COPY

# Air Permit Renewal Application

*Prepared for:*

## Camp Stanley Storage Activity
## Boerne, Texas

August 2005

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# EXECUTIVE SUMMARY

Camp Stanley Storage Activity (CSSA), Boerne, Texas is a subinstallation of the Red River Army Depot (RRAD), located in Texarkana, Texas. The primary mission of CSSA is receipt, storage, and issuance of ordnance, as well as quality assurance testing and maintenance of military weapons and ammunition. CSSA is located in northwestern Bexar County, approximately 19 miles northwest of downtown San Antonio. A USGS quad map locating CSSA with 3000 foot and 1 mile perimeters from the permitted sources is provided as Figure ES-1.

CSSA operates under Air Permit Number 29466 which expires February 15, 2006. This document constitutes a complete permit renewal application, as required by 30 Texas Administrative Code (TAC) 116.311. This document is organized as follows:

- Section 1 presents the required Texas Commission on Environmental Quality (TCEQ) forms.
- Sections 2 and 3 contain process descriptions and emissions estimates
- Section 4 outlines CSSA's permit history
- Section 5 discusses regulatory compliance
- Section 6 presents a request for revised permit conditions.

CSSA is seeking to renew this permit per the modification summarized in Table 1.1. The items listed in this table are fully explained in the appropriate section of this document. Referenced section numbers are provided in Table 1.1 .

| Sources | Units to Be Removed From the Permit | Units to be Added with this Permit Renewal | Existing Units to Remain in the Permit | Source Description Cross Reference |
|---|---|---|---|---|
| **PERMITTED SOURCES** | | | | |
| EPN 1 | - 225 Gallon Stoddard Solvent Tank | 7 Cold Solvent Degreasers | - Volatile corrosion inhibitor (VCI) dipping tank. | 2.1.4–Cold Solvent<br>2.1.2 –VCI Tank |
| EPN 2 | -225 gallon solvent vat<br>- 35 gallon solvent vat | * | None | |
| EPN 3 | * | * | - 225 gallon solvent tank | 2.1.1–Cleaning Vats |
| EPN 4 | * | * | Fingerprint remover tank | 2.1.3 – Fingerprint remover tank |
| EPN 5 | Solvent recovery tank | * | None | |

| Sources | Units to Be Removed From the Permit | Units to be Added with this Permit Renewal | Existing Units to Remain in the Permit | Source Description Cross Reference |
|---|---|---|---|---|
| **PERMIT BY RULE SOURCES** | | | | |
| Standby Generators | Bldg 1 generator | Bldg. 96 generator | 2 Generators (Radio Tower & Bldg 36)<br>1 Generator Replaced (Bldg 99) | 2.2.1 |
| Boilers | Bldgs 200 and 45 Boilers | * | 1 Boiler (Building 89) | 2.2.2 |
| Above Ground Storage Tanks (ASTS) | Bldg 1 (less than 500 gallon). | 2 Tanks:<br>-1-369 gal Bldg 96 – 1-2,400 gal AST replaced 500 gal AST at Bldg 99. | 5 Tanks:<br>-1-10,000 gal gasoline tank<br>-1-1,000 gal diesel tank<br>-2 small diesel tanks for emergency power generation (less than 500 gals) – Radio Tower, Bldg 36.<br>1-2,000 gallon inactive diesel boiler tank (Bldg 201). | 2.2.3 |
| Gun Bluing | * | * | Gun Bluing at Bldg 90-1 | 2.2.4 |
| WWTP | * | * | WWTP | 2.2.5 |
| Dry Abrasive Cleaning Operations | * | * | Dry Abrasive Cleaning at Bldg 90-2 | 2.2.6 |
| Soil Vapor Extraction Unit (SVE) | * | * | 1 SVE at SWMU B-3<br>1 SVE at AOC-65 | 2.2.7 |
| Paint Booth | One paint booth located at Bldg. 27 | * | One paint booth located at Bldg 200 | 2.2.8 |
| Box Shop | * | * | One box shop located at Bldg 601 | 2.2.9 |
| **GRANDFATHERED SOURCES** | | | | |
| Sand-filled Bullet Traps | Sand filled bullet trap – Bldg 90 | * | Manufactured Bullet Trap – Bldg 90 | 2.3 |

* - no modifications or additions requested

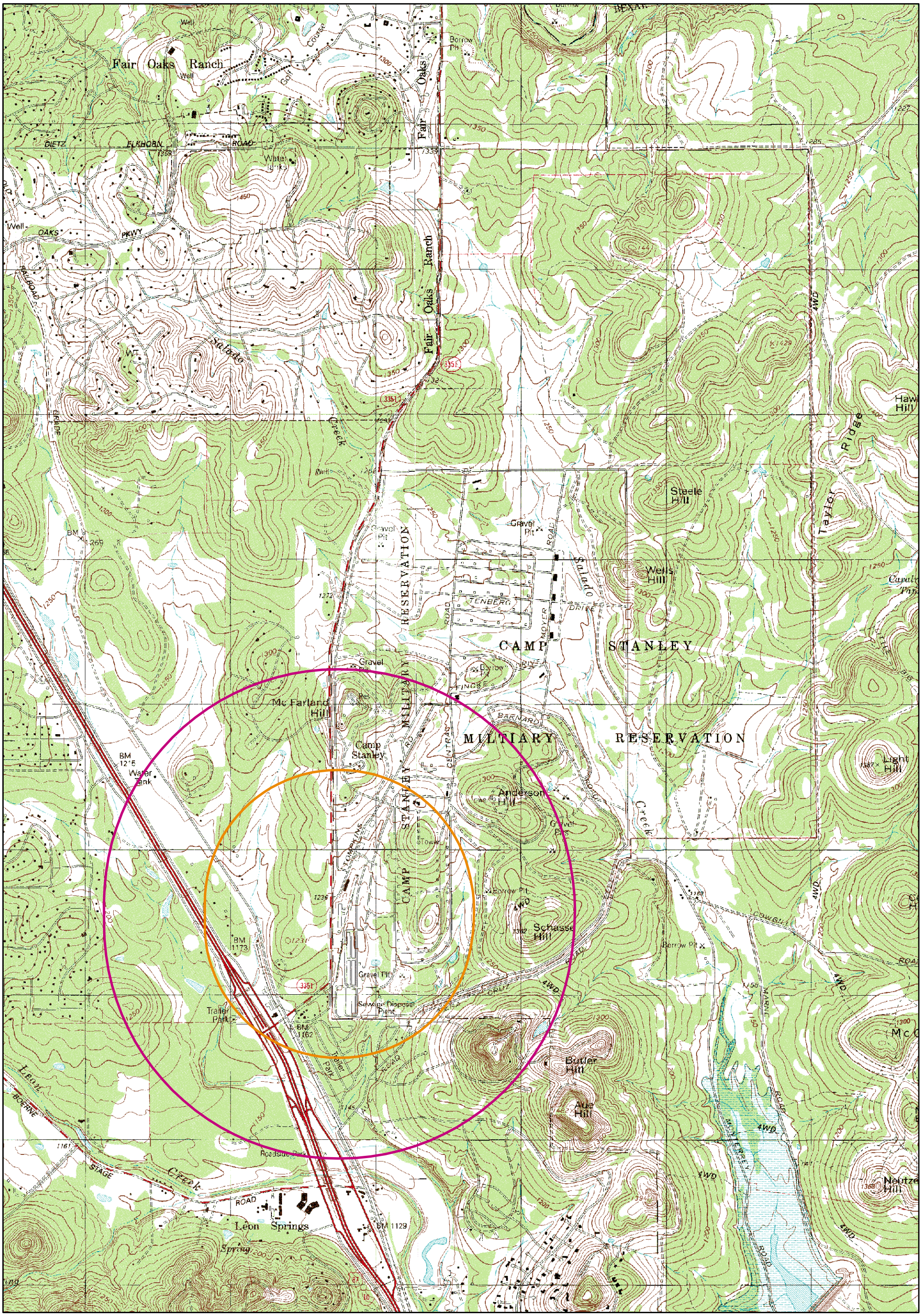


**Figure 1**

CSSA Location on USGS Topo Map

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# ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AOC | Area of Concern |
| CO | Carbon Monoxide |
| CSSA | Camp Stanley Storage Activity |
| DCE | Dichloroethene |
| EPA | Environmental Protection Agency |
| EPN | Emission Point Number |
| HAP | Hazardous Air Pollutant |
| kW | Kilowatt |
| Lb/yr | Pound per year |
| MMBtu/hr | Million British thermal unit per hour |
| $NO_x$ | Nitrogen Oxides |
| PCE | Tetrachloroethene |
| $PM_{10}$ | Particulate Matter less than 10 microns aerodynamic diameter |
| ppmv | parts per million parts by volume |
| psia | pounds per square inch atmospheric pressure |
| RRAD | Red River Army Depot |
| SCFM | standard cubic feet per minute |
| $SO_2$ | Sulfur Dioxide |
| SVE | Soil Vapor Extraction |
| TAC | Texas Administrative Code |
| TCE | Trichloroethene |
| TCEQ | Texas Commission on Environmental Quality |
| tpy | Tons per year |
| VCI | Volatile Corrosion Inhibitor |
| VOC | Volatile Organic Compound |

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# SECTION 1
# TCEQ FORMS

This section contains the following TCEQ forms:

- Core Data Form
- PI-1R form
- Table 1(a)
- Table 30-R (Permit Renewal Fee)

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# CORE DATA FORM

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# TCEQ Core Data Form

TCEQ Use Only

If you have questions on how to fill out this form or about our Central Registry, please contact us at 512-239-5175.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512-239-3282.

## SECTION I: General Information

**1. Reason for Submission** *Example: new wastewater permit; IHW registration; change in customer information; etc.*

**Permit Renewal**

| 2. Attachments | | | | Describe Any Attachments: *(ex: Title V Application, Waste Transporter Application, etc.)* |
|---|---|---|---|---|
| ✓ | YES | | NO | Air Permit Renewal Application |

| 3. Customer Reference Number-*if issued* | | | 4. Regulated Entity Reference Number-*if issued* | | |
|---|---|---|---|---|---|
| CN | 600126262 | *(9 digits)* | RN | RN1006628 | *(9 digits)* |

## SECTION II: Customer Information

**5. Customer Role** *(Proposed or Actual)* -- As It Relates to the Regulated Entity Listed on This Form

| *Please check one of the following:* | ✓ | Owner | | Operator | | Owner and Operator |
|---|---|---|---|---|---|---|
| | Occupational Licensee | | Volunteer Cleanup Applicant | | | Other |
| *TCEQ Use Only* | | Superfund | | PST | | Respondent |

**6. General Customer Information**

| | New Customer | | Change to Customer Information |
|---|---|---|---|
| | Change in Regulated Entity Ownership | ✓ | No Change* |

*If "No Change" and Section I is complete, skip to Section III - Regulated Entity Information.

| 7. Type of Customer: | | Individual | | Sole Proprietorship - D.B.A. |
|---|---|---|---|---|
| | Partnership | | Corporation | | Federal Government |
| | State Government | | County Government | | City Government |
| | Other Government | | | | Other |

| 8. Customer Name *(If an individual, please print last name first)* | If New Name, Enter Previous Name |
|---|---|
| | |

| 9. Mailing Address | | | | |
|---|---|---|---|---|
| | | | | |
| | City | State | ZIP | ZIP + 4 |
| | | | | |

| 10. Country Mailing Information *if outside USA* | 11. E-Mail Address *if applicable* |
|---|---|
| | |

| 12. Telephone Number | 13. Extension or Code | 14. Fax Number *if applicable* |
|---|---|---|
| | | |

| 15. Federal Tax ID *(9 digits)* | 16. State Franchise Tax ID Number *if applicable* | 17. DUNS Number *if applicable (9 digits)* |
|---|---|---|
| | | |

| 18. Number of Employees | | | | | | | | | | 19. Independently Owned and Operated? | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0-20 | | 21-100 | | 101-250 | | 251-500 | | 501 and higher | | Yes | | No |

## SECTION III: Regulated Entity Information

**20. General Regulated Entity Information**

| | New Regulated Entity | | Change to Regulated Entity Information | ✓ | No Change* |
|---|---|---|---|---|---|

*If "No Change" and Section I is complete, skip to Section IV - Preparer Information.

