

RFI AND INTERIM MEASURES WASTE MANAGEMENT PLAN



Prepared for:

**Camp Stanley Storage Activity
Boerne, Texas**

AUGUST 2002

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**AFCEE/ERD QAE
Brooks AFB, Texas**

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RECORD OF REVISIONS

All revisions to this hazardous waste management plan will be made in the form of replacement pages. All revisions will be recorded in the format shown below. Any revision will be made according to the following procedure:

1. Insert the new page(s).
2. Remove the affected old page(s). No existing page will be removed until a corresponding new page(s) has been inserted.
3. Enter an appropriate revision number in sequence (e.g., 1, 2, 3,...). Enter the date the change was made in the record of revisions below and initial it.

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ACRONYMS AND ABBREVIATIONS

- AOC Area of Concern
- ARARs Applicable or Relevant and Appropriate Requirements
- BS Bexar Shale
- CAMU Corrective Action Management Unit
- CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
- CC Cow Creek
- CFR Code of Federal Regulations
- CLP Cleaner, lubricant, protector
- CMS Corrective Measures Study
- COC Chemical of Concern
- CSSA Camp Stanley Storage Activity
- CWA Clean Water Act
- DoD Department of Defense
- DOT Department of Transportation
- DRMO Defense Reutilization and Marketing Office
- FR Federal Register
- FSP Field Sampling Plan
- FWPCA Federal Water Pollution Control Act
- GAC Granular Activated Carbon
- HASP Health and Safety Plan
- HW Hazardous Waste
- HWIR Hazardous Waste Identification Rule
- IDW Investigation Derived Waste
- IM Interim Measures
- IRA Interim Removal Action
- ISCP Installation Spill Contingency Plan
- LDR Land Disposal Restrictions
- LGR Lower Glen Rose
- LQG Large Quantity Generator

ACRONYMS AND ABBREVIATIONS, continued

- MCL Maximum Contaminant Limit
- NCP National Contingency Plan
- NH Nonhazardous
- NOR Notice of Registration
- OSHA Occupational Safety and Health Administration
- O&M Operations and maintenance
- Order USEPA Section 3008(h) Administrative Order on Consent
- Parsons Parsons Engineering Science, Inc.
- PCE Perchloroethylene (or tetrachloroethylene)
- PCL Protective concentration limit
- PID Photoionization detector
- PVC Polyvinyl chloride
- QAPP Quality Assurance Project Plan
- QPP Quality Program Plans
- RAP Remedial Action Plan
- RCRA Resource Conservation and Recovery Act
- RFI RCRA Facility Investigation
- RRAD Red River Army Depot
- SAP Sampling and analysis plan
- SARA Superfund Amendment and Reauthorization Act
- SPCCP Spill prevention, control, and countermeasures plan
- SQG Small quantity generator
- SVE Soil vapor extraction
- SWMU Solid waste management unit
- TAC Texas Administrative Code
- TCLP Toxicity characteristic leaching procedure
- TNRCC Texas Natural Resource and Conservation Commission
- TPDES Texas Pollution Discharge Elimination System
- TRRP Texas Risk Reduction Program

ACRONYMS AND ABBREVIATIONS, continued

- TSD Treatment, storage, and disposal
- TU Treatment Unit
- USC United States Code
- USDA United States Department of Agriculture
- USEPA United States Environmental Protection Agency
- VEW Vapor extraction well
- VMP Vapor monitoring point
- VOC Volatile organic compound
- WMP Waste management plan
- WRPA Waste Reduction Policy Act
- WWTP Wastewater treatment plant

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SECTION 1 INTRODUCTION

1.1 PURPOSE

This document is an addendum that modifies the **Sampling and Analysis Plan (SAP)** for SWMU Closures at Camp Stanley Storage Activity (CSSA) (**Volume 1-4 of the Environmental Encyclopedia, Field Sampling and Analysis Plan and QAPP**) for investigation, treatability studies and remedial activities as specified in various Task Orders for CSSA. The purpose of this addendum is to address changes to the existing SAP specifically related to management of contaminated media and waste generated through investigative, study or remedial activities. The activities to be conducted include performance of Resource Conservation and Recovery Act (RCRA) Facility Investigations (RFIs), conducting treatability studies, and removal actions at CSSA.

