained in food, drugs, cosmetics, or other personal items used by employees;
- In process water or non-contact cooling water drawn from environment or municipal sources;
- In air as compressed air or as part of combustion;
- Contained in articles, as defined in 40 CFR § 68.3;
- In solid waste (including hazardous waste) regulated under the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 et seq., except for the waste described in 40 CFR § 261.33;
- In naturally occurring hydrocarbon mixtures prior to entry of the mixture into a natural gas processing plant or a petroleum refining process unit (e.g., condensate, crude oil, field gas, and produced water as defined by 40 CFR § 68.3); or
- In a laboratory at the facility under the supervision of a technically qualified individual as defined in 40 CFR § 720.3. This exemption, however, does not apply to specialty chemical production; manufacture, processing, or use of substances in pilot plant scale operations; or activities, including research and development, involving chemicals of interest outside the laboratory.





### MINIMUM CONCENTRATION

The minimum concentration provision for release-explosive COI is located at 6 CFR § 27.204(a)(3). The minimum concentration for release-explosive COI is A Commercial Grade (ACG). For each release-explosive COI, a facility shall count the total quantity of all commercial grades of the COI toward the STQ – unless a specific minimum concentration is assigned in the minimum concentration column of Appendix A, in which case the facility should count the total quantity of all commercial grades of the chemical at or above the specified minimum concentration. ACG is defined in 6 CFR §27.105 as “any quality or concentration of a chemical of interest offered for commercial sale that a facility uses, stores, manufactures, or ships.”

#### 5.3.1 Reporting the Total Quantity of Release-Explosive COI at a Facility

After the release-explosive COI at a facility at or above the STQ have been entered, they will be displayed with their CAS numbers in a list on the next screen. Enter the maximum **Total On-site Quantity** [Q:2.1-124] of each release-explosive COI in pounds that a facility possessed at any time within the past 60 days. This is the single highest amount of each release-explosive COI currently present on-site or within the past 60 days, not the aggregate amount within the past 60 days. Compute the total On-site Quantity using the same provisions a facility shall consider when determining whether it possesses a COI at or above the STQ (see Section 5.3 above).

The records prepared by a facility to comply with other programs, such as Emergency Planning and Community Right-to-Know Act (EPCRA) and RMP, contain information that may be useful in compiling the Total On-site Quantity of a given COI consistent with Section 5.3. However, a facility shall compile the Total On-site Quantity of a COI under CFATS irrespective of the interconnection of processes and equipment, or the proximity of different storage containers or locations, which are considerations in RMP as well as in Occupational Safety and Health Administration's (OSHA) Process Safety Management (PSM). Interconnection is not a consideration for compiling the Total On-site Quantity of a COI under CFATS.

Do not use commas when reporting quantities. Round to two significant digits and report quantities as follows (similar to the way quantities are rounded and reported in RMP):

- 5,333 pounds should be reported as 5300 pounds.
- 107,899 pounds should be reported as 110000 pounds.
- 2,128,000 pounds should be reported as 2100000 pounds.

Please refer to Attachment A of this document for worksheets and an example of how to assemble information for reporting Total On-site Quantity.

#### 5.3.2 Reporting the Quantity of Release-Explosive COI in the Area of Highest Quantity

Enter the **total maximum amount within the AHQ** of each release-explosive COI in pounds [Q:4.1-2795]. **The Total On-site Quantity (answered in the previous question) may be different from the total amount in the AHQ.** If the release-explosive COI is found in only one location at a facility, enter the same amount as reported for Total On-site Quantity.



The AHQ is defined as an area within a radius of 170 feet in which the greatest amount of the explosive COI is located. The same counting rules that a facility applies in determining whether it meets or exceeds the STQ for release-explosive chemicals, also apply when compiling the AHQ.

For explosives, the reported AHQ for a COI may include a single release-explosive COI or several covered explosives located within the 170-foot radius. Because all covered explosives released in an intentional event could contribute to a secondary consequence, all covered explosives (that meet the reporting criteria in Section 5.3.1) within 170 feet of the COI need to be evaluated when determining the AHQ and reported as an aggregate number. This calculation for co-located COI is similar to the approach used for release-flammable COI. The example in Attachment A illustrates the approach.

Please refer to Attachment A of this document for worksheets and an example of how to assemble information for reporting Area of Highest Quantity.

## 5.4 Theft/Diversion – Explosives/Improvised Explosive Device Precursor (EXP/IEDP) COI<sup>11</sup>

**Theft/Diversion-Explosives/Improvised Explosive Device Precursor (EXP/IEDP) Present at the Facility.** [Q:5.0-175] Does the facility manufacture, process, use, store, or distribute any of the theft/diversion-explosives/improvised explosive device precursor COI at or above the STQ? If the facility currently possesses any of the listed chemicals or possessed them within the past 60 days, in an amount at or above the applicable STQs, the facility should select the chemical(s) from the list (see Table 5-4)<sup>8</sup>. Some chemicals have more than one STQ. The default settings indicate that the chemical is **not** present at the facility; thus, the facility must affirmatively change the answer for each chemical it possesses or possessed at the facility within the past 60 days. Select all applicable chemicals from the list and select **Yes** at the end to affirm that the facility has diligently reviewed the list. [Q:5.0-714]

**Table 5-4. Summary of General Rules for Theft-Explosives/Improvised Explosive Device Precursors COI at 6 CFR Part 27**

Security Issue	STQ	COI to Exclude	COI to Include	Minimum Concentration
Theft-EXP/IE	15–400 lbs	27.203(a)	27.203(c)	27.204(b)(3)

To calculate whether a facility possesses any of the theft-EXP/IEDP COI at or above the STQ, the facility **shall only include** theft-EXP/IEDP COI in a transportation packaging, as defined in 49 CFR § 171.8. This includes, but is not limited to, cylinders, bulk bags, bottles (inside or outside of a box), cargo tanks, and tank cars. The laboratory quantities exclusion in § 27.203(b)(2) does not apply to theft-EXP/IEDP COI. Accordingly, a facility shall count all commercial grades of theft-EXP/IEDP COI in transportation packaging(s) in laboratories toward the STQ.

<sup>11</sup> DHS identifies Theft–Explosives (EXP)/Improvised Explosive Device Precursors (IEDP) COI as as those that could be stolen or diverted and used explosives or Improvised Explosive Devices (IEDs).



To calculate whether a facility possesses any of the listed theft EXP/IEDP COI at or above the STQ, a facility **need not include COI:**

- Used as a structural component (e.g., a facility need not include COI embedded in foam insulation toward the facility's STQ for that chemical);
- Used as products for routine janitorial maintenance;
- Contained in food, drugs, cosmetics, or other personal items used by employees;
- In process water or non-contact cooling water drawn from environment or municipal sources;
- In air as compressed air or as part of combustion;
- Contained in articles, as defined in 40 CFR § 68.3;
- In solid waste (including hazardous waste) regulated under the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.*, except for the waste described in 40 CFR § 261.33;
- In naturally occurring hydrocarbon mixtures prior to entry of the mixture into a natural gas processing plant or a petroleum refining process unit (e.g., condensate, crude oil, field gas, and produced water as defined by 40 CFR § 68.3).

### MINIMUM CONCENTRATION

#### A COMMERCIAL GRADE

The minimum concentration provision for theft-EXP/IEDP COI is located at 6 CFR § 27.204(b)(3). The minimum concentration provision for theft-EXP/IEDP COI is A Commercial Grade (ACG). For each theft-EXP/IEDP COI, a facility shall count the total quantity of all commercial grades of the COI toward the STQ – unless a specific minimum concentration is assigned in the minimum concentration column of Appendix A, in which case the facility should count the total quantity of all commercial grades of the chemical at or above the specified minimum concentration.. ACG is defined in 6 CFR §27.105 as “any quality or concentration of a chemical of interest offered for commercial sale that a facility uses, stores, manufactures, or ships.”

Hydrogen peroxide is an example of a theft-EXP/IEDP COI with a specific minimum concentration. Hydrogen peroxide is manufactured and used in various commercial grades depending on its intended use. DHS listed hydrogen peroxide in Appendix A with a specific concentration – i.e., “at least 35%.” A facility that possesses 400 pounds or more of at least 35 percent hydrogen peroxide must complete a Top-Screen.

**Note:** In Appendix A, DHS lists two forms of Ammonium Nitrate (AN) for the security issue of theft:

- AN (explosive form): With more than 0.2 percent combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance, has an STQ of 400. The STQ for this form of AN is 400 pounds. A facility must count the total of any commercial grade of this form of AN toward that STQ.
- AN, solid (commonly used as a fertilizer): With a nitrogen concentration of 23 percent or greater. The STQ for this form of AN is 2,000 pounds. A facility must count this form of AN when it accounts for 33% or more of a mixture.



**Theft-Explosives/IED Precursor COI at the Facility.** After the theft-EXP/IEDP COI at the facility at or above the STQ have been entered, they will be displayed with their CAS numbers in a list on the next screen. Select one of the following to further describe each theft-EXP/IEDP COI at the facility:

- **Portable** — The theft-EXP/IEDP COI is portable. Portable is defined as either man-portable, i.e., movable by 1-3 people without the aid of powered mechanical devices, or mechanically portable, i.e. movable with the aid of a fork lift, truck or crane. [Q:5.1-233]
- **Bulk Transport** — The theft-EXP/IEDP COI is included in a shipment that is required to carry a placard pursuant to the provisions of subpart F of 49 CFR Part 172. Specifically, the COI is in a package or container such as a tank car(s), a rail car(s) or other large storage container(s) that could be hitched to a vehicle for removal from a site. [Q:5.1-234]
- **Bulk Storage** — The theft-EXP/IEDP COI is in a package or container from which the COI could be safely transferred into a portable package or container. [Q:5.1-235]

## 5.5 Theft/Diversion-Weapon of Mass Effect (WME) COI<sup>12</sup>

**Theft/Diversion-Weapons of Mass Effect (WME) COI Present at the Facility.** [Q:6.0-251] Does the facility manufacture, process, use, store, or distribute any of the theft/diversion-weapons of mass effect COI at or above the STQ? If the facility currently possesses any of the listed chemicals or possessed them within the past 60 days, in an amount at or above the applicable STQs, the facility should select the chemical(s) from the list (see Table 5-5)<sup>8</sup>. Some chemicals have more than one STQ. The default settings indicate that the chemical is **not** present at the facility; thus, the facility must affirmatively change the answer for each chemical it possesses or possessed at the facility within the past 60 days. Select all applicable chemicals from the list and select **Yes** at the end to affirm that the facility has diligently reviewed the list. [Q:6.0-251]

**Table 5-5. Summary of General Rules for Theft-WME COI at 6 CFR Part 27**

Security Issue	STQ	COI to Exclude	COI to Include	Minimum Concentration
Theft-WME	15 - 500 lbs	27.203(a)	27.203(c)	27.204(b)(2)

<sup>12</sup> DHS identifies Theft-Weapons of Mass Effect (WME) COI as those that could be stolen or diverted and used directly as WME.