Press the Tab Key to continue to page 2.

| 21. Regulated Entity Name *(If an individual, please print last name first)* | | | | |
|---|---|---|---|---|
| | | | | |
| 22. Street Address (No PO Boxes) | | | | |
| | City | State | ZIP | ZIP + 4 |
| | | | | |
| 23. Mailing Address | | | | |
| | City | State | ZIP | ZIP + 4 |
| | | | | |
| 24. E-Mail Address: | | | | |

| 25. Telephone Number | 26. Extension or Code | 27. Fax Number *if applicable* |
|---|---|---|
| | | |

| 28. Primary SIC Code (4 digits) | 29. Secondary SIC Code (4 digits) | 30. Primary NAICS Code (5 or 6 digits) | 31. Secondary NAICS Code (5 or 6 digits) |
|---|---|---|---|
| | | | |

| 32. What is the Primary Business of this entity? *(Please do not repeat the SIC or NAICS description)* |
|---|
| |

***Questions 33 - 37 address geographic location. Please refer to the instructions for applciability.***

| 33. County | |
|---|---|
| 34. Description of Physical Location | |
| | |

| 35. Nearest City | State | Nearest Zip |
|---|---|---|
| | | |

| 36. Latitude (N) | | | 37. Longitude (W) | | |
|---|---|---|---|---|---|
| Degrees | Minutes | Seconds | Degrees | Minutes | Seconds |
| | | | | | |

**38. TCEQ Programs In Which This Regulated Entity Participates** *Not all programs have been listed. Please add to this list as needed. If you don't know or are unsure, please mark "Unknown".* If you know a permit or registration # for this entity, please write it below the program."

| | | | | | |
|---|---|---|---|---|---|
| | Animal Feeding Operation | | Petroleum Storage Tank | | Water Rights |
| | | | | | |
| | Title V - Air | | Wastewater Permit | | |
| | | | | | |
| | Industrial & Hazardous Waste | | Water Districts | | |
| | | | | | |
| | Municipal Solid Waste | | Water Utilities | | Unknown |
| | | | | | |
| | New Source Review - Air | | Licensing - Types | | |
| | | | | | |

## SECTION IV: Preparer Information

| 39. Name | 40. Title |
|---|---|
| Ken Rice | Project Manager |

| 41. Telephone Number | 42. Extension or Code | 43. Fax Number *if applicable* |
|---|---|---|
| (512) 719-6000 | | (512) 719-6099 |

| 44. E-mail Address: | ken.rice@parsons.com |
|---|---|

# PI-1R FORM

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# Texas Commission on Environmental Quality
# Form PI-1R
# General Application for Air Permit Renewals

## I. APPLICANT INFORMATION

A. Company or Other Legal Name: United States Army, Camp Stanley Storage Activity

Texas Secretary of State Charter/Registration Number (if applicable):

B. Company Official Contact Name and Title: Mr. Jason Shirley, Installation Manager

Mailing Address: 25800 Ralph Fair Road

City: Boerne State: TX Zip Code: 78015-4800

Telephone: (210) 221-7461 Fax: (210) 221-7488 E-mail:

C. Technical Contact Name and Title: Ms. Glare Sanchez, Environmental Manager

Company: United States Army, Camp Stanley Storage Activity

Mailing Address: 25800 Ralph Fair Road

City: Boerne State: TX Zip Code: 78015-4800

Telephone: (210) 698-5208 Fax: (210) 221-7488 E-mail: environmentaldept@campstanley.net

D. Facility Location Information:

Street Address: 25800 Ralph Fair Road

If no street address, provide written driving directions to the site: *(attach description if additional space is needed)*

City: Boerne County: Bexar Zip Code: 78015-4800

E. TCEQ Account Identification Number: BG-0481-S

F. Is a TCEQ Core Data Form (TCEQ Form No. 10400) attached? ☑ YES ☐ NO

G. TCEQ Customer Reference Number *(leave blank if unknown)*: CN-600126262

H. TCEQ Regulated Entity Number *(leave blank if unknown)*: RN100662840

## II. IMPORTANT GENERAL INFORMATION

A. Is confidential information submitted with this application? ☐ YES ☑ NO

If "YES," is each "confidential" page marked "CONFIDENTIAL" in large red letters? ☐ YES ☐ NO

B. Name of State Senator and district number for this facility site: Senator Jeff Wentworth, District 25

Name of State Representative and district number for this facility site: Representative Frank J. Corte, District 122

## III. FACILITY AND SOURCE INFORMATION

A. Site Name: Camp Stanley Storage Activity

B. Area Name/Type of Facility: Cold Solvent Cleaning ☑ PERMANENT ☐ PORTABLE

C. Principal Company Product or Business: Ordnance Storage

Primary Standard Industrial Classification (SIC) Code: 9711

North American Industrial Classification System (NAICS) Code: 928110

# Texas Commission on Environmental Quality
## Form PI-1R
## General Application for Air Permit Renewals

**IV. TYPE OF PERMIT RENEWAL AND ASSOCIATED ACTIONS**

A. Permit Number: 29466 Permit Expiration Date: February 15, 2006

B. Permit Type (check all that apply):

- [✓] State Permit
- [ ] Flexible Permit
- [✓] Existing Facility Flexible Permit
- [ ] Multiple Plant Permit
- [ ] Special Permit
- [ ] Electric Generating Facility Permit
- [ ] Pipeline Facility Permit
- [ ] Voluntary Emission Reduction Permit
- [ ] Existing (Grandfathered) Facility Permit
- [ ] Other:_____

C. Have permit revisions or alterations occurred since originally issued or last renewed? [ ] YES [✓] NO

If "YES," list dates of approval:

D. Have permit amendments occurred since originally issued or last renewed? [ ] YES [✓] NO

If "YES," list dates of approval:

E. Are there any permit alterations or amendments pending before the TCEQ? [ ] YES [✓] NO

If "YES," list actions and dates of submittals:

F. Are there other actions associated with facilities covered under this permit? [ ] YES [✓] NO

If "YES," list actions and dates of submittals or approvals:

G. Are there any associated federal Prevention of Significant Deterioration (PSD), Nonattainment (NA) or major source hazardous pollutants Federal Clean Air Act § 112(g) permits? [ ] YES [✓] NO

If "YES," list all associated federal permit numbers and issue or modification dates:

H. Are there any Permits by Rule (PBR), changes to qualified facilities or standard permits associated with this permit to be rolled in? [✓] YES [ ] NO

If "YES," list all associated registration numbers and issue dates: Safety Kleen, PBR 106.454, May 2004

I. Are there any other permits to be consolidated into this permit? [ ] YES [✓] NO

If "YES," Indicate the affected permit numbers and attach a permit renewal application for each permit :
Permit No(s).:

J. Have any of the following changes been made to or proposed for the facilities covered by this permit since it was issued, last amended, or renewed?

Construction of a new emission source that does not meet the requirements of one or more permits by rule or a standard permit. [ ] YES [✓] NO

The emission of new chemical species - a change in character of emissions. [ ] YES [✓] NO

An increase in emission rates on a short term or annual basis. This includes increases of a Criteria pollutant as well as increases of a chemical species. [ ] YES [✓] NO

A change in the method of emission control if the emission control is a source itself such as a thermal oxidizer or flare. [ ] YES [✓] NO

If"YES,"to any of the above, a concurrent permit amendment is required before the permit can be renewed.

| | | |
|---|---|---|
| K. Is this facility located at a site required to obtain a federal operating permit under 30 TAC Chapter 122? If "NO," go to Section V. | ☐ YES | ☑ NO |
| Is a site operating permit (SOP) or general operating permit (GOP) review pending for this source, area, or site? | ☐ YES | ☐ NO |
| Is an SOP or GOP issued for this source, area, or site? | ☐ YES | ☐ NO |
| List SOP or GOP number(s): | | |

## V. PERMIT FEE INFORMATION

| | | |
|---|---|---|
| Fee Paid for this application: | $ 600.00 | |
| Is a Table 30-R entitled, "Estimated Emissions and Fee Certification" attached? | ☑ YES | ☐ NO |
| Is a copy of the required fee **payment** based on annual emission rates attached to the original submittal of this application? | ☑ YES | ☐ NO |

## VI. PUBLIC NOTICE INFORMATION

A. Responsible Person:

| | | | | | |
|---|---|---|---|---|---|
| Name and Title: | Mr. Jason Shirley, Post Commander | | | | |
| Mailing Address: | 25800 Ralph Fair Road | | | | |
| City: | Boerne | State: | TX | Zip Code: | 78015-4800 |
| Telephone: | (210) 221-7461 | Fax: | (210) 221-7488 | E-mail: | |

B. Technical Contact:

| | | | | | |
|---|---|---|---|---|---|
| Name and Title: | Mr. Jason Shirley, Post Commander | | | | |
| Mailing Address: | 25800 Ralph Fair Road | | | | |
| City: | Boerne | State: | TX | Zip Code: | 78015-4800 |
| Telephone: | (210) 221-7461 | Fax: | (210) 221-7488 | E-mail: | |

C. Application in Public Place:

| | | | | | |
|---|---|---|---|---|---|
| Name of public place: | San Antonio Public Library | | | | |
| Physical Address: | 600 Soledad St. | City: | San Antonio | County: | Bexar |

| | | |
|---|---|---|
| Has the public place granted authorization to place the application for public viewing and copying? | ☑ YES | ☐ NO |

D. Small Business Classification:

| | | |
|---|---|---|
| Does this company (including parent companies and subsidiary companies) employ 100 or fewer persons? | ☐ YES | ☑ NO |
| Is the site a major source under 30 TAC Chapter 122, Federal Operating Permit Program? | ☐ YES | ☑ NO |
| Are the site emissions of any individual air contaminant greater than 50 tpy? | ☐ YES | ☑ NO |
| Are the site emissions of all air contaminants combined greater than 75 tpy? | ☐ YES | ☑ NO |