This waste management plan (WMP) is prepared for the use and implementation at CSSA located in Bexar County, Texas. CSSA is a Department of Defense (DoD) facility. This plan describes activities in support of and in compliance with the USEPA Administrative Order on Consent (Order), United States Environmental Protection Agency (USEPA) identification number TX2210020739, proceeding under Section 3008(h) of RCRA, as amended, 42 United States Code (U.S.C.) Section 6928(h). This plan is also designed to ensure that the waste management tasks performed in support of the Order at the installation, comply with the applicable federal, state, local, and army regulations.

This plan will be used by all personnel at CSSA involved in the management of investigation/remediation wastes containing hazardous constituents. The plan establishes specific procedures to be followed while performing waste management activities such as waste generation, classification, containerizing and packaging, labeling, transportation, and accumulation.

This plan should be considered as an overview of waste management procedures and requirements associated with planned RFI, Treatability Studies, and remedial actions. Applicable regulations should be reviewed periodically and this plan updated to ensure that the complete and most current listing of waste management requirements is incorporated.

1.2 GENERAL INSTALLATION INFORMATION

CSSA is located approximately 19 miles northwest of downtown San Antonio in south central Texas, and has a total area of 4,004.18 acres. CSSA is immediately east of State Highway 3351 (Ralph Fair Road), approximately 0.5 mile from Interstate Highway 10. CSSA has an approximate workforce of 115 and is a subinstallation of Red River Army Depot (RRAD).

CSSA is a restricted-access installation due to its explosive ordnance storage and testing missions with inner cantonment lands to the southwest and outer cantonment areas to the east and north. Operational buildings and igloo storage magazines are located within the inner cantonment. Outer cantonment land is primarily undeveloped open range.

The eastern boundary of CSSA and part of its northern and southern boundaries are contiguous with the Camp Bullis Military Training Reservation Fort Sam Houston. The surrounding area to the west is primarily rural and zoned for residential use. Some residential development is also present west, northwest, and southwest of the installation.

The primary mission of CSSA is the receipt, storage, issue, and maintenance of ordnance materiel, as well as quality assurance testing and maintenance of military weapons and ammunition¹. CSSA also has an agreement with the United States Department of Agriculture (USDA) Agricultural Research Service which permits cattle grazing on CSSA lands. CSSA personnel or other parties are allowed to hunt wildlife on a restricted basis. Although RRAD is proposed for realignment, no changes to the CSSA mission and military activities are expected in the future.

The name and address of the owner and operator of the installation are:

Installation Manager
Camp Stanley Storage Activity
25800 Ralph Fair Road
Boerne, Texas 78006-4800
Phone: (210) 295-7416

The designated person in charge of USEPA 3008(h) Delivery Orders and related issues at the installation is the installation Environmental Officer.

1.3 HAZARDOUS WASTE ACTIVITIES

The CSSA installation is classified as a small quantity hazardous waste generator (USEPA Identification Number TX2210020139). In addition, the facility also generates nonhazardous wastes, and stores hazardous and nonhazardous wastes (Texas Solid Waste Registration Number 69026). The installation generates hazardous and nonhazardous

¹ Environmental Health Engineering Department, Fifth US Army Medical Laboratory, Report of Engineering-Survey-Industrial Waste and Wastewater Treatment Plant, Camp Stanley Storage Activity, Texas, October, 1971.

wastes from various activities involved in performing the primary missions of the installation and tasks associated with the Order.

In addition to the wastes generated directly from primary missions activities, some waste streams are also generated from post support activities. The specific investigation/remediation activities generating potential hazardous and nonhazardous wastes are discussed in detail in Section 2.

1.4 GENERAL PLAN OVERVIEW

This document contains six sections, including this introductory section. Section 2 presents a brief summary of anticipated significant waste streams generated at the facility in association with the Order. The regulatory background for the waste management activities are detailed in Section 3. Section 4 describes various waste management tasks and identifies responsible personnel for implementing the waste management tasks. Section 4 draws on many appendices to describe a detailed step-by-step waste management procedures. Spill prevention and response activities are described in Section 5. The recordkeeping and reporting requirements for waste management activities at the post are described in Section 6.

Any and all revisions to this plan will be approved by the USEPA and incorporated by replacing the old affected pages with the new ones and documenting the revisions on a Record of Revisions page presented in front of this document (page *ii*).