To calculate whether a facility possesses any of the theft-WME COI at or above the STQ, the facility **shall only include** theft-WME COI in a transportation packaging, as defined in 49 CFR § 171.8. This includes, but is not limited to, cylinders, bulk bags, bottles (inside or outside of a box), cargo tanks, and tank cars. The laboratory quantities exclusion in § 27.203(b)(2) does not apply to theft COI. Accordingly, a facility should count all theft-WME COI in transportation packaging in laboratories toward the STQ.

For example, a facility that possesses 20 pounds of 1 percent arsine must complete and submit a Top-Screen to DHS. A facility that possesses 50 pounds of arsine contained in an article such as a semiconductor, need not consider this arsine toward the STQ.

To calculate whether a facility possesses any of the listed theft-WME COI at or above the STQ, a facility **need not include COI** :

- Used as a structural component (e.g., a facility need not include a chemical of interest embedded in foam insulation toward the facility's STQ for that chemical);
- Used as products for routine janitorial maintenance;
- Contained in food, drugs, cosmetics, or other personal items used by employees;
- In process water or non-contact cooling water drawn from environment or municipal sources;
- In air as compressed air or as part of combustion;
- Contained in articles, as defined in 40 CFR § 68.3;
- In solid waste (including hazardous waste) regulated under the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.*, except for the waste described in 40 CFR § 261.33;
- In naturally occurring hydrocarbon mixtures prior to entry of the mixture into a natural gas processing plant or a petroleum refining process unit (e.g., condensate, crude oil, field gas, and produced water, as defined by 40 CFR § 68.3).

### MINIMUM CONCENTRATION

The minimum concentration provision for theft-WME COI is located at 6 CFR § 27.204(b)(2). If a theft-WME COI is present in a mixture at or above the minimum concentration amount listed in the minimum concentration column, a facility shall count the entire amount of the mixture toward the STQ. For example, a facility that possesses a 16 pound mixture that contains 7 percent fluorine must complete and submit a Top-Screen for that COI.

**Theft-WME COI at the Facility.** After the theft-WME COI at a facility have been entered, they will be displayed with their CAS numbers in a list on the next screen. Select one of the following to further describe each theft-WME COI at a facility:

- **Portable** — The theft-WME COI is portable. Portable is defined as either man-portable, i.e., movable by 1-3 people without the aid of powered mechanical devices, or mechanically portable, i.e. movable with the aid of a fork lift, truck or crane. [Q:6.1-253]
- **Bulk Transport** — The theft-WME COI is included in a shipment that is required to carry a placard pursuant to the provisions of subpart F of 49 CFR Part 172. Specifically, the COI is in a package or container such as a tank car(s), a rail car(s) or other large storage container(s) that could be hitched to a vehicle for removal from a site. [Q:6.1-254]



- **Bulk Storage** — The theft-WME COI is in a package or container from which the COI could be safely transferred into a portable package or container. [Q:6.1-7071]

## 5.6 Theft/Diversion - Chemical Weapons/Chemical Weapon Precursor COI<sup>13</sup>

**Theft/Diversion-Chemical Weapons/Chemical Weapons Precursor (CW/CWP) COI Present at the Facility.** [Q:7.0-251] Does the facility manufacture, process, use, store, or distribute any of the theft/diversion-CW/CWP COI at or above the STQ? If the facility currently possesses any of the listed chemicals or possessed them within the past 60 days, in an amount at or above the applicable STQs, the facility should select the chemical(s) from the list (see Table 5-6)<sup>8</sup>. Some chemicals have more than one STQ. The default settings indicate that the chemical is **not** present at the facility; thus, the facility must affirmatively change the answer for each chemical it possesses or possessed at the facility within the past 60 days. Select all applicable chemicals from the list and select **Yes** at the end to affirm that the facility has diligently reviewed the list. [Q:7.0-721]

**Table 5-6. Summary of General Rules for Theft — CW/CWP COI at 6 CFR Part 27**

Security Issue	STQ	COI to Exclude	COI to Include	Minimum Concentration
Theft-CW/CWP	CUM 100 grams <sup>14</sup> -220 lbs	27.203(a)	27.203(c)	27.204(b)(1)

To calculate whether a facility possesses any of the theft-CW/CWP COI at or above the STQ, the facility **shall only include** such theft COI in a transportation packaging, as defined in 49 CFR § 171.8. This includes, but is not limited to, cylinders, bulk bags, bottles (inside or outside of a box), cargo tanks, and tank cars. The laboratory quantities exclusion in § 27.203(b)(2) does not apply to theft COI. Accordingly, a facility should count all theft-CW/CWP COI in transportation packaging in laboratories toward the STQ.

To calculate whether a facility has any of the listed theft-CW/CWP COI at or above the STQ, the facility **need not include:**

- Used as a structural component (e.g., COI embedded in foam insulation at the facility would not be counted toward the facility's STQ of those COI);
- Used as products for routine janitorial maintenance;
- Contained in food, drugs, cosmetics, or other personal items used by employees;
- In process water or non-contact cooling water drawn from environment or municipal sources;
- In air as compressed air or as part of combustion;
- Contained in articles, as defined in 40 CFR § 68.3 (e.g., the quantity of vinylidene chloride contained in flexible plastic food wrap that is found at the facility would not be counted toward the facility's STQ of vinylidene chloride);

<sup>13</sup> DHS identifies Theft-Chemical Weapons (CW)/Chemical Weapons Precursor (CWP) COI as those that could be stolen or diverted and used as CW or easily converted into CW.

<sup>14</sup> CUM 100g means a cumulative STQ of 100 g for those Theft - CW/CWP COI being noted as CUM 100g. This is an aggregate amount for all such Theft - CW/CWP COI, not a per-chemical STQ.



- In solid waste (including hazardous waste) regulated under the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 et seq., except for the waste described in 40 CFR § 261.33;
- In naturally occurring hydrocarbon mixtures prior to entry of the mixture into a natural gas processing plant or a petroleum refining process unit (e.g., condensate, crude oil, field gas, and produced water as defined by 40 CFR § 68.3).

### MINIMUM CONCENTRATION

The minimum concentration provision for theft-CW/CWP COI is located at 6 CFR § 27.204(b)(1). If CUM 100g appears in the minimum concentration column in Appendix A for a theft-CW/CWP, a facility shall total the quantity of all such designated chemicals in its possession to determine whether the facility possesses theft-CW/CWP chemicals that meet or exceed the STQ of 100 grams. That STQ is cumulative for all such theft-CW/CWP COI; it is not a chemical-specific STQ.

Where a theft-CW/CWP COI is not designated by “CUM 100g” in Appendix A, and the chemical is present at or above the minimum concentration amount listed in the minimum concentration column of Appendix A, the facility shall count the entire amount of the mixture toward the STQ.

**Theft-CW/CWP COI at the Facility.** After the CW/CWP COI on-site have been entered, they will be displayed with their CAS numbers in a list on the next screen. Select how each CW/CWP COI is stored on-site:

- **Portable** — The theft-CW/CWP COI is portable. Portable is defined as either man-portable, i.e., movable by 1-3 people without the aid of powered mechanical devices, or mechanically portable, i.e. movable with the aid of a fork lift, truck or crane. [Q: Q:7.1-260]
- **Bulk Transport** — The theft-CW/CWP COI is included in a shipment that is required to carry a placard pursuant to the provisions of subpart F of 49 CFR Part 172. Specifically, the COI is in a package or container such as a tank car(s), a rail car(s) or other large storage container(s) that could be hitched to a vehicle for removal from a site. [Q:7.1-261]
- **Bulk Storage** — The theft-CW/CWP COI is in a package or container from which the COI could be safely transferred into a portable package or container. [Q:7.1-262]

## 5.7 Sabotage/Contamination COI<sup>15</sup>

**Sabotage/Contamination COI Shipped.** Does the facility ship any of the listed Sabotage/Contamination COI from its facility for which it is required to placard the shipment of the COI under Department of Transportation (DOT) Hazardous Materials regulations? [Q:8.1-722] A facility meets the STQ for a sabotage/contamination COI if it ships the chemical and is required to placard the shipment pursuant to the provisions of subpart F of 49 CFR part 172. If the facility ships any of sabotage/contamination COI from the facility in an amount that requires a placard or did so in the past 60 days, select the COI from the list provided.<sup>8</sup> The default settings for the list indicate that the COI is **not** shipped from the facility; thus the facility must affirmatively change the answer for each COI shipped from the facility. Select all applicable

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<sup>15</sup> DHS identifies Sabotage/Contamination COI as those that, if mixed with readily-available materials, have the potential to create significant adverse consequences for human life or health.