E. Bilingual notice confirmation:

| | | |
|---|---|---|
| Is a bilingual program **required** by the Texas Education Code in the School District? | ☑ YES | ☐ NO |

| | | |
|---|---|---|
| Are the children who attend either the elementary school or the middle school nearest to the facility eligible to be enrolled in a bilingual program provided by the district? | ☑ YES | ☐ NO |
| If "YES," which language is **required** by the bilingual program? Spanish | | |
| **VII. TECHNICAL INFORMATION** | | |
| A. Is a current area map attached? | ☑ YES | ☐ NO |
| Are any schools located within 3,000 feet of this facility? | ☐ YES | ☑ NO |
| B. Is a plot plan of the facility property attached? | ☑ YES | ☐ NO |
| C. Is a process flow diagram and a process description attached? | ☑ YES | ☐ NO |
| D. Maximum Operating Schedule: Hours/Day 24 Days/Week 7 Weeks/Year 52 | | |
| Does this facility operate seasonally? | ☐ YES | ☑ NO |
| If "YES," please describe: | | |
| **VII. TECHNICAL INFORMATION (continued)** | | |
| E. Are maximum emissions data and calculations attached? | ☑ YES | ☐ NO |
| 1. Is a Table 1(a) entitled, "Emission Point Summary Table," attached? | ☑ YES | ☐ NO |
| 2. Is a Table 2 entitled, "Material Balance Table," attached? | ☐ YES | ☑ NO |
| 3. Are equipment, process, or control device tables attached? | ☐ YES | ☑ NO |
| 4. Are routine maintenance, start-up, or shutdown emissions included? | ☐ YES | ☑ NO |
| **VIII. STATE REGULATORY REQUIREMENTS** Applicants must be in compliance with all applicable state regulations to obtain a permit renewal. | | |
| A. Is the facility being operated in accordance with all requirements, limits, and conditions of the current permit, including representations in the initial application and any subsequent alterations, amendments, or other authorizations? | ☑ YES | ☐ NO |
| Describe potential or pending authorizations(s): | | |
| B. Is the facility able to measure emissions of significant air contaminants? | ☐ YES | ☑ NO |
| Are details attached? | ☐ YES | ☑ NO |
| C. Are all facility emission controls economically reasonable and technically practicable considering the age of the facility? | ☑ YES | ☐ NO |
| D. Is the facility subject to any requirements of 30 TAC Chapter 115? | ☑ YES | ☐ NO |
| **If "YES," list the rules and attach documentation on how the facility emission controls, and emissions comply with the rule standards or exemptions.** | | |
| E. Is the facility subject to any requirements in 30 TAC Chapter 117? | ☐ YES | ☑ NO |
| **If "YES," list the rules and attach documentation on how the facility emission controls, and emissions comply with the rule standards or exemptions.** | | |
| F. Is this facility located at a site within the Houston/Galveston nonattainment area (Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties)? | ☐ YES | ☑ NO |
| Does the facility at this site have an uncontrolled design capacity to emit 10 tpy or more of $NO_x$? | ☐ YES | ☑ NO |
| Is this site subject to 30 TAC Chapter 101, Subchapter H, Division 3 (Mass Emissions Cap and Trade)? | ☐ YES | ☑ NO |
| Does this action make the site subject to 30 TAC § 101[H][3]? | ☐ YES | ☑ NO |

| | | |
|---|---|---|
| Does this action require the site to obtain additional emission allowances? | ☐ YES | ☑ NO |

**IX. FEDERAL REGULATORY REQUIREMENTS**

Applicants must be in compliance with all applicable federal regulations to obtain a permit renewal.

*If any of the following questions is answered "YES", list the rules and attach documentation of how the emission controls (if any are required) meet rule requirements, how work practices meet rule requirements, calculations or sampling/test data demonstrating compliance with any numerical standards (ppm, lb/MMBtu, g/hp-hr, lb VOC/gallon solids, etc.) or continuous emissions monitoring system (CEMS) data.*

| | | |
|---|---|---|
| A. Does a Title 40 Code of Federal Regulations Part 60, (40 CFR Part 60) New Source Performance Standard (NSPS) apply to the facility in this application? | ☐ YES | ☑ NO |
| B. Does 40 CFR Part 61, National Emissions Standard for Hazardous Air Pollutants (NESHAP) apply to the facility in this application? | ☐ YES | ☑ NO |
| C. Does a 40 CFR Part 63, Maximum Achievable Control Technology (MACT) standard apply to the facility in this application? | ☐ YES | ☑ NO |

**X. COPIES OF THIS APPLICATION**

| | | |
|---|---|---|
| A. Has the required fee been sent separately with a copy of this Form PI-1R to the TCEQ Revenue Section? (MC 214, P.O. Box 13088, Austin, Texas 78711-3088). | ☑ YES | ☐ NO |
| B. Is the Core Data Form, Form PI-1R, and all attachments being sent to the TCEQ in Austin? | ☑ YES | ☐ NO |
| OPTIONAL: Has an extra copy of the Core Data Form, Form PI-1R and all attachments been sent to the TCEQ in Austin? | ☑ YES | ☐ NO |
| If "YES," please mark this application as "COPY." | | |
| C. Is a copy of the Core Data Form, the Form PI-1R, and all attachments being sent to the appropriate TCEQ regional office? | ☑ YES | ☐ NO |
| D. Is a copy of the Core Data Form, the Form PI-1R, and all attachments being sent to each appropriate local air pollution control program(s)? | ☑ YES | ☐ NO |
| List all local air pollution control program(s): | | |

**XI. SIGNATURE**

*The signature below confirms that I have knowledge of the facts included in this application and that these facts are true and correct to the best of my knowledge and belief. I further state that to the best of my knowledge and belief, the project for which application is made will not in any way violate any provision of the Texas Water Code (TWC), Chapter 7, Texas Clean Air Act (TCAA), as amended, or any of the air quality rules and regulations of the Texas Commission on Environmental Quality or any local governmental ordinance or resolution enacted pursuant to the TCAA. I further state that I understand my signature indicates that this application meets all applicable nonattainment, prevention of significant deterioration, or major source of hazardous air pollutant permitting requirements. I further state that I have read and understand TWC §§ 7.177-7.183, which defines CRIMINAL OFFENSES for certain violations, including intentionally or knowingly making or causing to be made false material statements or representations in this application, and TWC § 7.187, pertaining to CRIMINAL PENALTIES.*

NAME: JASON D. SHIRLEY TITLE: Installation Manager

SIGNATURE: Jason Shirley DATE: 12 Aug 05

Original Signature Required

Reset Form Print Form

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# TABLE 1(A)

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# TEXAS COMMISSIO[illegible]N ENVIRONMENTAL QUALITY

## Table 1(a) Emission Point Summary

| Permit: | 29466 | RN: | RN100662840 | Date: | August 15, 2005 |
|---|---|---|---|---|---|
| Company: | United States Army, Camp Stanley Storage Activity | | | | |

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

| AIR CONTAMINANT DATA | | | | | |
|---|---|---|---|---|---|
| 1. Emission Point | | | 2. Component or Air Contaminant Name | 3. Air Contaminant Emission Rate | |
| EPN (A) | FIN (B) | NAME (C) | | Pounds per Hour (A) | TPY (B) |
| EPN 1 | EPN 1 | Bldg 90 VCI Vat | VOC (100 % Isopropyl Alcohol) | 0.42 | 0.80 |
| EPN 1 | EPN 1 | Safety Kleen units (7) | VOC (100 % Stoddard Solvent) | 3.85 | 2.31 |
| EPN 3 | EPN 3 | Cleaning Vat No. 4 | VOC (100 % Stoddard Solvent) | 0.29 | 0.48 |
| EPN 4 | EPN 4 | Fingerprint Remover Tank | VOC (100 % Mineral Spirits) | 0.28 | 0.53 |
| | | | | | |
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EPN = Emission Point Number
FIN = Facility Identification Number

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

## Table 1(a) Emission Point Summary

| Permit Number: | 29466 | RN Number: | RN100662840 | Date: | August 15, 2005 |
|---|---|---|---|---|---|
| Company Name: | United States Army, Camp Stanley Storage Activity | | | | |

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

| AIR CONTAMINANT DATA | | | EMISSION POINT DISCHARGE PARAMETERS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Emission Point | | | 4. UTM Coordinates of Emission Point | | | Source | | | | | | | | |
| | | | | | | 5. Building Height (Feet) | 6. Height Above Ground (Feet) | 7. Stack Exit Data | | | 8. Fugitives | | | |
| EPN (A) | FIN (B) | NAME (C) | Zone | East (Meters) | North (Meters) | | | Diameter (Feet) (A) | Velocity (fps) (B) | Temperature (°f) (C) | Length (ft.) (A) | Width (ft.) (B) | Axis Degrees (C) |
| EPN 1 | EPN 1 | Bldg 90 VCI Vat | 14 | 535697.4 | 3283769.0 | | | | | Ambient | | | |
| EPN 1 | EPN 1 | Safety Kleen units | 14 | 535745.6 | 3283542.8 | | | | | Ambient | | | |
| EPN 3 | EPN 3 | Cleaning Vat No. 4 | 14 | 535714.8 | 3283736.5 | | | | | Ambient | | | |
| EPN 4 | EPN 4 | Fingerprint Remover Tank | 14 | 535697.2 | 3283763.0 | | | | | Ambient | | | |
| | | | | | | | | | | | | | |
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EPN = Emission Point Number
FIN = Facility Identification Number

# TABLE 30-R

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**Texas Commission on Environmental Quality**

# Table 30-R
# Permit Renewal Fees

**Title 30 Texas Administrative Code §116.313**

**Renewal Fees** - Each permit renewal requires an application fee that is based on the annual allowable emissions represented in the application. The total emissions must include those represented in any permit by rule (PBR) or standard permits rolled into the renewal or increases associated with a concurrent amendment application. The following table may be used to calculate renewal fees.

To calculate the fee, multiply the number of tons in excess of the minimum limit of the appropriate category by the incremental fee, then add this amount to the base fee. For example, if total emissions of all air contaminants are 50 tpy, the total fee would be $1,993 (base fee of $1,265, plus incremental fee of $28 x 26 tons or $728).

**RENEWAL FEE SCHEDULE**

| If the sum of all emission rates (tpy) on Table 1(a) is: | | |
|---|---|---|
| Equal to or OVER | But NOT over | The renewal fee is: |
| 0 | 5 | $600.00 |
| 5 | 24 | $600 + $35/ton for the amount over 5 tpy |
| 24 | 99 | $1,265 + $28/ton for the amount over 24 tpy |
| 99 | 651 | $3,365 + $12/ton for the amount over 99 tpy |
| 651 | No Limit | $10,000 |

Enter the total number of tons per year of emissions to be covered by the permit renewal:

4.12 **tpy**

**The renewal fee is** **$600.00**

*Fees are due and payable at the time the renewal application is filed. No fee will be accepted before the permit holder has been notified by the commission that the permit is scheduled for review. All permit review fees shall be remitted by check, certified check, electronic funds transfer, or money order payable to the Texas Commission on Environmental Quality (TCEQ) and mailed to the TCEQ, P.O. Box 13088, MC 214, Austin, Texas 78711-3088. The required fees must be received before the agency will consider an application to be complete.*

Signature: Jason D Shirley

Title: Installation Manager

Company: US Dept of the Army

Date: 12 Aug 05

STEVEN E HONECK
CAMP STANLEY
CAMP STANLEY STORAGE ACTIVITY
25800 RALPH FAIR RD
BOERNE, TX 78015

United States Government
For Official Use Only
US Government Tax Exempt

1033

17-2/910 77770

Aug 13, 2005
DATE

PAY TO THE ORDER OF T.C.E.Q. $ 600.00

Six Hundred - xx/100 DOLLARS

Security Features Details on Back

NOT VALID FOR MORE THAN $2500

usbank.
U.S. Bank National Association
Minneapolis, MN 55440

FOR

MP

⑆091000022⑈ 4716000492364⑈ 1033

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# SECTION 2
# PROCESS DESCRIPTION

There were five EPNs previously authorized under Air Permit Number 29466 at CSSA as listed below.

- EPN 1 included two sources, a 225 gallon solvent vat and a volatile corrosion inhibitor (VCI) dipping tank.
- EPN 2 contained one 225 gallon and one 35 gallon solvent vat.
- EPN 3 consisted of an additional 225 gallon solvent vat.
- EPN 4 is the fingerprint remover tank.
- EPN 5 was a solvent recovery tank.

Currently, CSSA seeks authorization for it's permit renewal of a modified EPN 1, EPN 3 and EPN 4. EPN 2, and 5 are no longer in operation and are not included in this air permit renewal. The processes associated with each EPN currently seeking re-authorization are discussed in greater detail below. A plot plan of CSSA's EPN's and other air emission sources is shown on Figure 2.