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SECTION 2 ANTICIPATED WASTE GENERATION ACTIVITIES

CSSA currently is classified as a conditionally exempt small quantity hazardous waste generator (30 Texas Administrative Code TAC 335.1). The installation also generates several nonhazardous waste streams. The installation generates hazardous and nonhazardous wastes from various activities associated with the primary mission at the installation.

In addition to the wastes generated directly from the primary mission activities, some waste streams are also generated from miscellaneous post support activities such as those associated with RFI activities, and waste removal activities in association with the Order. The specific activities that are anticipated in generating potential hazardous and nonhazardous wastes are discussed below.

2.1 RFI ACTIVITIES

This section describes activities in support of and in compliance with the USEPA Administrative Order on Consent, USEPA identification number TX2210020739, proceeding under Section 3008(h) of RCRA, as amended, 42 U.S.C. Section 6928(h).

The objectives of the RFI include:

- Identifying possible releases;
- Investigating and preventing the further spread of identified releases of hazardous waste and /or hazardous constituents to the environment at and/or from the facility; and
- Ensuring that corrective actions protect human health and environment.

In addition to this addendum to the SAP, the Quality Program Plans (QPP), are included in **Volume 1-4 and Volume 1-5**, respectively. The QPP includes the **Sampling and Analysis Plan (SAP)** and the **Health and Safety Plan (HASP)**. The SAP consists of the **Quality Assurance Project Plan (QAPP)** and the **Field Sampling Plan (FSP)**. The SAP is included in **Volume 1-4** and the HASP is included in **Volume 1-5**. A detailed description of the RFI measures for each SWMU and AOC is provided in **Volume 1-2 and Volume 1-3**.

In addition to RFIs and other ongoing environmental investigations, CSSA has been undertaking a large-scale groundwater investigation and monitoring program to define the vertical and lateral extent of solvent plumes impacting the Middle Trinity Aquifer that

serves municipal as well as domestic consumers in the vicinity of northwest San Antonio. Recent data suggest that the plume has moved beyond the boundaries of the government-owned facility, and has impacted off-post drinking water wells. The need for hydrologic characterization and plume delineation as soon as possible is the greatest priority to the facility.

To this end, CSSA has been aggressively implementing a groundwater monitoring program to address these issues in compliance with the Order. Phase I of this investigation, which included the installation of 15 new groundwater monitoring wells was recently completed. The Phase I wells took nearly a year to fully implement, and encountered many challenges including the handling of copious quantities of drilling material generated during their installation.

For Phase II, a total of 17 monitoring wells that are scheduled to be installed in three units of the Middle Trinity Aquifer underlying CSSA. The hydrologic units of interest are the Lower Glen Rose (LGR) Limestone, the Bexar Shale (BS), and the Cow Creek (CC) Limestone. The actual drilling depth will be a function of each well's location and land surface elevation. In general, wells ranging between 120 to 500 feet below ground surface are to be installed during the Phase II drilling operation. The end product will be 13 wells with a nominal 4" diameter casing and maximum screen length of 25 feet. Additionally, four wells will be installed using the Westbay's multilevel sampling system to approximate depths of 300 feet below ground surface. Depending on the hydrologic zone of interest, different well designs will be implemented to ensure the integrity of each monitoring point.

Drilling to depths up to 500 feet produces significant amounts of drill cuttings (soil and limestone) as well as groundwater. It is estimated that as much as 170 cubic feet (6.3 cubic yards) of soil drill cuttings can be generated from a single well. In addition, the relatively slow advance of the drill bit in relation to the pumping action inherent with the air rotary drilling methodology generates a large volume of extracted groundwater when drilling below the water table. As much as 28,000 gallons of groundwater may be produced during the course of drilling a single well.

Because of the previous experience of the Phase I drilling project, CSSA has estimated the amount of total solids and liquids that will be generated from the Phase II drilling as it is currently scoped. We anticipate approximately 100 cubic yards of solids (drill cuttings) and between 300,000 to 400,000 gallons of formation water (i.e. groundwater) to be generated during the well installation activities. As much as 100,000 additional gallons of groundwater will be generated during the development phase. Approximately 1,800 cubic yards (nearly 100 roll-off containers or 350,000 gallons) of drilling material (i.e., mud and groundwater) are expected to be generated over the 14-month drilling schedule.