COI from the look-up table and select **Yes** at the end to affirm that the facility has diligently reviewed the list. [Q:8.1-718]

**Table 5-7. Summary of General Rules for Sabotage/Contamination COI at 6 CFR Part 27**

Security Issue	STQ	COI to Exclude	COI to Include	Minimum Concentration
Sabotage/ Contamination COI	A Placarded Amount	27.203(a)	27.203(d)	27.204(c) ACG

To calculate whether the facility possesses any of the listed Sabotage/Contamination COI at or above the STQ, the facility **need not include COI** :

- Used as a structural component (e.g., a facility need not include a chemical of interest embedded in foam insulation toward the facility's STQ for that chemical);
- Used as products for routine janitorial maintenance;
- Contained in food, drugs, cosmetics, or other personal items used by employees;
- In process water or non-contact cooling water drawn from environment or municipal sources;
- In air as compressed air or as part of combustion;
- Contained in articles, as defined in 40 CFR § 68.3;
- In solid waste (including hazardous waste) regulated under the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.*, except for the waste described in 40 CFR § 261.33;
- In naturally occurring hydrocarbon mixtures prior to entry of the mixture into a natural gas processing plant or a petroleum refining process unit (e.g., condensate, crude oil, field gas, and produced water as defined by 40 CFR § 68.3).

**MINIMUM CONCENTRATION**

The minimum concentration provision for sabotage/contamination COI is located in 6 CFR § 27.204(c). The minimum concentration for sabotage/contamination COI is A Commercial Grade (ACG). For each sabotage/contamination COI, a facility shall count the total quantity of all commercial grades of the chemical toward the STQ of APA. A Commercial Grade (ACG) is defined in §27.105 as "any quality or concentration of a chemical of interest offered for commercial sale that a facility uses, stores, manufactures, or ships."

For example, a facility that manufactures and ships a placarded amount of commercial grade aluminum phosphide to a producer of crop protection products must complete and submit a Top-Screen. Conversely, a facility that possesses a fumigant that contains the sabotage/contamination COI aluminum phosphide need not count the aluminum phosphide contained in the fumigant toward the STQ because it is neither a commercial grade of the COI nor is the facility shipping a placarded amount of this COI.

## 5.8 Mission Critical Chemicals

All petroleum refinery, LNG storage, and chemical manufacturing facilities will be directed to the section on Mission Critical Chemicals. In this section, a facility will answer questions on any chemicals for which





they produce 20 percent or more of the domestic production, regardless of whether or not the chemical is a COI listed in Appendix A.

**Mission Critical Production.** Does this facility account for 20 percent or more of the domestic production of any chemical and supply the chemical to one or more critical infrastructure sectors? For purposes of this portion of the Top-Screen, critical infrastructure sectors include:

- **Defense Industrial Base:** Department of Defense, government, and private-sector facilities that perform research and development, design, produce, or maintain military weapon systems, subsystems, components, or parts to meet military requirements.
- **Public Health and Healthcare:** public or private facilities that provide health-care services to the individual or to the community, whether the services are provided at the workplace, in academic institutions, or in the military, as well as supporting services.
- **Energy (electric generation only):** facilities converting other forms of energy (e.g., water power, fossil fuels, nuclear power, solar power) into electrical energy.
- **Public Drinking Water sector:** facilities that serve at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

Select **Yes** or **No**. A facility may produce more than one chemical that meets the criteria. [Q:9.0-692] Facilities should consider chemicals listed on Appendix A as well as those not on Appendix A when determining whether their chemical production meets the criteria.

Enter the chemical name(s) that account for 20% of the domestic production to one or more critical infrastructure sectors. The critical infrastructure sectors are defined as Defense Industrial Base, Energy (electric generation only), Public Health and Healthcare, or Public Drinking Water.

Click the "Add" button after entering the chemical name. Then click "Describe" and provide the requested information.

[Q:9.1-693]

Chemical Name
XYZ Chemical

Buttons: Delete, Describe: XYZ Chemical, Add

Have you listed all chemicals that account for 20% of the domestic production to one or more critical infrastructure sectors?

Check Yes [Q:9.1-2772]

Navigation: << Back, Next >>

Figure 5-8. Mission Critical Chemicals

**Further Chemical Information.** If the response is **Yes** and this facility accounts for 20 percent or more of the domestic production of any one chemical that is supplied to one or more critical infrastructure sectors listed above, the facility will be asked to supply the name [Q:9.1-693] and then to provide additional information about each such chemical (see Figure 5-8). If the facility has more than one such chemical, click the **Add** button to add rows. For each chemical, click the **Describe** button and enter the following information:



- **CAS number** (if available) [Q:9.3-852]
- **Any other name** by which the chemical is commonly known (e.g., trinitrophenol is also known as picric acid) [Q:9.3-733]
- **The facility's estimated domestic market share** of this chemical (select the appropriate range from the drop-down menu) [Q:9.3-734]
- **The primary application** of this chemical by this facility's customer(s) (e.g., a chemical used to treat drinking water may be described in this field as "water treatment chemical") [Q:9.3-737]
- **The primary sector** for which this facility produces the chemical — select from the list all that apply for each chemical [Q:9.3-1131]
- **Whether there is an exact or direct substitute(s)** available for this chemical produced to meet the needs of the facility's customers (**Yes** or **No**) — if **Yes**, select whether the exact or direct substitute is produced in North America [Q:9.4-755] or overseas [Q:9.4-756].
- **Whether a functional substitute(s) is available** — if **Yes**, select whether the functional substitute is produced in North America [Q:9.4-759] or overseas [Q:9.4-760]. A functional substitute is another chemical that can accomplish the same function as the chemical made by this facility. For example, one solvent could be substituted for another solvent in the same application with little impact on product quality or processing.
- **The facility's estimated annual average Capacity Utilization Rate** from the range of values provided in the drop-down menu. [Q9.5-762]

### What Is Capacity Utilization Rate?

The Capacity Utilization Rate is also known as the "operating rate for production" of a chemical or product at a facility. The information requested is the same as that which may have already been provided as part of the U.S. Census Bureau's Survey of Plant Capacity Utilization form (form MQ-C1, question 2c), available at <http://bhs.econ.census.gov/BHS/index.html> (see Figure 5-9). The Survey of Plant Capacity Utilization provides current data on the rates of capacity utilization in U.S. manufacturing plants. The Survey collects information annually from approximately 17,000 manufacturing facilities with more than five employees. The answers to these Census Bureau questions may be available from the facility or its corporate financial department. Whereas data are reported on the Census Bureau survey for one quarter, DHS is seeking an estimate of the data for a one-year period. The instructions for calculating the full production rate for the survey are available at <http://www.census.gov/cir/www/mqc1pag2.html>.



FORM **MQ-C1**  
(11-17-2005)

**SURVEY OF PLANT CAPACITY UTILIZATION  
FOURTH QUARTER 2005 (October-December)**

Item 2	VALUE OF PRODUCTION	ACTUAL PRODUCTION				
		4th QTR. 2005		4th QTR. 2004		
		\$	Mil.	Thou.	Mil.	Thou.
a.	Report market value of <b>actual production</b> for the 4th quarter of 2005 . . . . .	23				
b.	Estimate the market value of production of this plant as if it had been operating at <b>full production capability</b> in the 4th quarter of 2005. . . . . Assume: <ul style="list-style-type: none"> <li>only machinery and equipment <b>in place and ready to operate</b>.</li> <li>normal downtime.</li> <li>Labor, materials, utilities, etc. <b>ARE FULLY AVAILABLE</b>.</li> <li>the number of shifts, hours of operation, and overtime pay that can be <b>sustained</b> under <b>normal</b> conditions and a <b>realistic</b> work schedule in the long run.</li> <li>the <b>same product mix</b> as in the fourth quarter.</li> </ul>	FULL PRODUCTION CAPABILITY				
		4th QTR. 2005		4th QTR. 2004		
		\$	Mil.	Thou.	Mil.	Thou.
		34				

c. Divide your **actual production estimate** by your **full production estimate**. Multiply this ratio by 100 to get a percentage. Enter this percentage in the box.

Capacity Utilization:

Is this a reasonable estimate of your sustainable capacity use in the 4th quarter?  Yes  No – Please review your full production estimate

Figure 5-9. Survey of Plant Capacity Utilization

- **Select the facility's estimated National Emergency Production Rate** for the chemical from the range of values provided in the drop-down menu. [Q:9.5-763]

**What Is the National Emergency Production Rate?**

The National Emergency Production Rate is the maximum amount of production that a facility can expect to attain and sustain for one year or more during national emergency conditions. The National Emergency Production Rate is estimated by dividing the average amount of chemical or product produced over the year by the amount that could have been produced if the plant had been operating under national emergency conditions during that period. The rate of production at national emergency levels should be **greater than or equal to** the rate of full production capability. For detailed definitions and instructions for calculating the National Emergency Production Rate, review the instructions for Item 5 on the Annual Plant Capacity Utilization Survey at <http://www.census.gov/cir/www/mqc1pag2.html>.

- **Enter the total annual production** of the chemical (in pounds/year) from this facility. [Q:9.5-764] This information is similar to that which is reported under EPA's Inventory Update Rule (for updating the Toxic Substances Control Act Chemical Inventory Database) for those organic and inorganic substances manufactured or imported in quantities of 25,000 pounds per facility per reporting year. Report production only, not imports. If the chemical is not on the TSCA (Toxic Substances Control Act) inventory, provide an estimate of your annual production. Do not use commas when entering this information.
- **The estimated replacement cost of the production unit(s)** for the chemical at this facility (select the appropriate range from the drop-down menu). [Q:9.5-765] Replacement Cost(s) apply to the production unit(s) related to the manufacture of this chemical and any other facility property likely to be damaged beyond repair that would need to be replaced to restore the original functionality of the unit or equipment to its design productivity levels. The economic value to repair or replace the damaged or destroyed unit(s) and its associated equipment, plus the economic value of any lost products, should be estimated in U.S. dollars. For the purposes of this analysis, use the historic



(undepreciated) cost of the facility property plus the undepreciated value of betterments/improvements (excluding maintenance and repair) to the production unit, less the amount that is covered by insurance.