## 2.1 PERMITTED SOURCES

### 2.1.1 Cleaning Vats

EPN 1 includes cold-cleaning degreasers utilizing a Stoddard solvent-based solution to clean individual parts of military weapons. EPN 3 includes vat four which has a capacity of 225 gallons. Dirty weapon parts are submerged in the solvent and allowed to soak. Coated parts are removed from the solvent and placed in an internal drainage rack where they are allowed to dry until solvent dripping has ceased. When parts are thoroughly dry, they are removed from the drainage rack.

### 2.1.2 Volatile Corrosion Inhibitor

EPN 1 also includes the volatile corrosion inhibitor tank which is a cold-cleaning dip tank that utilizes a solution comprised primarily of non-volatile paraffinic oil and isopropyl alcohol to treat individual parts of military weapons to protect them from corrosion. The vat has a maximum capacity of 225 gallons. Weapons parts are submerged in the VCI solution and allowed to soak. The solvent in the vat is slightly agitated to ensure thorough coating of parts.

Bldg. 200
PBR 1

Bldg. 201
Diesel Boiler
Diesel AST

PBR 4
(B-3 SVE System)

Bldg. 46
Diesel Boiler
Diesel AST

Bldg. 36
Standby Generator

Bldg. 5
Gasoline AST
Diesel AST

Bldg. 27
EPN7

Benchmark BM-4
N 3284499.79
E 536321.985

Bldg. 1
Standby Generator

Bldg. 99
Diesel AST
Standby Generator

Radio Tower
Standby Generator

Bldg. 90-1
EPN5

EPN1

PBR 3
(AOC-65 SVE System)

EPN4

EPN3

EPN2

Bldg. 89
Natural Gas Boiler

WWTP

Benchmark BM-5
N 3283106.908
E 535678.473

N
W
E
S

1,000 500 0 1,000 Feet

EPN Locations
Benchmark Locations
CSSA Boundary
Salado Creek
Buildings

**Figure 2**

Emission Point Locations
Camp Stanley Storage Activity

PARSONS

I:\air_permit.mxd

Coated parts are removed from the solvent and placed in an internal drainage rack where they are allowed to dry until solvent dripping has ceased. When parts are thoroughly dry, they are removed from the drainage rack.

### 2.1.3 Fingerprint Remover Tank

The fingerprint remover tank (EPN 4) is a cold-cleaning dip tank that utilizes mineral spirits to remove fingerprints from individual parts of military weapons. The tank has a maximum solvent capacity of 225 gallons. Dirty weapons parts are submerged in the solution and allowed to soak. The solvent vat is slightly agitated to ensure thorough cleaning of parts.

Coated parts are removed from the solvent and placed in an internal drainage rack where they are allowed to dry until solvent dripping has ceased. When parts are thoroughly dry, they are removed from the drainage rack.

### 2.1.4 Cold Solvent Degreasers

CSSA operates seven cold solvent degreasers for parts cleaning in Building 90. These degreasers are used to clean parts used to repair and maintain small arms. These units supplement the currently permitted cleaning vats and the fingerprint removal tank; they are not used at the same time as the currently permitted units. The degreasers are manufactured by Safety-Kleen (three Model 250 and four Model 251). Model 250 is a recycling parts cleaner, which contains a distillation unit. Model 250 is a recycling parts cleaner, which contains a distillation unit and is shown in Figure 3. When the solvent no longer performs the user can start a distillation cycle, which refreshes the used solvent. Model 251 is a portable remote reservoir cleaning station, which is used in conjunction with Model 250. Model 251 may be filled with up to one gallon of solvent and moved to various locations where parts cleaning is necessary. The solvent from the Model 251 is returned to a Model 250 unit for recycling at the end of each use. The process flow diagram for both the Models 250 and 251 are shown in Figure 4. These sources are not required to be permitted per 30 TAC § 106.454 as their annualized and hourly emission rates are below the allowable emission rates. As discussed in Section 6, CSSA wishes to include emissions from these degreasers in their permitted emissions as additions to EPN 1.

**Figure 3. Model 250 Recycling Parts Cleaner**

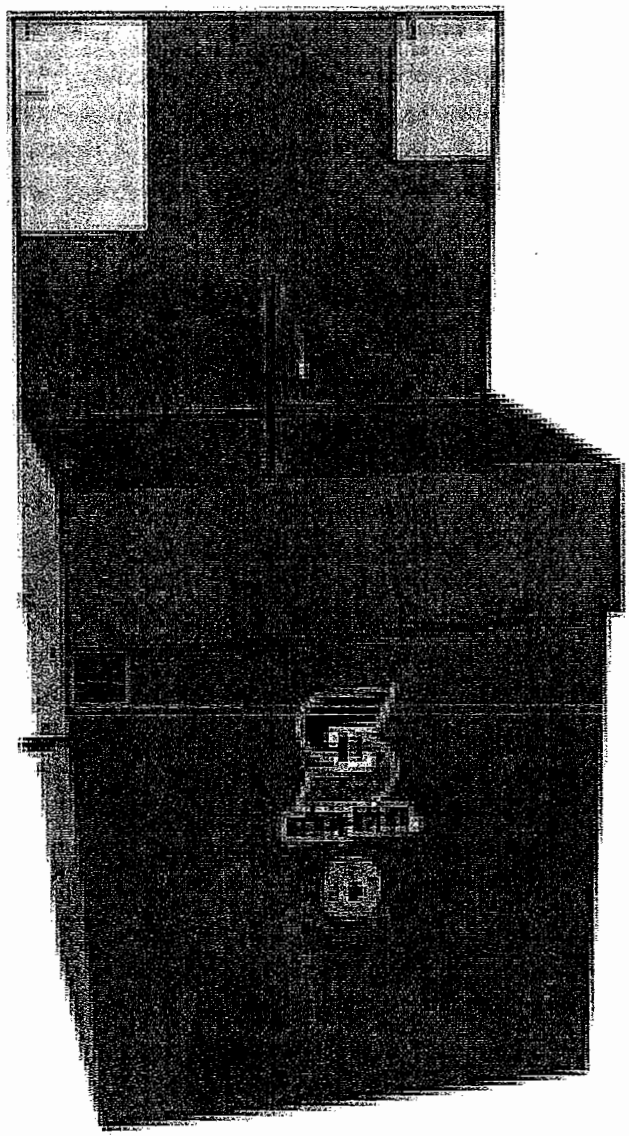
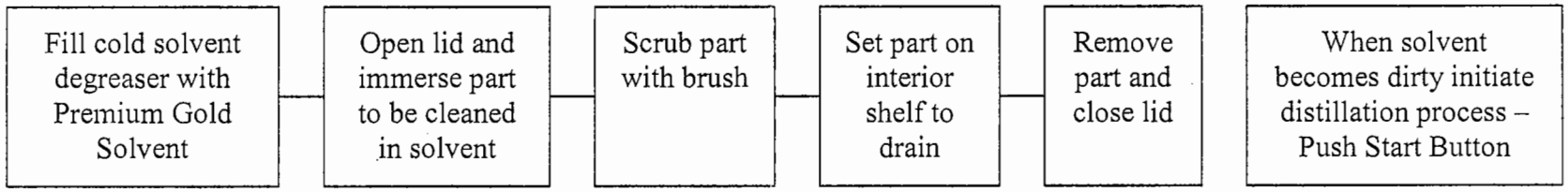
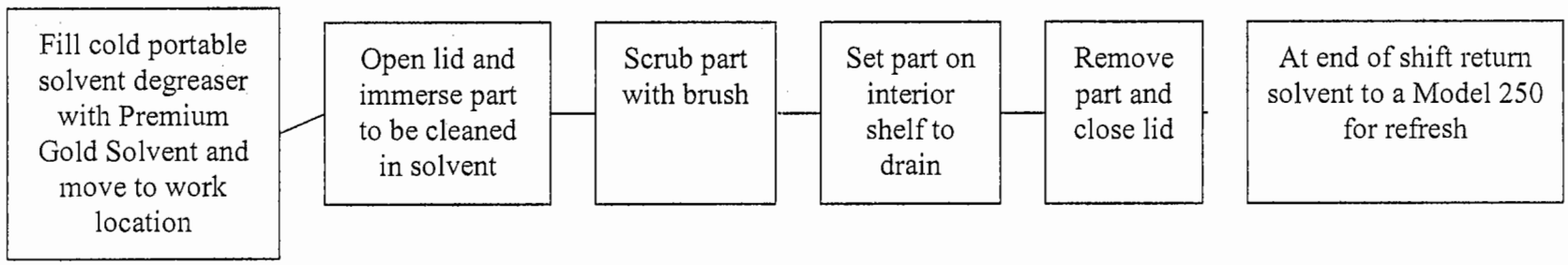


**Figure 4 Process Flow Diagram**

## Model 250




## Model 251



## 2.2 SOURCES PERMITTED BY RULE

### 2.2.1 Standby Generators

There are four internal combustion engines used for backup electrical generation at CSSA; servicing the Radio Tower, Building 36, Building 96, and Building 99. These generators use diesel oil (#2) as the fuel source. Recently, the 500 kilowatt (kW) standby generator at Building 99 was replaced with a newer unit (PBR # 75807). These sources are not required to be permitted per 30 TAC § 106.511 as their maximum annual operating hours do not exceed 10% of the normal annual operating schedule of the primary equipment.

### 2.2.2 Boilers

There is one natural gas fired boiler used for supplemental/backup steam capacity (comfort heat) at CSSA, located in Building 89. The heat input for the boiler is 4.2677 MMBtu/hr at Building 89. Permitting is not required for this source based on 30 TAC § 106.183 because they are rated at less than 40 MMBtu/hr heat input.

### 2.2.3 Storage Tanks

CSSA uses a 10,000-gallon horizontal fixed roof tank for storage and dispensing of vehicle gasoline and a 1,000-gallon fixed roof tank for storage and dispensing vehicle/equipment diesel fuel. In addition, four smaller tanks are associated with the standby generators (Building 36, Building 96, Building 99, and the radio tower). These sources are not required to be permitted, based on 30 TAC § 106.478, because the maximum vapor pressures of the stored materials are less than 11 pounds per square inch atmospheric pressure (psia). The exemption does not need to be registered with the TCEQ since the capacity of each tank is less than 25,000 gallons.

### 2.2.4 Gun Bluing Shop

The gun bluing shop is exempt from permitting based on 30 TAC § 106.375 because the solution used is an aqueous media with no volatile organic compound (VOC) emissions.

### 2.2.5 Wastewater Treatment Plant

The water treatment system at CSSA is exempt from permitting based on 30 TAC § 106.532 because the facility does not employ VOC stripping and only normal water treatment techniques are used. Emissions are estimated to be negligible and have not been quantified.

### 2.2.6 Dry Abrasive Cleaning

CSSA previously used several steel/bead abrasive cleaners. These cleaners keep the blast material totally enclosed with an integral vacuum system and as such are exempt from permitting based on 30 TAC § 106.452.

### 2.2.7 Soil Vapor Extraction

The soil vapor extraction (SVE) system at CSSA is used for soil remediation at solid waste management unit B-3 and Area of Concern (AOC)-65. The system works by applying a negative pressure, or vacuum, to the subsurface to create a pressure gradient. This pressure gradient produces advective airflow, which removes vapor-phase contamination from the subsurface. The continued removal of vapor-phase compounds in turn promotes further volatilization of organic compounds adsorbed in the soils. The vacuum is created by using vacuum pumps and is applied to the subsurface soils through extraction wells. The SVE systems at CSSA are registered with the TCEQ as exemption numbers 32405 and 71208.

### 2.2.8 Paint Booths

Previously, CSSA operated two paint booths which were registered under previous Standard Exemption 75. The Building 27 paint booth was assigned exemption number 32406 and Building 200 was assigned exemption number 32407. CSSA is not requesting reauthorization of the Building 27 paint booth exemption.