Adequate storage capacity will be required to effectively handle the generated investigative derived media. Two options have been identified for management of the groundwater media. The first is use of 20-cubic yard containers during the Phase II well installation efforts. The second is the use of a settling basin located near CSSA's outfall

002. CSSA believes the settling basin methodology is deemed to be a more economical and appropriate method of handling the generated drilling materials while continuing to be protective of human health and the environment. However, either management or a combination of both management methods may be used in managing the expected investigative derived media.

2.1.1 Management of Groundwater Investigation Derived Media

The first option allows for the use of approximately 140 20-cubic yard containers for management of Investigation Derived Waste (IDW) media. Approximately six containers per well will be required in order to handle the generation of media from well installations. Additionally, four containers will be staged at CSSA's Outfall 002 for possible treatment requirements. This option assumes that all containers will be sampled before any resulting media management is to occur.

The second option allows for the use of settling basin(s) for management of groundwater investigative derived media. This options assumes that periodic sampling will occur before any resulting media management is to occur. At this time, CSSA does not anticipate using lined settling basins. Appropriate requirements will be met if the settling basins are used in the RFI, interim measures (IM) remediation, or other corrective action activities at CSSA.

For the second option, a drilling subcontractor would transport all generated drilling materials to the basins via vacuum truck. Depending upon the circumstances, two smaller ponds may be constructed to be more proximal to the two major areas of investigation, thereby reducing transport times. Multiple transportable 20 to 30-yard roll-off boxes will also be placed at each well cluster to temporarily contain drilling media when production occasionally exceeds the transportation capability of the drilling subcontractor. Periodically, sampling of the drilling materials will identify any additional management methods that may be necessary (i.e. if materials are above Texas Risk Reduction Program (TRRP) Tier 1 Protective Concentration Limits (PCLs) or Maximum Contaminant limits (MCLs) they would be routed through the granular activated carbon (GAC) unit at CSSA's Outfall 002). If analysis of the materials indicates that the COCs are below the health based standards (PCLs or MCLs) they would be discharged to the ground surface. The use of TRRP Tier 1 PCLs or MCLs standards in determining management of investigative derived media are as applicable or relevant and appropriate requirements (ARARs).

Any remaining mud/solids will be sampled for Volatile Organic Compounds (VOCs) for characterization and managed as soil investigative derived media discussed in the following section 2.1.2.

2.1.2 Management of Solid Investigative Derived Media

Solids with VOC concentrations at or less than background will be transported and managed onsite as fill material. Concentrations of VOCs greater than subject criteria will require off-site disposal.

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SECTION 3 REGULATORY OVERVIEW

Various federal, state, and local regulations govern waste management activities. This section presents a brief introduction to these regulations related to the waste management activities at the installation. These regulations may be broadly classified as those pertaining to waste classification, accumulation and storage, treatment and disposal, transportation, and spills and releases. In addition, certain documenting and reporting is required for each of these waste management activities.

This regulatory overview is for reference and general information purposes only, and should not be considered a complete listing of all applicable regulatory requirements. The most current and applicable regulations should be referenced for determining regulatory requirements associated with waste management activities. Specific regulatory citations should be reviewed to determine applicability to specific situations.

3.1 WASTE CLASSIFICATION

A waste once generated may be broadly classified as a hazardous or a nonhazardous solid waste. Management of hazardous wastes is governed mostly by the regulations under RCRA and its associated state regulations, and management of nonhazardous wastes is governed by state regulations. Under the authority of the USEPA, the Texas Commission on Environmental Quality (TCEQ) administers the RCRA program for the State of Texas. In addition to hazardous and nonhazardous solid wastes, other wastes, such as wastewater and storm water, may be generated and regulated under Clean Water Act (CWA) and Texas Pollution Discharge Elimination System (TPDES). The waste classification regulations are further discussed below.

3.1.1 Hazardous Wastes

Various hazardous wastes are identified and classified in accordance with Title 40 Code of Federal Regulations (CFR) Parts 260 and 261. The State of Texas has adopted these rules by reference in 30 TAC Section §335.504. The hazardous waste classification system developed by the state is detailed in 30 TAC §335 Subchapter R.

For any waste to be classified as a hazardous waste, first it must be a solid waste as defined in 40 CFR Part 261.2. Specific wastes such as wastewater, mining wastes, and oil and gas exploration wastes are excluded from the hazardous waste regulations. These exclusions are described in under 40 CFR Part 261.4. In addition, some wastes which are

reused or recycled (40 CFR 261.2 and 261.3) are exempt from all or portions of hazardous waste regulations.