- **Confirm that all chemicals have been listed and described** by selecting **Yes**. [Q:9.1-2772] If more chemicals need to be listed or described, return to the appropriate screen and continue to add and describe the chemicals that meet the criteria until complete.

## 5.9 Economically Critical Chemicals

This section of the Top-Screen relates to chemicals that are critical to the national economy or to other critical infrastructure sectors not included in the Mission Critical Chemical section. In this section, the facility will answer questions about chemicals for which it accounts for 35 percent or more of the domestic production irrespective of whether the chemical is listed on Appendix A.

**Total Production Value.** Only manufacturers are required to provide a dollar amount in response to this question. All other entities, such as distributors and retailers, should enter a “0” in response to this question. Enter the total production value of products (not just Appendix A COI) shipped and other receipts from the facility. Enter the whole number without commas or dollar signs (e.g., enter 1200000 not 1.2 million). [Q:9.0-3092] This value will be the same as that provided in the Annual Survey of Manufacturers (ASM), which provides sample estimates of statistics for all manufacturing establishments with one or more paid employees. The U.S. Census Bureau conducts the ASM in each of the four years between the Economic Census that is collected for years ending in two and seven. In the Economic Census, manufacturing is the sample frame from which the ASM is chosen and presents more detailed data than the ASM. Among the statistics included in this survey are: employment, payroll, value added by manufacturing, cost of materials consumed, value of shipments, detailed capital expenditures, supplemental labor costs, fuels and electric energy used, and inventories by stage of fabrication. More information is available at <http://bhs.econ.census.gov/BHS/index.html>.

CFATS defines a manufacturer, for the purpose of this question, just like the U.S. Census Bureau. The US Census Bureau requires all domestic establishments that are classified in NAICS sector 31-33, Manufacturing. The list of manufacturing NAICS required to complete the ASM are found on the US Census Bureau website at (<http://www.census.gov/indicator/www/m3/appendixb.pdf>)

Facilities that responded to the 2006 ASM should provide the response to survey Question 5, “SALES, SHIPMENTS, RECEIPTS, OR REVENUE — Total value of products shipped and other receipts (rounded to thousands of dollars).” If the facility/company took part in this survey, the answers to the survey questions are probably available from the facility or from the corporate financial department.

The following is extracted from the 2006 Annual Survey of Manufacturers:

### Form MA-10000(S) (10-11-2006)

<b>5</b> SALES, SHIPMENTS, RECEIPTS, OR REVENUE  Total value of products shipped and other receipts (Report detail in 2.). . . . . 0100 <input type="checkbox"/>	Mark "X" if None	2006			2005
		\$ Bil.	Mil.	Thou.	\$ Thou.



## CSAT Top-Screen User's Manual

Report the total value of products shipped, including interplant transfers, exports, and other receipts as entered in item 22 of the ASM. The value in item 5 should be the same as the value reported in item 22, code 7700000.

<b>If not shown, please enter your 11-digit Census File Number (CFN) from the mailing address.</b>					
<b>22</b> DETAIL OF SALES, SHIPMENTS, RECEIPTS, OR REVENUE					
If you cannot locate the description of any products that you produce, please enter a description of your products in column (a) and enter their value in column (c). If additional lines are needed please use the "REMARKS" section. Report separately for each major kind of product. Include the value of products exported and interplant transfers in the appropriate product line. They should also be reported separately in <b>6</b> .					
An asterisk (*) at the end of a description denotes a comparability with products collected on a Current Industrial Report (CIR) questionnaire. See paragraph on "Comparability" in Part C of CIR instruction manual for item code references.					
Enter TOTAL value of shipments under code 7700000.					
Products and services  (a)	Product Class code  (b)	Products shipped and other receipts, including interplant transfers and exports			2005 (d) \$ Thou.
		2006 (c)			
		\$ Bil.	Mil.	Thou.	
	018				

Facilities may provide the response from previous survey if the numbers accurately reflect current facility operations. Otherwise, the facility should calculate the amount using instructions for the most recent survey. For more information on the Economic Census, see <http://www.census.gov/econ/census02/index.html>.

**Production of Economically Critical Chemicals.** Does this facility account for 35 percent or more of the domestic production of any chemical, excluding the production of chemicals for critical infrastructure sectors covered in the Mission Critical Chemical section above (Defense Industrial Base, Public Health and Healthcare, Energy [electric generation only], Public Drinking Water)?

If this facility produces a chemical that is critical to the continued operation of other U.S. manufacturing, including, but not limited to mining, construction, information, finance, government, or service sector of the U.S. economy (excluding the mission critical infrastructure sectors defined above), does the facility account for more than 35 percent of the total U.S. production volume of this chemical? [Q:10.0-771] In other words, does the production of this chemical from this facility represent a market share larger than 35 percent? The market share is calculated as the facility's production divided by the total U.S. production for a particular chemical in volume terms. An estimate of the total U.S. production volume of a particular chemical in the facility's production portfolio should be available from a company's marketing department.

$$\text{Market Share} = \frac{\text{Facility Production of Chemical X (in volume terms)}}{\text{Total U.S. Production of Chemical X (in volume term)}}$$

Choose **Yes** or **No**.



**Additional Chemical Specific Information.** If the facility accounts for 35 percent or more of the domestic production of any one chemical to one or more other economic sectors, the facility will be asked to enter the name and additional information on each such chemical. If the facility produces more than one such chemical, click on the **Add** button and insert the names of all such chemicals [Q:10.1-772]. Then, click the **Describe** button and enter the following information for each chemical:

- **CAS number** (if available) [Q:10.2-860]
- **Any other name by which the chemical is commonly known** (e.g., trinitrophenol is also known as picric acid) [Q:10.2-872]
- **The facility's estimated domestic market share** of the chemical (select the appropriate range from the drop-down menu ) [Q:10.2-873]
- **Customer application of the chemical** — from the list provided, select the application(s) of this chemical by the facility's customer(s). Select **Yes** for all that apply. [Q:10.3-793] If there are other applications that are not listed, select **Yes** for "other applications" and enter a brief description of the other application(s) of this chemical by this facility's customer(s) that were not listed on the previous page. [Q:10.4-912]
- **Primary Market Sector for the chemical** — from the list provided, select the primary sector(s) for which this facility produces the chemical. Select **Yes** for all that apply. If there are other applications that are not listed, select **Yes** for "other primary sectors" [Q:10.5-794] and on the next page, enter a brief description of the other primary sector(s) not listed. [Q:10.6-915]
- **Is there an exact or direct substitute(s)** available for this chemical produced to meet the needs of the facility's customers (**Yes** or **No**)? If **Yes**, select whether the exact or direct substitute is produced in North America [Q:10.7-815] or overseas [Q:10.7-816].
- **Is there a functional substitute(s) available?** If **Yes**, select whether the functional substitute is produced in North America [Q:10.7-812] or overseas [Q:10.7-813];
- **The facility's estimated annual average Capacity Utilization Rate** from the range of values provided in the drop-down menu. Use the instructions in the Mission Critical Chemical section to calculate this information. [Q:10.8-818]
- **The facility's estimated National Emergency Production Rate** for this chemical from the range of values provided in the drop-down menu. Use the instructions in the Mission Critical Chemical section to calculate this information. [Q:10.8-820]
- **Annual production rate of mission critical chemicals.** Enter the total annual production of this chemical (in pounds/year) from this facility. Do not use commas when entering the information. [Q:10.8-821]
- The **estimated replacement cost(s)** of the production unit(s) for this chemical at this facility. Use the instructions in the Mission Critical Chemical section to calculate this information. [Q:10.8-822]
- **Confirm that all chemicals have been listed and described** by selecting **Yes**. [Q:9.1-2774] If more chemicals need to be listed or described, return to the appropriate screen and continue to list and describe the chemicals that meet the criteria until complete.



## 6.0 Survey Completion

The Preparer is advised to validate the information and review it for completeness and accuracy prior to survey submission (or completion). A validation check for basic logical errors is done by clicking on **Validate Report** on the menu to the left. Information that is missing or incorrectly entered will be listed and highlighted in red as in the example below (Figure 6-1). There will be a link to click on that will take to the facility to the affected area to fix the error or add the missing information.

**General**

**Missing or Invalid Entries!**

- Missing answer to question, "Facility County".
- Missing Longitude.
- Missing answer to question, "Facility Location City".
- NAICS Code is missing.
- Missing latitude coordinate.
- Missing answer to question, "Facility Location Address".
- Missing answer to question, "Facility Location State".
- Missing answer to question, "Facility Location ZIP Code".

[Go to this page to address the issues listed above.](#)

**Facility Description**

NAICS Code for the Facility [0:1-1-63]

▲ Provide the five- or six-digit NAICS Industry code that corresponds most closely to the primary activity of this

Figure 6-1. Validate Report Screen

**Note:** The Top-Screen will not find and highlight errors other than missing required data or logical errors (e.g., the incorrect format for latitude/longitude or the incorrect number of digits for an EPA Identifier number). Facilities are advised to print a Summary Report and review all of the information for accuracy even if no validation errors appear on the Validation Report.



**View Summary Report.** Click on *View Summary Report* on the menu on the left to generate a report showing the questions and the data entered. This report can be printed using the *Print This Report* button on the top of the screen or the print function in your browser. A portion of the Summary Report screen is shown in Figure 6-2.

WARNING: This record contains Chemical-terrorism Vulnerability Information controlled by 6 CFR 27.400. Do not disclose to persons without a "need to know" in accordance with 6 CFR 27.400(h) and (i). Unauthorized release may result in civil penalties or other action. In any administrative or judicial proceeding, this information shall be treated as classified information in accordance with 6 CFR §§ 27.400(h) and (i).

Homeland Security | Chemical Security Assessment Tool (CSAT) Top-Screen | OMB No: 1670-0007 Expires 12/31/2010 | Chemical-terrorism Vulnerability Information

[Print this Report](#)

## Summary Report

### General

The Department of Homeland Security will use the information you provide in this Top-Screen/Chemical Security Assessment Tool to determine whether particular facilities present a high level of security risk. Your provision of accurate information in this Top-Screen is critical to enabling the Department to make well informed decisions designed to reduce the Nation's risk.