Painting operations at Building 200 are limited to low volume applications to flat surfaces utilizing aerosol propelled paints and brush/roller coating to minimize overspray and spillage. When coating or painting within the building, various techniques are utilized to minimize overspray, spillage, and fugitive emissions. Painting operations are conducted in an enclosed spray booth in which the emissions of particulate matter are controlled by a dry filter system that has a 99 percent removal efficiency.

### 2.2.9 Box Shop

CSSA operates a new wooden crate assembly factory to accommodate shipment of Government materials in Building 601. The facility houses a saw cutting and sanding equipment fitted with dust collection systems. The box shop was authorized under 30 TAC § 106.21 and Permit By Rule number 75991.

## 2.3 GRANDFATHERED SOURCES

One source, the gun room (Building 90), was grandfathered due to its early construction date of 1962 (prior to promulgation of applicable air regulations). In July, 2003 the original sand-filled bullet trap system was replaced with bullet traps manufactured by Shooting Ranges International. As detailed in Section 3 below, the emissions from the replacement bullet traps are approximately 0.31 lb/year of particulate matter less than 10 microns in diameter ($PM_{10}$) consisting of lead. The bullet trap system

exhausts from Building 90 approximately 3 feet above grade. In addition, this location is approximately 1500 feet from the nearest receptor (see figure 2), indicating the potential for adverse off property toxicological or health effects is minimal. As such, this source qualifies as a *de minimis* source under 30 TAC 116.119(a)(4) and is not included as a permitted source in Permit Number 29466.

# SECTION 3
# EMISSIONS CALCULATIONS

This section summarizes the emission sources at CSSA and the calculation techniques used for the estimations. All emissions were estimated based on the best information available. Table 4-1 provides a summary of air emissions at CSSA. The first section of the table shows sources that are currently permitted. Because the permit includes chemical flexibility, the emissions shown in the table are maximum allowable permitted emission rates. Following the permitted sources is a list of emission sources permitted by rule.

## 3.1 PERMITTED SOURCES

Permit Number 29466 covers several solvent sources at CSSA. In order to provide for operational flexibility, the permit is written using chemical flexibility conditions. As such, emissions limitations are established for each EPN based on maximum historical chemical usage. These emission estimations are presented in the Appendix A. The permit allows for the substitution of VOC-containing products provided the limitations of special condition number 6 of the permit are met.

## 3.2 SOURCES PERMITTED BY RULE

### 3.2.1 Cold Solvent Degreasers

Emissions from cold solvent cleaners occur through waste solvent disposal, solvent carryout, spray evaporation, agitation, and solvent bath evaporation. Waste solvent loss in spent solvent is the largest loss for cold solvent cleaners. However, Safety-Kleen Model 250 reduces waste solvent disposal through the distillation process, which recycles the solvent.

The Environmental Protection Agency (EPA) publishes its Compilation of Air Pollutant Emission Factors, AP-42, Volume I: *Stationary Point and Area Sources,* which is now in its Fifth Edition, to provide guidance and help standardize emissions estimation. Chapter 4.6 *Solvent Degreasing* lists an emission factor of 0.33 tons/year/unit for cold solvent cleaners.

The emissions estimate was determined by multiplying 0.33 tons by seven to account for seven cold solvent degreaser units. The annualized total emissions are approximately 2.31 tons/year. Based on a usage rate of 1,200 hours/year, the maximum hourly emission rate is 0.55 lb/hour/unit. As the Safety-Kleen cold solvent degreasers are used to supplement the already permitted equipment; these units are not employed at the same time as the existing equipment (EPN 1). Therefore, CSSA is not requesting a change in the permitted emission rates, but inclusion of the Safety-Kleen degreasers as part of EPN 1.

## Table 3.1 Emission Estimates (tons/year)

| Name | EPN | $NO_x$ | CO | $SO_2$ | $PM_{10}$ | VOC |
|---|---|---|---|---|---|---|
| *Permitted Sources* | | | | | | |
| Volatile Corrosion Inhibitor, Solvent Vat 1 | 1 | N/A | N/A | N/A | N/A | 0.82 |
| Solvent Vat 4 | 3 | N/A | N/A | N/A | N/A | 0.45 |
| Fingerprint Remover | 4 | N/A | N/A | N/A | N/A | 0.53 |
| Safety Kleen Degreasers[a] | *1* | N/A | N/A | N/A | N/A | 2.31 |
| *Sources Permitted by Rule/Exemptions* | | | | | | |
| Standby Generator Radio Tower | | 0.45 | 0.10 | 0.03 | 0.03 | 0.04 |
| Standby Generator Building 36 | | 0.45 | 0.10 | 0.03 | 0.03 | 0.04 |
| Standby Generator Building 99 | | 12.38 | 1.48 | 2.02 | 0.25 | 0.97 |
| Standby Generator Building 96 | | 13.47 | 13.73 | 2.02 | 0.00 | 3.91 |
| Boiler Building 89 | | 0.18 | 0.15 | 0.00 | 0.01 | 0.01 |
| Vehicle Refueling Tank | | N/A | N/A | N/A | N/A | 1.16 |
| Diesel Storage Tank, Building 5 | | N/A | N/A | N/A | N/A | 0.0002 |
| Diesel Storage Tank, Building 36 | | N/A | N/A | N/A | N/A | 0.0001 |
| Diesel Storage Tank, Building 99 | | N/A | N/A | N/A | N/A | 0.0007 |
| Diesel Storage Tank, Building 96 | | N/A | N/A | N/A | N/A | 0.0001 |
| Diesel Storage Tank, Radio Tower | | N/A | N/A | N/A | N/A | 0.0000 |
| Diesel Storage Tank, Building 201 | | N/A | N/A | N/A | N/A | 0.0003 |
| SVE[b] | | N/A | N/A | N/A | N/A | 6.77 |
| Paint BoothBuilding 200 | | N/A | N/A | N/A | N/A | 0.00015 |
| Box Shop | | N/A | N/A | N/A | 0.17 | N/A |
| Bullet Traps | | N/A | N/A | N/A | 0.31 | N/A |
| **Total** | | 26.95 | 15.56 | 4.10 | 0.80 | 17.00 |

Notes:

a. Emissions to be included in emission limitation for EPN 1

b. Emissions represent maximum anticipated emissions

### 3.2.2 Standby Generators

Emissions estimates for the standby generators are determined using emission factors presented in Section 3.3 Gasoline and Diesel Industrial Engines of EPA AP-42 and a maximum of 876 annual operating hours. Pollutants emitted from these sources include nitrogen oxides ($NO_x$), carbon monoxide (CO), sulfur dioxide ($SO_2$), $PM_{10}$, and various VOCs. An example calculation showing $NO_x$ emissions from the 2,250 hp standby generator at Building 99 is given below. The emission estimates for all standby generators are presented in the Appendix.

$$NO_x\,(\text{tpy}) = 2250\ \text{hp} \times 0.013\,\frac{\text{lb}}{\text{hp-hr}} \times 876\,\frac{\text{hr}}{\text{yr}} \times \frac{\text{ton}}{2000\,\text{lb}} = 12.38\ \text{tpy}$$

### 3.2.3 Boilers

Emissions estimates the boiler is based on EPA AP-42, Section 1.4 Natural Gas Combustion (boiler in Building 89). In addition, emission estimates are based on a maximum of 876 annual operating hours. Pollutants emitted from these sources include $NO_x$, CO, $SO_2$, $PM_{10}$, and various VOCs. An example calculation showing $NO_x$ emissions from the Building 89 boiler is given below. The emission estimates for all boilers are presented in the Appendix.

$$NO_x\,(\text{tpy}) = 4.2677\,\frac{\text{MMBtu}}{\text{hr}} \times 100\,\frac{\text{lb}}{10^6\,\text{scf}} \times \frac{\text{scf}}{1020\,\text{Btu}} \times 10^6\,\frac{\text{Btu}}{\text{MMBtu}} \times 876\,\frac{\text{hr}}{\text{yr}} \times \frac{\text{ton}}{2000\,\text{lb}} = 0.18\ \text{tpy}$$

### 3.2.4 Storage Tanks

Emissions of VOCs from these tanks were estimated using v4.09b of the EPA TANKS computer program, and are presented in the Appendix. TANKS is a Windows-based computer software program that estimates VOC and hazardous air pollutant (HAP) emissions from fixed- and floating-roof storage tanks. TANKS is based on the emission estimation procedures from Chapter 7 of EPA's AP-42. Total VOC losses from diesel tanks are very small (less than 2 pounds per year) due to its low volatility; while the VOC losses from the refueling tank are estimated at about 1 ton per year.

### 3.2.5 Soil Vapor Extraction

Emissions were conservatively estimated using the maximum 30-minute soil gas concentrations determined during pilot testing (in parts per million parts by volume [$ppm_v$]). These estimations are conservative because, typically during operation of an SVE system, the soil gas concentrations start at a maximum and decrease asymptotically toward a steady state concentration. In addition, the emissions are estimated using the system maximum airflow rate in standard cubic feet per minute (SCFM). Hourly

emission estimates are determined using the following equation, as detailed in Appendix A:

$$\text{Emissions (lb/hr)} = \text{Concentration (ppm}_v\text{)} \times \text{Molecular Weight (lb/lb - mole)} \times \text{Airflow (SCFM)} * k$$

where:

k = Unit Conversion Constant = 1.581E-7 (lb-mole-min)/($ft^3$ $ppm_v$ hr)

annualized emissions are estimated assuming continuous operation throughout the year.

The estimated maximum emissions are shown below for SWMU B-3:

| Chemical Compound | Maximum Concentration | Molecular Weight | Emission Rate | |
|---|---|---|---|---|
| | (ppmv) | (lb/lb-mole) | (lb/hr) | (tpy) |
| *trans*- Dichloroethene (DCE) | 2.30 | 96.9 | 0.0 | 0.03 |
| *cis*-Dichloroethene (DCE) | 6.98 | 96.9 | 0.0 | 0.09 |
| Trichloroethene (TCE) | 168.37 | 131.4 | 0.7 | 3.02 |
| Tetrachloroethene (PCE) | 0.57 | 168.8 | 0.0 | 0.01 |
| Vinyl Chloride | 0.45 | 62.5 | 0.0 | 0.00 |

The estimated maximum emissions are shown below for AOC-65:

| Chemical Compound | Maximum Concentration | Molecular Weight | Emission Rate | |
|---|---|---|---|---|
| | (ppmv) | (lb/lb-mole) | (lb/hr) | (tpy) |
| *trans*- Dichloroethene (DCE) | 0.62 | 96.9 | 0.0 | 0.01 |
| *cis*-Dichloroethene (DCE) | 2.34 | 96.9 | 0.0 | 0.05 |
| Trichloroethene (TCE) | 1.13 | 131.4 | 0.0 | 0.03 |
| Tetrachloroethene (PCE) | 102.08 | 168.8 | 0.8 | 3.51 |
| Vinyl Chloride | 0.25 | 62.5 | 0.0 | 0.00 |

### 3.2.6 Paint Booths

The emissions from the paint booths were estimated using conservative assumptions regarding material usage rates in the initial exemption registrations. The maximum estimated emissions are summarized below.

| Paint Booth | Maximum VOC Emissions | | Maximum PM Emissions | |
|---|---|---|---|---|
| | (lb/hr) | (tpy) | (lb/hr) | (tpy) |
| Building 200 | 5.4 | 0.19 | 0.013 | 0.00015 |

### 3.2.7 Bullet Traps

Emissions from the bullet traps were estimated using a mass balance technique. The amount of solid material loaded on each HEPA filter was determined by weighing a filter both before and after one month of use. This weight (approximately 6 pounds) was multiplied by 4 to determine the total mass loading for the test fire room per month. The number of rounds of ammunition was also recorded for the same period (1,672 rounds). Taken together, the average loading rate for mixed ammunition type is 0.014 pounds/round. Assuming a 99.97 percent collection efficiency for the HEPA filters, the average emission rate from Building 90 Test Fire Room is $4.31 \times 10^{-6}$ pounds/round.