Primary classification of hazardous wastes is by listing and by characteristics. Listed hazardous wastes include wastes generated from nonspecific sources, specific sources or processes, and hazardous chemicals and spill residues. Hazardous wastes listed for nonspecific source uses are assigned an "F" waste code, and include waste codes from F001 through F039 (40 CFR 261.31). The hazardous wastes listed for specific sources or uses are assigned "K" waste codes, and include waste codes from K001 through K151 (40 CFR 261.32). Hazardous chemicals and spill residues are classified as "P" waste codes for acute hazardous chemicals [P001 through P122, 40 CFR 261.33 (e)], and as "U" waste codes for nonacute hazardous chemicals [U001 through U249, 40 CFR 261.33 (f)]. In addition to these listed hazardous wastes, mixtures of listed hazardous waste(s) and solid wastes or other materials may also be classified as listed wastes. The waste codes of such waste mixtures will be based on the listed wastes present in the mixture.

Solid waste that is not a listed hazardous waste may be classified as hazardous waste based on certain waste characteristics. These characteristics include ignitability (40 CFR 261.21), corrosivity (40 CFR 261.22), reactivity (40 CFR 261.23), and toxicity (40 CFR 261.24). The toxicity characteristics are based on the presence of specific chemical constituents above the chemical-specific concentration limits in the liquid fraction or the leachate of a solid waste using a standard test method such as toxicity characteristic leaching procedure (TCLP Method 1311)². Hazardous wastes by characteristics are assigned "D" waste codes and include waste codes from D001 through D043.

The following discussion reviews the regulations that appear to be pertinent to the classification of wastes (including excavated soil and extracted groundwater) generated during the anticipated removal actions and its proper management. Direct quotes from the CFR Federal Register (FR) and the TAC are provided in small type and indented with the citation provided in bold.

The regulations pertaining to waste classification are provided in 30 TAC Chapter 335 Subchapter R - Waste Classification. Section 335.501 requires generators of industrial solid waste and municipal hazardous waste to classify their waste according to the standards set forth in Subchapter R. This may be done without any prior approval or communication with the agency. However, Section 335.512 provides for an Executive Director Review process that can be used to resolve a dispute in classification such as when the generator and the agency or two fractions of the agency are not in agreement on the classification of the waste in question.

The identification of hazardous waste under 30 TAC Section 335.504 of the Texas regulations refers the regulated community to the federal regulations 40 CFR Part 261 Subparts C and D for characterization and listing. Under 30 TAC Section 335.62, the generator must refer to this chapter (TAC Chapter 355) and to 40 Parts 261, 264, 265,

² *Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods*, EPA Publication SW-846.

266, 268, and 273 for any possible applicable exclusions or restrictions pertaining to management of the specific waste.

The soil and ground water are environmental media that are not subject to solid waste regulations unless they are excavated/extracted and discarded. Under 40 CFR 261.2, a solid waste is any discarded material (solid, liquid, or containerized gas) that is abandoned, recycled or inherently waste-like. In-place soil and groundwater are considered media and not a solid waste since they are not discarded material. Under 40 CFR 261.3, only solid wastes can be classified as hazardous wastes. If the media is not a solid waste, it cannot be classified as a hazardous waste.

USEPA has adopted a "contained-in-policy" that is also utilized by the TCEQ for contaminated media. In their interpretations (September 15, 1995 Letter 9441.1995(32), OSW Faxback 11948), USEPA states the following:

The contained-in-policy is intended to clarify the application of RCRA hazardous waste regulations to environmental media. As stated in previous guidance on this policy, contaminated media are not considered solid wastes in the sense of being abandoned, recycled, or inherently waste-like as those terms are defined in the RCRA regulations. However, environmental media that contain listed hazardous waste must be managed as hazardous wastes because--and only as long as--they contain listed waste(s). USEPA regions and authorized states may apply the contained-in-policy to determine site-, media-, and contaminant-specific levels, such that if the concentration of the hazardous constituents in the environmental media fall below these levels, the environmental media may be determined to no longer contain hazardous waste.