The Department will base its determinations, in part, upon the information provided in this Top-Screen/Chemical Security Assessment Tool. The information provided in the Top-Screen Assessment Tool will not, therefore, be the sole or definitive basis upon which the Department will categorize facilities as presenting a high level of security risk.

In the first part of the Top-Screen/Chemical Security Assessment Tool, the Department seeks information concerning the presence and amounts of certain chemicals. The presence of these chemicals is not the sole factor in determining whether a facility presents a high level of security risk. This information informs the subsequent parts of the Department's assessment and is used, along with its best judgment and all available information in determining whether a facility presents a high level of security risk.

Paperwork Burden Notice:

The public reporting burden for this form is estimated to be 30.3 hours. The burden estimate includes time for reviewing instructions, researching existing data sources, gathering data, and completing and submitting the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing the burden to: NPPD/OIP/Chemical Security Division, Attention: Matthew Bettridge, Project Manager, U.S. Department of Homeland Security, Mail Stop 8100, Washington, DC 20528-8100.

(Paperwork Reduction Project (1670-0007)). Your response is mandatory according to Public Law 109-295 Section 550. You are not required to respond to this collection of information if it does not display this control number in the upper right corner of this form. NOTE: DO NOT send your completed form to this address.

Submission Statement:

My statements in this submission are true, complete, and correct to the best of my knowledge and belief and are made in good faith. I understand that a knowing and willful false statement is punishable by fine or imprisonment or both. (See section 1001 of title 18, United States Code).

**Facility Name**

Facility Name (Mandatory)

**Figure 6-2. Summary Report**

After entering all of the relevant data, the system will generate a message based on the information supplied by a facility (“You may be regulated” or “You may not be regulated”) (see Figure 6-3). Click *Next* to continue the process.





## Survey Completion

### You may be regulated.

Based on the information supplied, the Test Facility may be covered by the Department of Homeland Security under Section 550 of the Homeland Security Appropriations Act of 2007. You will be mailed a letter that will identify your facility's regulatory status. If you are regulated, it will indicate the initial tier of Test Facility and specific security issues that need to be addressed in the SVA and SSP required under Section 550.

Press the **[Next]** button to complete your survey and transfer your answers to DHS.

[« Back](#) [Next »](#)

**Figure 6-3. You May Be Regulated Screen**

The next page differs slightly depending on whether a facility is a preparer or a submitter. Indicate that a copy of the preliminary tiering determination letter be sent to the Preparer in addition to the Submitter by choosing **Yes**.

- **Preparer View** (see Figure 6-4): Click the button ***Transfer to Submitter for Review*** to transfer control of editing and submittal to the Submitter. After clicking this button, the Preparer will not be able to make changes to the questionnaire unless the Submitter returns control to the Preparer.
- **Submitter View** (see Figure 6-5): To return the questionnaire to the preparer for further editing, click the ***Transfer To Preparer for Modifications*** button. Otherwise, to complete validation and continue the submittal process, click the ***Final Validation*** button.

## DHS Communications

A letter with the preliminary tiering will be sent to the Submitter.

### Preparer Copy

Do you want a copy of the letter with the preliminary tiering determination to be sent to the Preparer in addition to the Submitter?

[Q:15.3-931]

- Yes  
 No

[« Back](#) [Transfer To Submitter for Review](#)

**Figure 6-4. Preparer Copy Screen (Preparer View)**



**DHS Communications**  
A letter with the preliminary tiering will be sent to the Submitter.

---

**Preparer Copy**

---

Do you want a copy of the letter with the preliminary tiering determination to be sent to the Preparer in addition to the Submitter?  
[Q:15.3-931]

Yes  
 No

[« Back](#)   [Transfer To Preparer for Modifications](#)   [Final Validation](#)

**Figure 6-5. Preparer Copy Screen (Submitter View)**

If errors appear, click the link to return to the page to correct missing or invalid entries. If no errors or omissions are found, the message shown in Figure 6-6 will appear. Click **Continue** to finish the submittal process.

**No errors were found.**

Click Continue button to proceed with the submission process.

[Continue](#)

**Figure 6-6. No Errors Found**



**The Submitter must save a copy of the completed Top-Screen for the record**, as specified in §27.255(b). Once the Top-Screen is transmitted to DHS, a user no longer has access to it. A submitted copy of the Top-Screen will be helpful in case the data need to be re-entered. This printed or electronic record must be protected as CVI, as described in Section 1.1 and in the CVI Procedure's Manual. Facilities can create a copy of the completed Top-Screen by viewing and printing a summary report. After printing a file copy, the Submitter should click **Submit to DHS** to officially submit the completed Top-Screen (see Figure 6-7).



**DHS Communications**  
A letter with the preliminary tiering will be sent to the Submitter.

**Print a Copy of Your Top-Screen**  
**Important:** Please print a copy of your Top-Screen submission for your records and verify that it is legible. After a Top-Screen has been submitted, it is no longer available to the facility on the CSAT system.  
[Print Version of Top-Screen](#)  
The printed or electronic record is CVI and must be protected pursuant to 6 CFR 27.400. For information on how to store and handle CVI information, see [www.dhs.gov/chemicalsecurity](http://www.dhs.gov/chemicalsecurity).

**Submission Statement**  
My statements in this submission are true, complete, and correct to the best of my knowledge and belief and are made in good faith. I understand that a knowing and willful false statement on this form can be punished by fine or imprisonment or both. (See section 1001 of title 18, United States Code).

[« Back](#)   [Transfer To Preparer for Modifications](#)   [Submit To DHS](#)

**Figure 6-7. Submission Page**

After receiving the submitted Top-Screen, DHS will evaluate a facility to determine whether it presents a high level of security risk. DHS will notify the facility in writing of its initial determination. If DHS's preliminary determination is that a facility is not a high-risk facility, it will send a letter stating its determination. (see Attachment B for an example of such a letter.) If DHS's preliminary determination is that a facility is a high-risk facility, it will notify the facility that it has been preliminarily determined to be high-risk, and also notify the facility of (1) its placement in a risk-based tier pursuant to §27.220(a), and (2) the specific chemicals and security issue that need to be addressed in the Security Vulnerability Analysis. (see Attachment C for an example of such a letter.)

Survey Complete



# List of Acronyms Used in Top-Screen User's Manual

ACG	A Commercial Grade
AHQ	Area of Highest Quantity
ASM	Annual Survey of Manufactures
ASME	American Society of Mechanical Engineers
CAS	Chemical Abstract Service
CCPS	Center for Chemical Process Safety
CFATS	Chemical Facility Anti-Terrorism Standards
CFR	Code of Federal Regulations
COI	Chemical(s) of Interest
CSAT	Chemical Security Assessment Tool
CUM 100g	Cumulative STQ of 100 grams for designated Chemical Weapons
CVI	Chemical-terrorism Vulnerability Information
CWC	Chemical Weapons Convention
CW/CWP	Chemical Weapons/Chemical Weapons Precursor
DHS	U.S. Department of Homeland Security
DOT	U.S. Department of Transportation
DUNS	Data Universal Numbering System
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act
EXP/IEDP	Explosive/Improvised Explosive Device Precursor
FAQ	Frequently Asked Question
IFR	Interim Final Rule
LFL	Lower Flammability Limit
LNG	Liquefied Natural Gas
MTSA	Maritime Transportation Security Act
NAICS	North American Industrial Classification System
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
PSM	Process Safety Management
RMP	Risk Management Plan
SPR	Strategic Petroleum Reserve
SSP	Site Security Plan
STQ	Screening Threshold Quantity
SVA	Security Vulnerability Assessment
TOQ	Total On-site Quantity
WME	Weapon of Mass Effect



# Attachment A: Tools for Estimating Total On-site Quantity (TOQ) and Amount in Area of Highest Quantity (AHQ)

## Example Worksheet Showing Calculations for Total On-site Quantity for Three Chemicals in a Facility with Rural Topography

Where required in the Top-Screen, the Total On-site Quantity (TOQ) must be calculated for comparison to the Screening Threshold Quantity (STQ) to determine the chemicals and security issues for evaluation in the Top-Screen. Essentially the TOQ is the maximum quantity of each listed chemical that could be found at the facility at any one time within the past 60 days.

The TOQ is different from a worst-case scenario under EPA's RMP program in that the quantity is not limited to the amount in the single largest vessel. Rather, the TOQ in the Top-Screen is the aggregate quantity of the chemical that is found over the entire facility. Therefore, as part of the Top-Screen, each listed chemical at a facility will need to be inventoried by reviewing processing areas, storage areas (vessels as well as warehouses), transportation loading and unloading operations, laboratories, and any other areas at the facility where a COI is located. When calculating the quantity at each location at the facility, the inclusions and exclusions from Appendix A, described in Section 5.1-5.3, as well as reasonable (and defensible) judgment, should be used.

The following steps should be followed to calculate the TOQ for a single listed COI:

- Step 1 – Identify all locations where the chemical is manufactured, used, stored, or processed.
- Step 2 – Calculate the quantity associated with each location.
- Step 3 – Sum the quantities from each location to determine the TOQ.

To illustrate the calculation of TOQ, an example is presented below for a facility with two listed, release-toxic COI and one listed, release-flammable COI. The calculation would be the same for release-explosive COI, but has been limited for simplicity.

- Chemical A – chlorine (toxic)
- Chemical B – dimethylamine (flammable)
- Chemical C – boron trifluoride (toxic)



## CSAT Top-Screen User's Manual

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Figure A-1 presents a plot plan showing the areas of the facility where the different COI are located. From this plot plan it can be seen that Chemical A (chlorine) is located in a laboratory that is supervised by a technically qualified individual, raw material storage tanks and process unit, and in railcars. Chemical B (dimethylamine) is located in two areas, a warehouse and a production unit. Finally, Chemical C (boron trifluoride) is found in the laboratory and two truck trailer areas.