Per 30 TAC § 116.119(a)(3) facilities located inside a building at a site which emit substances at less than the prescribed rates are considered to be *de minimus* and are therefore not required to be permitted. Conservatively using the lowest allowable *de minimus* emission rate from the table, and assuming the emissions are comprised of a single substance (lead), CSSA would have to fire greater than 23,000,000 rounds of ammunition per year or 58,056 rounds per day in order to be above the *de minimus* limit (see detailed calculations in Appendix A). While historical records have not been kept regarding the number of rounds fired, a conservative estimate from facility personnel is 6,000 rounds per month maximum. This is equivalent to 72,000 rounds per year, or 0.3% of the maximum allowable *de minimus* rate as determined above.

### 3.2.8 Box Shop

CSSA operates a new wooden crate assembly factory to accommodate shipment of Government materials in Building 601. The facility houses a saw cutting and sanding equipment fitted with dust collection systems. Emissions from the facility are estimated as 0.79 tpy of $PM_{10}$, as shown in Appendix A. The box shop was authorized under 30 TAC § 106.21 and Permit by Rule number 75991.

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# SECTION 4
# PERMIT HISTORY

Permit Number 29466 was awarded February 1996. CSSA has maintained continuous compliance with the permit since the time of its award.

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# SECTION 5
# TCEQ REGULATORY COMPLIANCE

## 5.1 VISIBLE EMISSIONS AND PARTICULATE MATTER

The visible emissions requirements provide that "no person may cause, suffer, allow, or permit visible emissions from any source", except as specified in set forth in 30 TAC Chapter 111. There are no visible emissions from the permitted air emissions sources located at CSSA; therefore, the facility is not subject to the visible emissions requirements.

## 5.2 EMISSIONS OF SULFUR COMPOUNDS

The requirements set forth in 30 TAC Chapter 112 provide limitations for sulfur dioxide, hydrogen sulfide, sulfuric acid, and total reduced sulfur emissions. The permitted air emissions sources located at CSSA have no such emissions; therefore, the facility is not subject to the sulfur requirements.

## 5.3 HAZARDOUS AIR POLLUTANTS

CSSA is not a major source of HAP emissions; therefore the facility is not subject to the requirements of 30 TAC Chapter 113.

## 5.4 COMPLIANCE WITH 30 TAC CHAPTER 115 – VOLATILE ORGANIC COMPOUNDS

Two of the storage tanks at CSSA are subject to the provisions of 30 TAC Chapter 115.112(c), the 10,000 gallon vehicle refueling tank and the 2,000 gallon diesel storage tank at Building 201. Per Table 1(b) of 30 TAC Chapter 115, the vehicle refueling tank is fitted with a submerged fill pipe.

## 5.5 COMPLIANCE WITH 30 TAC CHAPTER 117 – NITROGEN COMPOUNDS

The requirements set forth in 30 TAC Chapter 117 provide limitations for emissions of nitrogen compounds from utilities, acid manufacturing, and small combustion sources. The combustion sources located at CSSA are not subject to the requirements of 30 TAC Chapter 117.

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# SECTION 6
# REQUESTED PERMIT CONDITIONS

CSSA is requesting that the permit be renewed with a continuation of the existing permit conditions for specified EPN 1 and EPN 4. In addition, CSSA wishes to include the recently installed Safety-Kleen cold solvent degreasers as part of EPN 1. These degreasers are used to supplement the already permitted equipment; these units are not employed at the same time as the existing equipment. Therefore, CSSA is not requesting a change in the permitted emission rates, but inclusion of the Safety-Kleen degreasers as part of EPN 1, subject to the existing emission rate limitations, recordkeeping, and chemical flexibility conditions.

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# APPENDIX A
# EMISSION ESTIMATIONS

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# SOLVENT CLEANING SOURCES

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Emissions of VOCs from the solvent sources are estimated using the following mass balance approach:

$$\text{VOC (tpy)} = \frac{\text{(gallons solvent/year) * (solvent specific gravity) * (density of water) * (fraction emitted)}}{\text{(pound to ton conversion)}}$$

Constants:
Density of water: 8.33 lb/gal
Pounds/ton: 2000

| Source | Solvent | Gallons/year | Specific Gravity | Fraction Emitted | Emissions (tpy) |
|---|---|---|---|---|---|
| VCI Vat | Isopropyl Alcohol | 1000 | 0.79 | 0.25 | 0.82 |
| Solvent Vat 4 (Bldg. 90) | Stoddard Solvent | 560 | 0.78 | 0.25 | 0.45 |
| Fingerprint Remover | Mineral Spirits | 625 | 0.811 | 0.25 | 0.53 |

Emissions for Safety Kleen Units are estimated as follows:

Assumptions:

| | | |
|---|---|---|
| Number of Units: | 7 | units |
| Emission Factor: | 0.33 | tons/year/unit (AP-42, Chapter 4.6) |
| Annual Hours of Operation: | 1200 | hours/year |
| | | |
| Annualized Emissions | 2.31 | tons/year |
| | 0.55 | lb/hour/unit |

# STANDBY GENERATORS

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Standby Generator Emissions are estimated based on AP-42 Section 3.3 (10/96) and
876 hours per year of operation

| Radio Tower 33.5 hp | Pollutant | Emission Factor (lb/hp-hr) | Emission Rates (lb/hr) | (tpy) |
|---|---|---|---|---|
| | $NO_x$ | 3.10E-02 | 1.04 | 0.45 |
| | CO | 6.68E-03 | 0.22 | 0.10 |
| | $SO_2$ | 2.05E-03 | 0.07 | 0.03 |
| | $PM_{10}$ | 2.20E-03 | 0.07 | 0.03 |
| | Total TOC | 2.51E-03 | 0.08 | 0.04 |

| Building 36 33.5 hp | Pollutant | Emission Factor (lb/hp-hr) | Emission Rates (lb/hr) | (tpy) |
|---|---|---|---|---|
| | $NO_x$ | 3.10E-02 | 1.04 | 0.45 |
| | CO | 6.68E-03 | 0.22 | 0.10 |
| | $SO_2$ | 2.05E-03 | 0.07 | 0.03 |
| | $PM_{10}$ | 2.20E-03 | 0.07 | 0.03 |
| | Total TOC | 2.51E-03 | 0.08 | 0.04 |

Estimates based on vendor guaranteed emission rates, except for $SO_x$

| Building 99 2250 hp | Pollutant | Emission Factor (g/hp-hr) | Emission Rates (lb/hr) | (tpy) |
|---|---|---|---|---|
| | $NO_x$ | 5.70 | 28.27 | 12.38 |
| | CO | 0.68 | 3.37 | 1.48 |
| | $SO_2$[a] | 0.93 | 4.61 | 2.02 |
| | $PM_{10}$ | 0.11 | 0.56 | 0.25 |
| | Total TOC | 0.45 | 2.22 | 0.97 |

a. $SO_2$ emissions based on AP-42 emission factor of 2.03E-3 lb/hp-hr

| Building 96 237 hp | Pollutant | Emission Factor (g/hp-hr) | Emission Rates (lb/hr) | (tpy) |
|---|---|---|---|---|
| | $NO_x$ | 6.20 | 30.75 | 13.47 |
| | CO | 60.00 | 31.35 | 13.73 |
| | $SO_2$[a] | 0.93 | 4.61 | 2.02 |
| | $PM_{10}$ | 0.00 | 0.00 | 0.00 |
| | Total TOC | 1.80 | 8.93 | 3.91 |

a. $SO_2$ emissions based on AP-42 emission factor of 2.03E-3 lb/hp-hr

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# BOILERS

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Boiler Emissions are estimated based on AP-42 Section 1.4 (7/98)
876 hours per year of operation and gallons per hour fuel use

Constants:
140 MMBtu/$10^3$ gal
1020 Btu/scf

| Building 89<br>4,184 scf/hr | Pollutant | Emission Factor<br>(lb/$10^6$ scf) | Emission Rates<br>(lb/hr) | (tpy) |
|---|---|---|---|---|
| Heat Input | $NO_x$ | 100.00 | 0.42 | 0.18 |
| 4.27 MMBtu/hr | CO | 84.00 | 0.35 | 0.15 |
| | $SO_x$[b] | 0.60 | 0.003 | 0.001 |
| | $PM_{10}$ | 7.60 | 0.03 | 0.01 |
| | VOC | 5.500 | 0.02 | 0.01 |

a. Assumes 0.3% sulfur content of fuel
b. Assumes 2000 grains per $10^6$ scf

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# STORAGE TANKS

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# TANKS 4.0
## Emissions Report - Summary Format
## Tank Identification and Physical Characteristics

**Identification**

| | |
|---|---|
| User Identification: | Building 5 |
| City: | Boerne |
| State: | Texas |
| Company: | Camp Stanley Storage Activity |
| Type of Tank: | Horizontal Tank |
| Description: | Diesel storage tank (1000 gallon) used for vehicle refueling. |

**Tank Dimensions**

| | |
|---|---|
| Shell Length (ft): | 12.00 |
| Diameter (ft): | 4.00 |
| Volume (gallons): | 1,000.00 |
| Turnovers: | 3.00 |
| Net Throughput (gal/yr): | 3,000.00 |
| Is Tank Heated (y/n): | N |
| Is Tank Underground (y/n): | N |

**Paint Characteristics**

| | |
|---|---|
| Shell Color/Shade: | White/White |
| Shell Condition: | Good |

**Breather Vent Settings**

| | |
|---|---|
| Vacuum Settings (psig): | -0.03 |
| Pressure Settings (psig): | 0.03 |

Meteorological Data used in Emissions Calculations: San Antonio, Texas (Avg Atmospheric Pressure = 14.33 psia)

# TANKS 4.0
## Emissions Report - Summary Format
## Liquid Contents of Storage Tank

| Mixture/Component | Month | Daily Liquid Surf. Temperatures (deg F) Avg. | Min. | Max. | Liquid Bulk Temp. (deg F) | Vapor Pressures (psia) Avg. | Min. | Max. | Vapor Mol. Weight | Liquid Mass Fract. | Vapor Mass Fract. | Mol. Weight | Basis for Vapor Pressure Calculations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Distillate fuel oil no. 2 | All | 70.73 | 64.95 | 76.52 | 68.64 | 0.0092 | 0.0076 | 0.0110 | 130.0000 | | | 188.00 | Option 5: A=12.101, B=8907 |
| 1,2,4-Trimethylbenzene | | | | | | 0.0311 | 0.0249 | 0.0386 | 120.1900 | 0.0100 | 0.0490 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| Benzene | | | | | | 1.5614 | 1.3375 | 1.8154 | 78.1100 | 0.0000 | 0.0020 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Ethylbenzene | | | | | | 0.1562 | 0.1287 | 0.1887 | 106.1700 | 0.0001 | 0.0032 | 106.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hexane (-n) | | | | | | 2.5128 | 2.1731 | 2.8949 | 86.1700 | 0.0000 | 0.0004 | 86.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Toluene | | | | | | 0.4574 | 0.3844 | 0.5417 | 92.1300 | 0.0003 | 0.0231 | 92.13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 0.0078 | 0.0071 | 0.0075 | 134.5415 | 0.9866 | 0.8626 | 189.60 | |
| Xylene (-m) | | | | | | 0.1306 | 0.1073 | 0.1580 | 106.1700 | 0.0029 | 0.0597 | 106.17 | Option 2: A=7.009, B=1462.266, C=215.11 |