USEPA provided further discussions of the contained-in-policy in a memorandum issued on October 14, 1998, Management of Remediation Waste Under RCRA, EPA530-F-98-026. This memorandum provides the following guidance:

Contained-in policy. Contaminated environmental media, of itself, is not hazardous waste and, generally, is not subject to regulation under RCRA. Contaminated environmental media can become subject to regulation under RCRA if they "contain" hazardous waste. As discussed more fully below, USEPA generally considers contaminated environmental media to contain hazardous waste: (1) when they exhibit a characteristic of hazardous waste; or, (2) when they are contaminated with concentrations of hazardous constituents from listed hazardous waste that are above health-based levels.

If contaminated environmental media contain hazardous waste, they are subject to all applicable RCRA requirements until they no longer contain hazardous waste. USEPA considers contaminated environmental media to no longer contain hazardous waste: (1) when they no longer exhibit a characteristic of hazardous waste; and (2) when concentrations of hazardous constituents from listed hazardous wastes are below health-based levels. Generally, contaminated environmental media that do not (or no longer) contain hazardous waste are not subject to any RCRA requirements; however, as discussed below, in some circumstances, contaminated environmental media that contained hazardous waste when first generated (i.e., first removed from the land, or area of contamination) remain subject to LDR [land disposal restriction] treatment requirements even after they "no longer contain" hazardous waste.

The determination that any given volume of contaminated media does not contain hazardous waste is called a "contained-in determination." In the case of media that exhibit a characteristic of hazardous waste, the media are considered to "contain" hazardous waste for as long as they exhibit a characteristic. Once the characteristic is eliminated (e.g., through treatment), the media are no longer considered to "contain" hazardous waste. Since this determination can be made through relatively straightforward analytical testing, no formal "contained-in" determination by USEPA or an authorized state is required. Just like determinations about whether waste has been adequately decharacterized, generators of contaminated media may make independent determinations as to whether the media exhibit a characteristic of hazardous waste. In the case of media that are contaminated by listed hazardous waste, current USEPA guidance recommends that contained-in determinations be made based on direct exposure using a reasonable maximum exposure scenario and that conservative, health-based, standards be used to develop the site-specific health-based levels of hazardous constituents below which contaminated environmental media would be considered to no longer contain hazardous waste. Since this determination involves development of site-specific health-based levels, the approval of USEPA or an authorized state is required.

In certain circumstances the, RCRA land disposal restrictions will continue to apply to contaminated media that has been determined not to contain hazardous waste. This is the case when contaminated media contain hazardous waste when they are first generated (i.e., removed from the land, or area of contamination) and are subsequently determined to no longer contain hazardous waste (e.g., after treatment), but still contain hazardous constituents at concentrations above land disposal restriction treatment standards. It is also the case when media are contaminated as a result of disposal of untreated (or insufficiently treated) listed hazardous waste after the effective date of an applicable LDR treatment requirement. Of course, if no land disposal will occur (e.g., the media will be legitimately recycled) the LDR treatment standards do not apply. In addition, contaminated environmental media determined not to contain any waste (i.e., it is just media, it does not contain solid or hazardous waste) would not be subject to any RCRA Subtitle C requirements, including the LDRs, regardless of the time of the "contained-in" determination.

The contained-in policy was first articulated in a November 13, 1986 USEPA memorandum, "RCRA Regulatory Status of Contaminated Groundwater." It has been updated many times in Federal Register preambles, USEPA memos and correspondence, see, e.g., 53 FR 31138, 31142, 31148 (Aug. 17, 1988), 57 FR 21450, 21453 (May 20, 1992), and detailed discussion in HWIR-Media proposal preamble, 61 FR 18795 (April 29, 1996). A detailed discussion of the continuing requirement that some soils which have been determined to no longer contain hazardous waste (but still contain solid waste) comply with land disposal treatment standards can be found in the HWIR-Media proposal preamble, 61 FR 18804; the September 15, 1996 letter from Michael Shapiro (USEPA OSW Director) to Peter C. Wright (Monsanto Company); and the preamble to the LDR Phase IV rule, 63 FR 28617 (May 26, 1998).

Note that the contained-in policy applies only to environmental media (soil, ground water, surface water and sediments) and debris. The contained-in policy for environmental media has not been codified. As discussed below, the contained-in policy for hazardous debris was codified in 1992.

It is important to note that the application of the contained-in-policy is contingent on the fact that a listed waste is entrained within the environmental media. At CSSA

Building 90 or SWMU B-3, conclusive evidence has not established that hazardous waste was deposited or spilled into the environmental media.