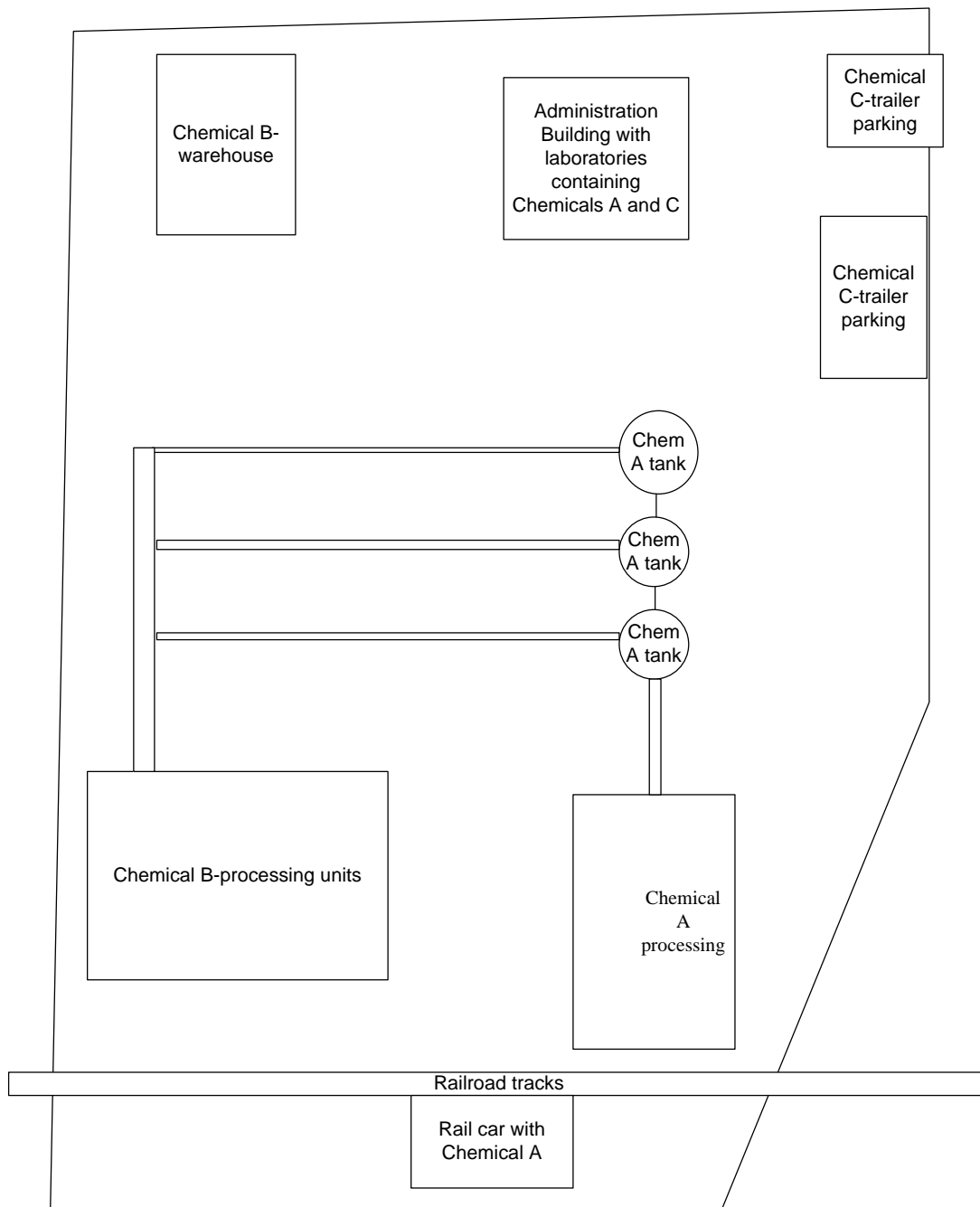


Figure A-1. Example Facility for Calculating Total On-site Quantity



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Using the worksheets, the following data are captured for this example facility. Additionally, for toxics, the Distance of Concern using RMP\*Comp must be reported in the Top-Screen. These worksheets allow the documentation of this distance (in miles). In this example a facility is assumed to be located in a rural area (as defined in Section 5.1), and the resulting TOQ for each chemical and rural topography was used as an input into RMP\*Comp to calculate the Distance of Concern documented in the example worksheets.

<b>Chemical A: Chlorine TOQ</b>	<b>Amount</b>	<b>Distance of Concern (miles)</b>
Processing units (tanks and vessels)	3,000 pounds	
Storage (bulk storage tanks, vessels, underground caverns, etc.)	3 vessels with a total capacity of 7,500 pounds	
Tanks	-	
Railcars regularly on or adjacent to facility (Even if the railcar is not always present, include the estimated maximum amount at any one time that has been staged in railcars at the facility within the past 60 days.)	Possibility of two 90-ton railcars at the facility. 180,000 pounds each = 360,000 pounds	
Tube trailers parked at the facility (the estimated maximum amount that has been at the facility within the past 60 days)	-	
Other bulk transportation containers (tank cars, isotainers, large storage containers, etc.)	-	
Portable containers (cylinders, bags, etc.). Calculate the number of containers, multiply by the amount and sum the results.	-	
Quantities in laboratories unless the laboratory is supervised by a technically qualified individual <sup>16</sup>	Not reported, as this laboratory is exempted	
Other _____	-	
<b>Total On-site Quantity</b> (aggregate quantity)	370,500 pounds (370,000 lbs reported)	

<sup>16</sup> See 40 CFR § 720.3 for the definition of such a laboratory supervisor.





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<b>Chemical B: Dimethylamine TOQ</b>	<b>Amount</b>	<b>Distance of Concern (miles)</b>
Processing units (tanks and vessels)	13,300 pounds	
Storage (bulk storage tanks, vessels, underground caverns, etc.)	-	
Tanks	-	
Railcars regularly on or adjacent to facility (Even if the railcar is not always present, include the estimated maximum amount at any one time that has been staged in railcars at the facility within the past 60 days.)	-	
Tube trailers parked at the facility (the estimated maximum amount that has been at the facility within the past 60 days)	-	
Other bulk transportation containers (tank cars, isotainers, large storage containers, etc.)	-	
Portable containers (cylinders, bags, etc.). Calculate the number of containers, multiply by the amount and sum the results.	thirty 500-pound totes in warehouse (15,000)	
Quantities in laboratories unless the laboratory is supervised by a technically qualified individual <sup>16</sup>	-	
Other _____	-	
<b>Total On-site Quantity</b> (aggregate quantity)	28,300 pounds (28,000 lbs reported)	



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<b>Chemical C: Boron Trifluoride TOQ</b>	<b>Amount</b>	<b>Distance of Concern (miles)</b>
Processing units (tanks and vessels)	-	
Storage (bulk storage tanks, vessels, underground caverns, etc.)	-	
Tanks	-	
Railcars regularly on or adjacent to facility (Even if the railcar is not always present, include the estimated maximum amount at any one time that has been staged in railcars at the facility within the past 60 days.)	-	
Tube trailers parked at the facility (the estimated maximum amount that has been at the facility within the past 60 days)	Maximum of 1 full tube trailed at the facility. Trailer with eight 2,000-pound tubes (16,000 lbs).	
Other bulk transportation containers (tank cars, isotainers, large storage containers, etc.)	-	
Portable containers (cylinders, bags, etc.). Calculate the number of containers, multiply by the amount and sum the results	-	
Quantities in laboratories, unless the laboratory is supervised by a technical qualified individual <sup>17</sup>	Not reported, as this laboratory is exempt.	
Other _____	-	
<b>Total On-site Quantity</b> (aggregate quantity)	16,000 pounds (16,000 reported)	

<sup>17</sup> See 40 CFR § 720.3 for the definition of such a laboratory supervisor.



# Example Worksheet Showing Calculations for Area of Highest Quantity and Distance of Concern (where applicable) for Three Chemicals in a Facility with Rural Topography

The Area of Highest Quantity (AHQ) is defined as an area, within a circle with a radius of 170 feet, where the greatest amount of a listed toxic, flammable, or explosive COI is located. The AHQ is only reported in the Top-Screen for chemicals at or above the STQ listed for a release concern. For facilities with chemicals located in more than one area, the amount in the AHQ might be found in a single large storage vessel, an area of densely located processing equipment, or in storage areas for raw materials, intermediates, and final products.

The calculation of AHQ for release-toxic COI is approached differently than for release-flammables/explosives when there are multiple chemicals located within the AHQ. Example calculations for each type of chemical are presented separately below.

### Release-Toxic

Building on the TOQ example for three listed chemicals above, the AHQ can be calculated. To determine the AHQ for toxic-release chemicals the following steps are performed:

- Step 1 – Overlay a circle with a radius of 170 feet on a plot plan of the facility.
- Step 2 – Move the circle over or near each location where the COI is located.
- Step 3 – At each location determine the quantity within the circle.
- Step 4 – Report an AHQ for the COI that corresponds to the highest quantity determined at each location in Step 3.

For Chemical A the AHQ is determined by overlaying the 170-foot circle at or near the raw material storage area, railcar unloading, and the Chemical A processing unit. When the circle is moved over the facility, the following is determined:

- Raw material storage and processing units: Quantity of Chemical A in this area is 2,500 pounds in each of three storage tanks, resulting in a total of 7,500 pounds— plus 3,000 in the production unit results in a quantity of 10,500 pounds.
- Processing unit and railcar unloading: When the circle is overlaid near this area the production unit and the railcar unloading are encompassed. With 3,000 pounds in the processing unit and 360,000 pounds in the railcars, 363,000 pounds results at this location.

Therefore, the AHQ for Chemical A is 363,000 pounds, as illustrated in Figure A-2.