# TANKS 4.0
# Emissions Report - Summary Format
# Individual Tank Emission Totals

## Annual Emissions Report

| | Losses(lbs) | | |
|---|---|---|---|
| Components | Working Loss | Breathing Loss | Total Emissions |
| Distillate fuel oil no. 2 | 0.09 | 0.29 | 0.38 |
| Hexane (-n) | 0.00 | 0.00 | 0.00 |
| Benzene | 0.00 | 0.00 | 0.00 |
| Toluene | 0.00 | 0.01 | 0.01 |
| Ethylbenzene | 0.00 | 0.00 | 0.00 |
| Xylene (-m) | 0.01 | 0.02 | 0.02 |
| 1,2,4-Trimethylbenzene | 0.00 | 0.01 | 0.02 |
| Unidentified Components | 0.07 | 0.25 | 0.32 |

# TANKS 4.0
## Emissions Report - Summary Format
## Tank Identification and Physical Characteristics

**Identification**

| | |
|---|---|
| User Identification: | Building 36 |
| City: | Boerne |
| State: | Texas |
| Company: | Camp Stanley Storage Activity |
| Type of Tank: | Horizontal Tank |
| Description: | Day tank for standgy diesel generator |

**Tank Dimensions**

| | | |
|---|---|---|
| Shell Length (ft): | | 10.00 |
| Diameter (ft): | | 3.00 |
| Volume (gallons): | | 75.00 |
| Turnovers: | | 3.00 |
| Net Throughput (gal/yr): | | 225.00 |
| Is Tank Heated (y/n): | N | |
| Is Tank Underground (y/n): | N | |

**Paint Characteristics**

| | |
|---|---|
| Shell Color/Shade: | White/White |
| Shell Condition: | Good |

**Breather Vent Settings**

| | |
|---|---|
| Vacuum Settings (psig): | -0.03 |
| Pressure Settings (psig): | 0.03 |

Meteorological Data used in Emissions Calculations: San Antonio, Texas (Avg Atmospheric Pressure = 14.33 psia)

# TANKS 4.0
## Emissions Report - Summary Format
## Liquid Contents of Storage Tank

| Mixture/Component | Month | Daily Liquid Surf. Temperatures (deg F) Avg. | Min. | Max. | Liquid Bulk Temp. (deg F) | Vapor Pressures (psia) Avg. | Min. | Max. | Vapor Mol. Weight | Liquid Mass Fract. | Vapor Mass Fract. | Mol. Weight | Basis for Vapor Pressure Calculations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Distillate fuel oil no. 2 | All | 70.73 | 64.95 | 76.52 | 68.64 | 0.0092 | 0.0076 | 0.0110 | 130.0000 | | | 188.00 | Option 5: A=12.101, B=8907 |
| 1,2,4-Trimethylbenzene | | | | | | 0.0311 | 0.0249 | 0.0386 | 120.1900 | 0.0100 | 0.0490 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| Benzene | | | | | | 1.5614 | 1.3375 | 1.8154 | 78.1100 | 0.0000 | 0.0020 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Ethylbenzene | | | | | | 0.1562 | 0.1287 | 0.1887 | 106.1700 | 0.0001 | 0.0032 | 106.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hexane (-n) | | | | | | 2.5128 | 2.1731 | 2.8949 | 86.1700 | 0.0000 | 0.0004 | 86.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Toluene | | | | | | 0.4574 | 0.3844 | 0.5417 | 92.1300 | 0.0003 | 0.0231 | 92.13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 0.0078 | 0.0071 | 0.0075 | 134.5415 | 0.9866 | 0.8626 | 189.60 | |
| Xylene (-m) | | | | | | 0.1306 | 0.1073 | 0.1580 | 106.1700 | 0.0029 | 0.0597 | 106.17 | Option 2: A=7.009, B=1462.266, C=215.11 |

# TANKS 4.0
# Emissions Report - Summary Format
# Individual Tank Emission Totals

## Annual Emissions Report

| | Losses(lbs) | | |
|---|---|---|---|
| Components | Working Loss | Breathing Loss | Total Emissions |
| Distillate fuel oil no. 2 | 0.01 | 0.14 | 0.14 |
| Hexane (-n) | 0.00 | 0.00 | 0.00 |
| Benzene | 0.00 | 0.00 | 0.00 |
| Toluene | 0.00 | 0.00 | 0.00 |
| Ethylbenzene | 0.00 | 0.00 | 0.00 |
| Xylene (-m) | 0.00 | 0.01 | 0.01 |
| 1,2,4-Trimethylbenzene | 0.00 | 0.01 | 0.01 |
| Unidentified Components | 0.01 | 0.12 | 0.12 |

# TANKS 4.0
## Emissions Report - Summary Format
## Tank Identification and Physical Characteristics

**Identification**

| | |
|---|---|
| User Identification: | Building 46 |
| City: | Boerne |
| State: | Texas |
| Company: | Camp Stanley Storage Activity |
| Type of Tank: | Horizontal Tank |
| Description: | Diesel storage tank (1000 gallon) used for fueling equipment. |

**Tank Dimensions**

| | |
|---|---|
| Shell Length (ft): | 12.00 |
| Diameter (ft): | 4.00 |
| Volume (gallons): | 1,000.00 |
| Turnovers: | 3.00 |
| Net Throughput (gal/yr): | 3,000.00 |
| Is Tank Heated (y/n): | N |
| Is Tank Underground (y/n): | N |

**Paint Characteristics**

| | |
|---|---|
| Shell Color/Shade: | White/White |
| Shell Condition: | Good |

**Breather Vent Settings**

| | |
|---|---|
| Vacuum Settings (psig): | -0.03 |
| Pressure Settings (psig): | 0.03 |

Meteorological Data used in Emissions Calculations: San Antonio, Texas (Avg Atmospheric Pressure = 14.33 psia)

# TANKS 4.0
## Emissions Report - Summary Format
## Liquid Contents of Storage Tank

| Mixture/Component | Month | Daily Liquid Surf. Temperatures (deg F) Avg. | Min. | Max. | Liquid Bulk Temp. (deg F) | Vapor Pressures (psia) Avg. | Min. | Max. | Vapor Mol. Weight | Liquid Mass Fract. | Vapor Mass Fract. | Mol. Weight | Basis for Vapor Pressure Calculations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Distillate fuel oil no. 2 | All | 70.73 | 64.95 | 76.52 | 68.64 | 0.0092 | 0.0076 | 0.0110 | 130.0000 | | | 188.00 | Option 5: A=12.101, B=8907 |
| 1,2,4-Trimethylbenzene | | | | | | 0.0311 | 0.0249 | 0.0386 | 120.1900 | 0.0100 | 0.0490 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| Benzene | | | | | | 1.5614 | 1.3375 | 1.8154 | 78.1100 | 0.0000 | 0.0020 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Ethylbenzene | | | | | | 0.1562 | 0.1287 | 0.1887 | 106.1700 | 0.0001 | 0.0032 | 106.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hexane (-n) | | | | | | 2.5128 | 2.1731 | 2.8949 | 86.1700 | 0.0000 | 0.0004 | 86.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Toluene | | | | | | 0.4574 | 0.3844 | 0.5417 | 92.1300 | 0.0003 | 0.0231 | 92.13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 0.0078 | 0.0071 | 0.0075 | 134.5415 | 0.9866 | 0.8626 | 189.60 | |
| Xylene (-m) | | | | | | 0.1306 | 0.1073 | 0.1580 | 106.1700 | 0.0029 | 0.0597 | 106.17 | Option 2: A=7.009, B=1462.266, C=215.11 |

# TANKS 4.0
# Emissions Report - Summary Format
# Individual Tank Emission Totals

## Annual Emissions Report

| | Losses(lbs) | | |
|---|---|---|---|
| Components | Working Loss | Breathing Loss | Total Emissions |
| Distillate fuel oil no. 2 | 0.09 | 0.29 | 0.38 |
| Hexane (-n) | 0.00 | 0.00 | 0.00 |
| Benzene | 0.00 | 0.00 | 0.00 |
| Toluene | 0.00 | 0.01 | 0.01 |
| Ethylbenzene | 0.00 | 0.00 | 0.00 |
| Xylene (-m) | 0.01 | 0.02 | 0.02 |
| 1,2,4-Trimethylbenzene | 0.00 | 0.01 | 0.02 |
| Unidentified Components | 0.07 | 0.25 | 0.32 |

# TANKS 4.0
## Emissions Report - Summary Format
## Tank Identification and Physical Characteristics

**Identification**

| | |
|---|---|
| User Identification: | Building 99 |
| City: | Boerne |
| State: | Texas |
| Company: | Camp Stanley Storage Activity |
| Type of Tank: | Horizontal Tank |
| Description: | Diesel Storage Tank (2400 gallons) associated with standby generator at Building 99 |

**Tank Dimensions**

| | |
|---|---|
| Shell Length (ft): | 12.00 |
| Diameter (ft): | 8.00 |
| Volume (gallons): | 2,400.00 |
| Turnovers: | 3.00 |
| Net Throughput (gal/yr): | 7,200.00 |
| Is Tank Heated (y/n): | N |
| Is Tank Underground (y/n): | N |

**Paint Characteristics**

| | |
|---|---|
| Shell Color/Shade: | White/White |
| Shell Condition: | Good |

**Breather Vent Settings**

| | |
|---|---|
| Vacuum Settings (psig): | -0.03 |
| Pressure Settings (psig): | 0.03 |

Meteorological Data used in Emissions Calculations: San Antonio, Texas (Avg Atmospheric Pressure = 14.33 psia)

# TANKS 4.0
## Emissions Report - Summary Format
## Liquid Contents of Storage Tank

| Mixture/Component | Month | Daily Liquid Surf. Temperatures (deg F) Avg. | Min. | Max. | Liquid Bulk Temp. (deg F) | Vapor Pressures (psia) Avg. | Min. | Max. | Vapor Mol. Weight | Liquid Mass Fract. | Vapor Mass Fract. | Mol. Weight | Basis for Vapor Pressure Calculations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Distillate fuel oil no. 2 | All | 70.73 | 64.95 | 76.52 | 68.64 | 0.0092 | 0.0076 | 0.0110 | 130.0000 | | | 188.00 | Option 5: A=12.101, B=8907 |
| 1,2,4-Trimethylbenzene | | | | | | 0.0311 | 0.0249 | 0.0386 | 120.1900 | 0.0100 | 0.0490 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| Benzene | | | | | | 1.5614 | 1.3375 | 1.8154 | 78.1100 | 0.0000 | 0.0020 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Ethylbenzene | | | | | | 0.1562 | 0.1287 | 0.1887 | 106.1700 | 0.0001 | 0.0032 | 106.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hexane (-n) | | | | | | 2.5128 | 2.1731 | 2.8949 | 86.1700 | 0.0000 | 0.0004 | 86.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Toluene | | | | | | 0.4574 | 0.3844 | 0.5417 | 92.1300 | 0.0003 | 0.0231 | 92.13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 0.0078 | 0.0071 | 0.0075 | 134.5415 | 0.9866 | 0.8626 | 189.60 | |
| Xylene (-m) | | | | | | 0.1306 | 0.1073 | 0.1580 | 106.1700 | 0.0029 | 0.0597 | 106.17 | Option 2: A=7.009, B=1462.266, C=215.11 |

# TANKS 4.0
# Emissions Report - Summary Format
# Individual Tank Emission Totals

## Annual Emissions Report

| | Losses(lbs) | | |
|---|---|---|---|
| Components | Working Loss | Breathing Loss | Total Emissions |
| Distillate fuel oil no. 2 | 0.20 | 1.16 | 1.37 |
| Hexane (-n) | 0.00 | 0.00 | 0.00 |
| Benzene | 0.00 | 0.00 | 0.00 |
| Toluene | 0.00 | 0.03 | 0.03 |
| Ethylbenzene | 0.00 | 0.00 | 0.00 |
| Xylene (-m) | 0.01 | 0.07 | 0.08 |
| 1,2,4-Trimethylbenzene | 0.01 | 0.06 | 0.07 |
| Unidentified Components | 0.18 | 1.00 | 1.18 |