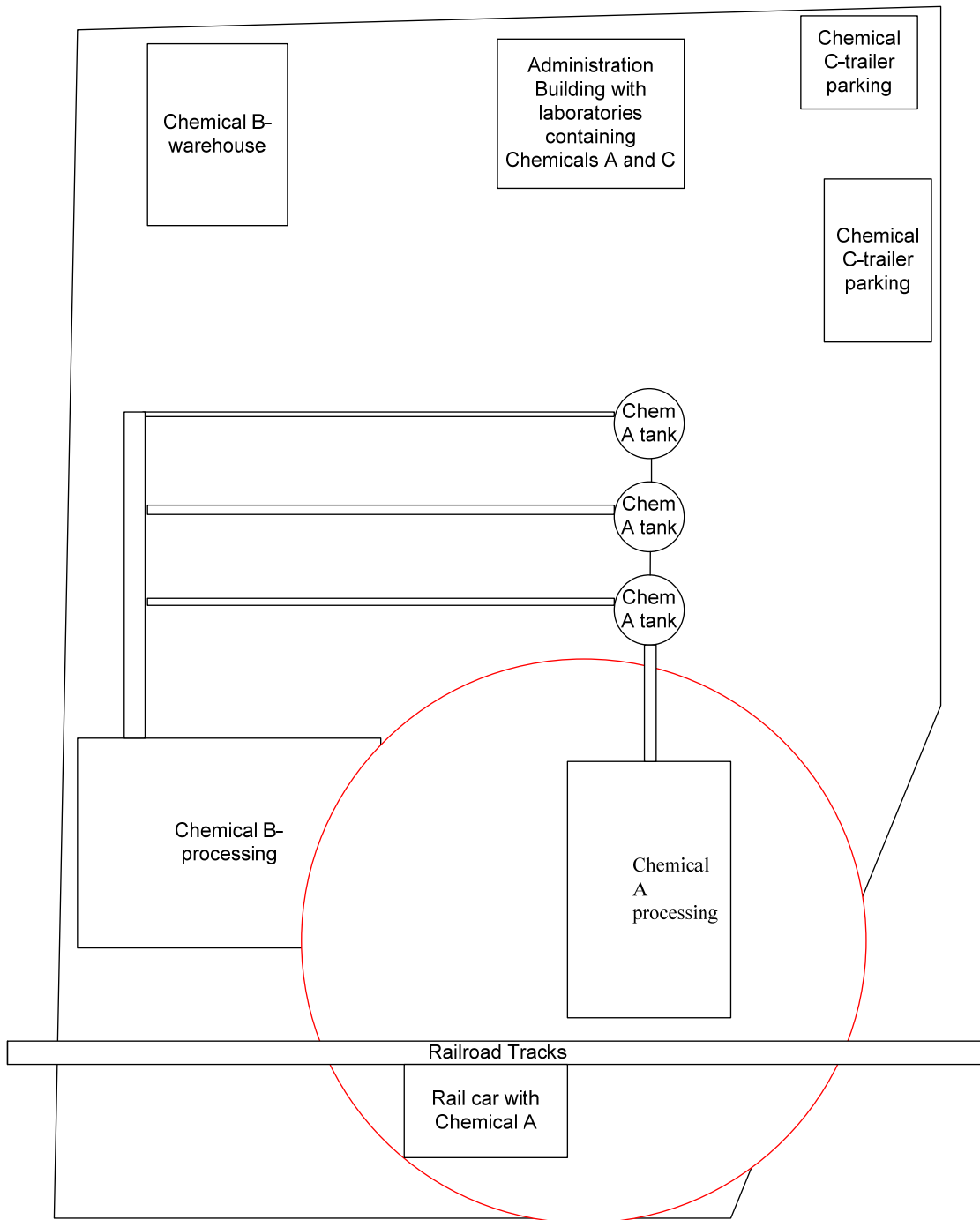


Figure A-2. Example Facility for Calculating Area of Highest Quantity (Chemical A)



## CSAT Top-Screen User's Manual

Moving the circle (170-foot radius) over the facility for each of the three COI results in the following AHQ determinations. Blank worksheets are provided at the end of this Attachment that can be used for documenting the AHQ calculation.

<b>Chemical A: Chlorine</b>	<b>Amount</b>	<b>Distance of Concern (miles)</b>
<b>AHQ Location: Area Encompassing Storage Tanks, Production Process, and Railcars</b>		
Processing units (tanks and vessels)	3,000 pounds	
Storage (bulk storage tanks, vessels, underground caverns, etc.)	3 vessels with a total capacity of 7,500 pounds	
Tanks	-	
Railcars regularly on or adjacent to facility (Even if the railcar is not always present, include the estimated maximum amount at any one time that has been staged in railcars at the facility within the past 60 days.)	Possibility of two 90-ton railcars at the facility. 180,000 lbs each = 360,000 lbs	
Tube trailers parked at the facility (the estimated maximum amount that has been at the facility within the past 60 days)	-	
Other bulk transportation containers (tank cars, isotainers, large storage containers, etc.)	-	
Portable containers (cylinders, bags, etc.). Calculate the number of containers, multiply by the amount and sum the results.	-	
Quantities in laboratories unless the laboratory is supervised by a technically qualified individual <sup>16</sup>	-	
Other _____	-	
<b>Area of Highest Quantity</b> (aggregate quantity)	363,000 pounds (360,000 pounds reported)	



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<b>Chemical B: Dimethylamine AHQ</b>	<b>Amount</b>	<b>Distance of Concern (miles)</b>
<b>AHQ Location: Area Encompassing Warehouse</b>		
Processing units (tanks and vessels)	13,300 pounds	
Storage (bulk storage tanks, vessels, underground caverns, etc.)	-	
Tanks	-	
Railcars regularly on or adjacent to facility (Even if the railcar is not always present, include the estimated maximum amount at any one time that has been staged in railcars at the facility within the past 60 days.)	-	
Tube trailers parked at the facility (the estimated maximum amount that has been at the facility over the past 12 months)	-	
Other bulk transportation containers (tank cars, isotainers, large storage containers, etc.)	-	
Portable containers (cylinders, bags, etc.). Calculate the number of containers, multiply by the amount and sum the results.	Thirty 500-pound totes in warehouse (15,000)	
Quantities in laboratories unless the laboratory is supervised by a technically qualified individual <sup>16</sup>	-	
Other _____	-	
<b>Area of Highest Quantity</b> (aggregate quantity)	15,000 pounds (15,000 lbs reported)	



<b>Chemical C: Boron Trifluoride AHQ</b>	<b>Amount</b>	<b>Distance of Concern (miles)</b>
<b>AHQ Location: Area Encompassing Warehouse</b>		
Processing units (tanks and vessels)	-	
Storage (bulk storage tanks, vessels, underground caverns, etc.)	-	
Tanks	-	
Railcars regularly on or adjacent to facility (Even if the railcar is not always present, include the estimated maximum amount at any one time that has been staged in railcars at the facility within the past 60 days.)	-	
Tube trailers parked at the facility (the estimated maximum amount that has been at the facility within the past 60 days)	Maximum of 1 full tube trailed at the facility. Trailer with eight 2,000-lb tubes (16,000 lbs)	
Other bulk transportation containers (tank cars, isotainers, large storage containers, etc.)	-	
Portable containers (cylinders, bags, etc.). Calculate the number of containers, multiply by the amount and sum the results.	-	
Quantities in laboratories unless the laboratory is supervised by a technical qualified individual <sup>18</sup>	-	
Other _____	-	
<b>Area of Highest Quantity</b> (aggregate quantity)	16,000 pounds (16,000 reported)	

The following can be determined from the AHQ calculations:

- Chemical A: AHQ is equal to TOQ because the quantity of chlorine in the laboratory is not counted.
- Chemical B: AHQ encompasses only the location with the greater amount because the two locations are not located within the same 170-foot circle. See the next example for an AHQ calculation for flammable COI located close together.
- Chemical C: AHQ is equal to the TOQ because this material is only found in one location at the facility.

## Example Worksheet Showing Calculations for Area of Highest Quantity for Release-Flammable and Release-

<sup>18</sup> See 40 CFR § 720.3 for the definition of such a laboratory supervisor.



# Explosive COI where COI are located within the Same AHQ

The difference between the calculation of AHQ for toxics and flammables/explosives is that for toxics the AHQ is reported individually for each COI, whereas for flammables and explosives the total quantity of all listed flammables/explosives (within the circle with a 170-foot radius) needs to be reported as an aggregate amount.

To illustrate the determination of the AHQ for release-flammables and release-explosives COI, a facility with three COI release-flammables is used for illustration (Figure A-3):

- COI Propane: Stored in a single location at the facility with a TOQ of 70,000 pounds;
- Butane: Located in a common flammable storage area as well as other locations at a facility with a TOQ of 70,000 pounds; and
- Pentane: Used in a production process with a TOQ of 20,000.

To determine the AHQ for flammable or explosive the following steps are performed:

- Step 1 – Overlay a circle with a radius of 170 feet on a plot plan of the facility.
- Step 2 – Move the circle over or near each location where the COI is located.
- Step 3 – For each location, determine the total quantity of listed flammable or explosive within the circle.
- Step 4 – Report an AHQ for each flammable or explosive COI that corresponds to the highest quantity determined at each location in Step 3.

For the flammables in the example below, the AHQ is determined by overlaying the 170-foot circle at or near the flammable COI locations at the facility (see Figure A-3). When the circle is moved over the facility, the following is determined:

- Mixed flammable storage: Overlaying the circle with COI propane and butane storage tanks will encompass two tanks (70,000 pounds of COI propane and 50,000 pounds of butane). At this location the AHQ of flammables is 120,000 pounds.
- Process area butane: There are two separate areas of 10,000 pound butane. Overlaying the 170-foot radius at or near these locations results in only 10,000 pounds of butane.
- Production unit with pentane: Overlaying the circle at the production unit encompasses only the 20,000 pounds of COI propane associated with the unit.

For the listed chemicals the following AHQ would be reported in the Top-Screen:

- COI Propane: 120,000 pounds (mixed flammable storage area)
- Butane: 120,000 pounds (mixed flammable storage area)
- Pentane: 20,000 pounds (production unit)



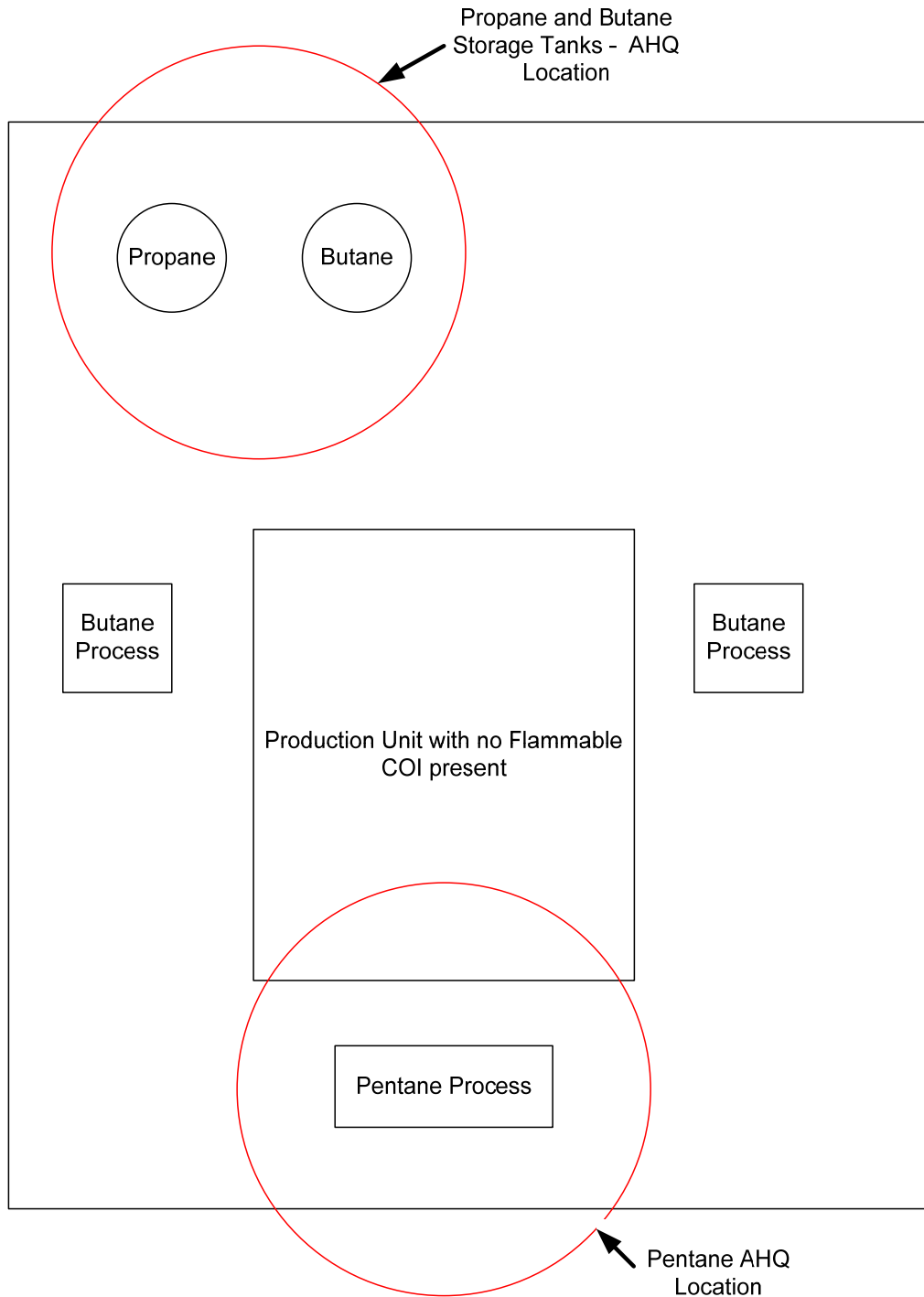


Figure A-3. Example Facility for Calculating Area of Highest Quantity (flammables)



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### TOQ and AHQ Worksheets:

#### TOQ Worksheet

Chemical Name:	Amount	Distance of Concern (miles)
Processing units (tanks and vessels)		
Storage (bulk storage tanks, vessels, underground caverns, etc.)		
Tanks		
Railcars regularly on or adjacent to facility (Even if the railcar is not always present, include the estimated maximum amount at any one time that has been staged in railcars at the facility within the past 60 days.)		
Tube trailers parked at the facility (the estimated maximum amount that has been at the facility within the past 60 days)		
Other bulk transportation containers (tank cars, isotainers, large storage containers, etc.)		
Portable containers (cylinders, bags, etc.). Calculate the number of containers, multiply by the amount, and sum the results.		
Quantities in laboratories, unless the laboratory is supervised by a technically qualified individual <sup>16</sup>		
Other _____		
<b>Total On-site Quantity</b> (aggregate quantity)		



**AHQ Worksheet**

<b>Chemical Name:</b>	<b>Amount</b>	<b>Distance of Concern (miles)</b>
<b>AHQ Location:</b>		
Processing units (tanks and vessels)		
Storage (bulk storage tanks, vessels, underground caverns, etc.)		
Tanks		
Railcars regularly on or adjacent to facility (Even if the railcar is not always present, include the estimated maximum amount at any one time that has been staged in railcars at the facility within the past 60 days.)		
Tube trailers parked at the facility (the estimated maximum amount that has been at the facility within the past 60 days)		
Other bulk transportation containers (tank cars, isotainers, large storage containers, etc.)		
Portable containers (cylinders, bags, etc.). Calculate the number of containers, multiply by the amount and sum the results.		
Quantities in laboratories, unless the laboratory is supervised by a technical qualified individual <sup>19</sup>		
Other _____		
<b>Area of Highest Quantity</b> (aggregate quantity)		

<sup>19</sup> See 40 CFR § 720.3 for the definition of such a laboratory supervisor.



# Attachment B: Sample Post-Top-Screen Letter for Facility that: (1) is not excluded; (2) has completed the Top-Screen; and (3) is found not to be high-risk

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Date

[Submitter Name]

[Company XYZ]

DHS Chemical Security Identification Number [INSERT Unique ID #]

[Address]

[State]

From:

Office of Infrastructure Protection/Chemical Security Compliance Division

Mail Stop 8100

Department of Homeland Security

Washington, DC 20528-8100

RE: Determination of status of [facility name from screen] [unique facility ID] under Chemical Facility Anti-Terrorism Standards

Dear [Submitter Name]:

Section 550 of Public Law 109-295 directs the Department of Homeland Security (DHS) to regulate security at chemical facilities determined to present high levels of security risk.

Based on the data submitted on [date of submission] by [name of submitter] to DHS through the Chemical Security Assessment Tool (CSAT) Top-Screen, the [name of facility from screen] has been determined not to present a high level of security risk. If there is a material change in the type of activities you undertake at this facility, this determination may change and you are required to notify DHS within 60 days of making such a change. Such notification should be sent to [insert contact information].



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Thank you for your time and effort in completing the screening process. If you have any questions about the results of the CSAT Top-Screen please contact [insert contact information].

Sincerely,



# Attachment C: Sample Post-Top-Screen Letter with a Preliminary Tier Determination

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Date

[Submitter Name]

[Company XYZ]

DHS Chemical Security Identification Number [INSERT Unique ID #]

[Address]

[State]

From:

Office of Infrastructure Protection / Chemical Security Compliance Division

Mail Stop 8100

Department of Homeland Security

Washington, DC 20528-8100

RE: Determination of preliminary tiering for [facility name from screen] [unique facility ID]

Dear [Submitter Name]:

Section 550 of Public Law 109-295 directs the Department of Homeland Security (DHS) to regulate security at chemical facilities determined to present high levels of security risk. Chemical facilities so identified are required to conduct a Security Vulnerability Assessment (SVA) and develop a Site Security Plan (SSP) to be reviewed and approved by DHS. The facility may implement layered security measures that meet the applicable Risk Based Performance Standards (RBPSs).

Based on the data submitted on [date of submission] by [name of submitter] to DHS through the Chemical Security Assessment Tool (CSAT) Top-Screen, the [name of facility from screen] has been determined to present a high level of security risk and placed preliminarily in Tier [insert tier level].

**INSERT IF TIER 1, 2, OR 3:** As a preliminary Tier [1, 2, 3] facility, you must conduct the Security Vulnerability Assessment using the CSAT SVA Tool available at <http://www.dhs.gov/chemicalsecurity>.

**INSERT IF TIER 4:** As a preliminary Tier 4 facility, DHS requests that you conduct a Security Vulnerability Assessment using the CSAT SVA Tool available at <http://www.dhs.gov/chemicalsecurity>. You may, however, submit an Alternative Security Program for consideration.



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The SVA for [name of facility] must include assets associated with the chemicals and security issues specified below:

- Release of the following:
  - [Chemical<sub>A</sub>]
  - [Chemical<sub>B</sub>]
  - [Chemical<sub>C</sub>]
- Theft or diversion of the following:
  - [Chemical<sub>A</sub>]
  - [Chemical<sub>B</sub>]
  - [Chemical<sub>C</sub>]
- Sabotage or contamination of the following:
  - [Chemical<sub>A</sub>]
  - [Chemical<sub>B</sub>]
  - [Chemical<sub>C</sub>]
- Production of the following:
  - [Chemical<sub>A</sub>]
  - [Chemical<sub>B</sub>]
  - [Chemical<sub>C</sub>]

The completed CSAT SVA should be submitted to DHS by [insert tier specific date]. DHS will review the submitted SVA and notify the facility in writing of the final Tier determination. Following receipt of the final Tier Determination, the facility may be requested to prepare and submit a Site Security Plan (SSP) in accordance with the requirements of [add regulatory citation].

If you have any questions about the results of the CSAT Top-Screen or the SVA requirements please contact [insert contact information].

Sincerely,