# TANKS 4.0
## Emissions Report - Summary Format
## Tank Identification and Physical Characteristics

**Identification**

| | |
|---|---|
| User Identification: | Vehicle Refueling Tank |
| City: | Boerne |
| State: | Texas |
| Company: | Camp Stanley Storage Activity |
| Type of Tank: | Horizontal Tank |
| Description: | 10000 Gal - Gasoline Tank (RVP 10) |

**Tank Dimensions**

| | |
|---|---|
| Shell Length (ft): | 27.00 |
| Diameter (ft): | 8.00 |
| Volume (gallons): | 10,000.00 |
| Turnovers: | 2.50 |
| Net Throughput (gal/yr): | 25,000.00 |
| Is Tank Heated (y/n): | N |
| Is Tank Underground (y/n): | N |

**Paint Characteristics**

| | |
|---|---|
| Shell Color/Shade: | White/White |
| Shell Condition: | Good |

**Breather Vent Settings**

| | |
|---|---|
| Vacuum Settings (psig): | -0.03 |
| Pressure Settings (psig): | 0.03 |

Meteorological Data used in Emissions Calculations: San Antonio, Texas (Avg Atmospheric Pressure = 14.33 psia)

# TANKS 4.0
## Emissions Report - Summary Format
## Liquid Contents of Storage Tank

| Mixture/Component | Month | Daily Liquid Surf. Temperatures (deg F) Avg. | Min. | Max. | Liquid Bulk Temp. (deg F) | Vapor Pressures (psia) Avg. | Min. | Max. | Vapor Mol. Weight | Liquid Mass Fract. | Vapor Mass Fract. | Mol. Weight | Basis for Vapor Pressure Calculations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline (RVP 10) | All | 70.73 | 64.95 | 76.52 | 68.64 | 6.3591 | 5.7027 | 7.0743 | 66.0000 | | | 92.00 | Option 4: RVP=10, ASTM Slope=3 |
| 1,2,4-Trimethylbenzene | | | | | | 0.0311 | 0.0249 | 0.0386 | 120.1900 | 0.0250 | 0.0002 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| Benzene | | | | | | 1.5614 | 1.3375 | 1.8154 | 78.1100 | 0.0180 | 0.0062 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Cyclohexane | | | | | | 1.6088 | 1.3830 | 1.8641 | 84.1600 | 0.0024 | 0.0008 | 84.16 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ethylbenzene | | | | | | 0.1562 | 0.1287 | 0.1887 | 106.1700 | 0.0140 | 0.0005 | 106.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hexane (-n) | | | | | | 2.5128 | 2.1731 | 2.8949 | 86.1700 | 0.0100 | 0.0055 | 86.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Isooctane | | | | | | 0.8326 | 0.6948 | 0.9953 | 114.2200 | 0.0400 | 0.0073 | 114.22 | Option 1: VP70 = .812 VP80 = 1.093 |
| Isopropyl benzene | | | | | | 0.0756 | 0.0614 | 0.0926 | 120.2000 | 0.0050 | 0.0001 | 120.20 | Option 2: A=6.963, B=1460.793, C=207.78 |
| Toluene | | | | | | 0.4574 | 0.3844 | 0.5417 | 92.1300 | 0.0700 | 0.0070 | 92.13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 8.1099 | 8.0746 | 8.0793 | 65.4234 | 0.7456 | 0.9704 | 89.36 | |
| Xylene (-m) | | | | | | 0.1306 | 0.1073 | 0.1580 | 106.1700 | 0.0700 | 0.0020 | 106.17 | Option 2: A=7.009, B=1462.266, C=215.11 |

# TANKS 4.0
# Emissions Report - Summary Format
# Individual Tank Emission Totals

## Annual Emissions Report

| | Losses(lbs) | | |
|---|---|---|---|
| Components | Working Loss | Breathing Loss | Total Emissions |
| Gasoline (RVP 10) | 249.82 | 2,063.65 | 2,313.47 |
| Hexane (-n) | 1.38 | 11.37 | 12.74 |
| Benzene | 1.54 | 12.71 | 14.25 |
| Isooctane | 1.82 | 15.07 | 16.89 |
| Toluene | 1.75 | 14.48 | 16.24 |
| Ethylbenzene | 0.12 | 0.99 | 1.11 |
| Xylene (-m) | 0.50 | 4.13 | 4.63 |
| 1,2,4-Trimethylbenzene | 0.04 | 0.35 | 0.39 |
| Cyclohexane | 0.21 | 1.75 | 1.96 |
| Unidentified Components | 242.43 | 2,002.63 | 2,245.06 |
| Isopropyl benzene | 0.02 | 0.17 | 0.19 |

# TANKS 4.0
## Emissions Report - Summary Format
## Tank Identification and Physical Characteristics

**Identification**

| | |
|---|---|
| User Identification: | Building 201 |
| City: | Boerne |
| State: | Texas |
| Company: | Camp Stanley Storage Activity |
| Type of Tank: | Horizontal Tank |
| Description: | Diesel Storage Tank (2000 gallon) associated with Building 201 boiler |

**Tank Dimensions**

| | |
|---|---|
| Shell Length (ft): | 12.00 |
| Diameter (ft): | 6.00 |
| Volume (gallons): | 2,000.00 |
| Turnovers: | 2.00 |
| Net Throughput (gal/yr): | 4,000.00 |
| Is Tank Heated (y/n): | N |
| Is Tank Underground (y/n): | N |

**Paint Characteristics**

| | |
|---|---|
| Shell Color/Shade: | White/White |
| Shell Condition: | Good |

**Breather Vent Settings**

| | |
|---|---|
| Vacuum Settings (psig): | -0.03 |
| Pressure Settings (psig): | 0.03 |

Meteorological Data used in Emissions Calculations: San Antonio, Texas (Avg Atmospheric Pressure = 14.33 psia)

# TANKS 4.0
## Emissions Report - Summary Format
## Liquid Contents of Storage Tank

| Mixture/Component | Month | Daily Liquid Surf. Temperatures (deg F) Avg. | Min. | Max. | Liquid Bulk Temp. (deg F) | Vapor Pressures (psia) Avg. | Min. | Max. | Vapor Mol. Weight | Liquid Mass Fract. | Vapor Mass Fract. | Mol. Weight | Basis for Vapor Pressure Calculations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Distillate fuel oil no. 2 | All | 70.73 | 64.95 | 76.52 | 68.64 | 0.0092 | 0.0076 | 0.0110 | 130.0000 | | | 188.00 | Option 5: A=12.101, B=8907 |
| 1,2,4-Trimethylbenzene | | | | | | 0.0311 | 0.0249 | 0.0386 | 120.1900 | 0.0100 | 0.0490 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| Benzene | | | | | | 1.5614 | 1.3375 | 1.8154 | 78.1100 | 0.0000 | 0.0020 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Ethylbenzene | | | | | | 0.1562 | 0.1287 | 0.1887 | 106.1700 | 0.0001 | 0.0032 | 106.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hexane (-n) | | | | | | 2.5128 | 2.1731 | 2.8949 | 86.1700 | 0.0000 | 0.0004 | 86.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Toluene | | | | | | 0.4574 | 0.3844 | 0.5417 | 92.1300 | 0.0003 | 0.0231 | 92.13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 0.0078 | 0.0071 | 0.0075 | 134.5415 | 0.9866 | 0.8626 | 189.60 | |
| Xylene (-m) | | | | | | 0.1306 | 0.1073 | 0.1580 | 106.1700 | 0.0029 | 0.0597 | 106.17 | Option 2: A=7.009, B=1462.266, C=215.11 |

# TANKS 4.0
# Emissions Report - Summary Format
# Individual Tank Emission Totals

## Annual Emissions Report

| | Losses(lbs) | | |
|---|---|---|---|
| Components | Working Loss | Breathing Loss | Total Emissions |
| Distillate fuel oil no. 2 | 0.11 | 0.65 | 0.77 |
| Hexane (-n) | 0.00 | 0.00 | 0.00 |
| Benzene | 0.00 | 0.00 | 0.00 |
| Toluene | 0.00 | 0.02 | 0.02 |
| Ethylbenzene | 0.00 | 0.00 | 0.00 |
| Xylene (-m) | 0.01 | 0.04 | 0.05 |
| 1,2,4-Trimethylbenzene | 0.01 | 0.03 | 0.04 |
| Unidentified Components | 0.10 | 0.56 | 0.66 |

# BULLET TRAPS

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Assume all loading to HEPA filters is lead

| | | |
|---|---|---|
| 24 | lbs/month | Monthly loading to all 4 HEPA filters |
| 1672 | rounds/month | Firing rate |
| 0.014 | lbs/round | Pounds filter loading/round (mixed ammunition types) |
| 0.9997 | | Collection efficiency of HEPA filters |

Emission Rate per Round

| | | |
|---|---|---|
| 4.31E-06 | lb/round | |
| 72000 | rounds/yea | Anticipated Maximum Firing Rate |
| 3.10E-01 | lb/yr | |

De Minimis Emission Rate [Assume lowest rates from 30 TAC 116.119(a)(3)]

| | |
|---|---|
| 0.05 | tons/year |
| 0.25 | pounds/day |

Maximum "Allowable" Mixed Firing Rates

| | |
|---|---|
| 23,222,222 | Rounds/year |
| 58,056 | Rounds/day |

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# SOIL VAPOR EXTRACTION

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Emissions from SVE units estimated using the following:

Emissions (lb/hr) = Concentration ($ppm_v$) x Molecular Weight (lb/lb-mole) x Airflow (scfm) * k

where k = 1.58E-07 (lb-mole-min)/($ft^3$ - $ppm_v$-hr)

*SWMU B-3*

Airflow = 197 SCFM

| Chemical Compound | Maximum Concentration (ppmv) | Molecular Weight (lb/lb-mole) | Emission Rate (lb/hr) | Emission Rate (tpy) |
|---|---|---|---|---|
| *trans*-DCE | 2.30 | 96.9 | 0.0 | 0.03 |
| *cis*-DCE | 6.98 | 96.9 | 0.0 | 0.09 |
| TCE | 168.37 | 131.4 | 0.7 | 3.02 |
| PCE | 0.57 | 168.8 | 0.0 | 0.01 |
| Vinyl Chloride | 0.45 | 62.5 | 0.0 | 0.00 |

*AOC-65*

Airflow = 295 SCFM

| Chemical Compound | Maximum Concentration (ppmv) | Molecular Weight (lb/lb-mole) | Emission Rate (lb/hr) | Emission Rate (tpy) |
|---|---|---|---|---|
| *trans*-DCE | 0.62 | 96.9 | 0.0 | 0.01 |
| *cis*-DCE | 2.34 | 96.9 | 0.0 | 0.05 |
| TCE | 1.13 | 131.4 | 0.0 | 0.03 |
| PCE | 102.08 | 168.8 | 0.8 | 3.52 |
| Vinyl Chloride | 0.25 | 62.5 | 0.0 | 0.00 |

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# BOX SHOP

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Emissions from Box Shop are estimated as follows

| | | |
|---|---|---|
| Emission Rate: | 0.002 | grains/dry scfm (Vendor guarantee) |
| Airflow Rate: | 10000 | scfm |

Emissions are calculated as emission rate x airflow rate and the following assumptions:

| | | |
|---|---|---|
| Days of operation: | 330 | days/year |
| Hours of operation: | 6 | hours/day |

| | | |
|---|---|---|
| Emissions: | 0.171429 | lb/hr |
| | 0.169714 | ton/year |

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