A review of the potential hazardous waste classifications that may be of concern at Building 90 or SWMU B-3 clarifies the position that this environmental media should not be regulated as if it contains hazardous waste. These potential classifications would include the following:

Listed Hazardous Waste - 40 CFR Part 261 Subpart D provides the "Lists of Hazardous Wastes". Solid wastes are considered to be a listed hazardous waste only if the waste fully meets the listing description provided for 40 CFR 261.31 - Hazardous wastes from non-specific sources, 40 CFR 261.32 - Hazardous wastes from specific sources, or 40 CFR 261.33 - Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof. Potential hazardous waste numbers from Subpart D include U210, U228, and F001 as addressed in the following paragraphs.

U210 - Tetrachloroethylene (PCE, synonyms - perchloroethylene, tetrachlorethene) would apply to discarded commercial chemical products and spill residues thereof as listed under 40 CFR 261.33. Contaminated media resulting from a spill of the commercial product would meet this listing. The comment included in this regulation explains that this listing only applies to a chemical substance that is a commercially pure grade of the chemical or a formulation in which the chemical is the sole active ingredient. It does not refer to solvent mixtures with multiple active ingredients or process wastes. There are no reports or records of raw material spills or disposal in the vicinity of Building 90 or SWMU B-3; therefore, this listing does not apply.

U228 - Trichloroethylene (TCE, synonyms - trichloroethene) would apply to discarded commercial chemical products and spill residues thereof as listed under 40 CFR 261.33. Contaminated media resulting from a spill of the commercial product would meet this listing. The comment included in this regulation explains that this listing only applies to a chemical substance that is a commercially pure grade of the chemical or a formulation in which the chemical is the sole active ingredient. It does not refer to solvent mixtures with multiple active ingredients or process wastes. There are no reports or records of raw material spills or disposal in the vicinity of Building 90 or SWMU B-3; therefore, this listing does not apply.

F001 - Spent halogenated solvents used in degreasing operations. Under 40 CFR 261.31(a), these spent solvents would include mixtures of solvents with TCE and PCE. This classification applies to the spent solvent after it is removed from the vat and the decision has been made that it is spent and will be wasted. It does not refer to materials that are in process or residues on the materials that are being dipped as part of the process. There are no reports or records of F001-spent solvent spills or disposal in the vicinity of Building 90 or SWMU B-3; therefore, this listing does not apply.

Characteristic Hazardous Wastes - 40 CFR Part 261 Subpart C provides the "Characteristics of Hazardous Wastes". Solid wastes are considered to be a characteristic hazardous waste if the waste exhibits any of the characteristics identified in Subpart C. These include ignitability (40 CFR 261.21), corrosivity (40 CFR 261.22), reactivity (40 CFR 261.23), and toxicity (40 CFR 261.24). Assuming that the remediation wastes are not ignitable, corrosive, or reactive, the potential hazardous waste numbers from Subpart C include D039 and D040 under the toxicity characteristic as addressed in the following paragraphs.

D039 - Tetrachloroethylene toxicity would apply if the solid waste has a contaminant value that exceeds 0.7mg/L for liquids or TCLP extract for solids. Only materials that exceed the regulatory level for the contaminant specified would apply this hazardous waste number. If the waste is not a listed waste and has values below the regulatory level the waste is not considered hazardous for toxicity.

D040 - Trichloroethylene toxicity would apply if the solid waste has a contaminant value that exceeds 0.5 mg/L for liquids or TCLP extract for solids. Only materials that exceed the regulatory level for the contaminant specified would apply this hazardous waste number. If the waste is not a listed waste and has values below the regulatory level the waste is not considered hazardous for toxicity.

USEPA also provided further discussion of the determination of when contamination is caused by listed hazardous waste in memorandum issued on October 14, 1998, Management of Remediation Waste Under RCRA, EPA 530-F-98-026. This memorandum provides the following guidance:

Determination Of When Contamination is Caused by Listed Hazardous Waste. Where a facility owner/operator makes a good faith effort to determine if a material is a listed hazardous waste but cannot make such a determination because documentation regarding a source of contamination, contaminant, or waste is unavailable or inconclusive, USEPA has stated that one may assume the source, contaminant or waste is not listed hazardous waste and, therefore, provided the material in question does not exhibit a characteristic of hazardous waste, RCRA requirements do not apply. This approach was first articulated in the Proposed NCP preamble which notes that it is often necessary to know the source of a waste (or contaminant) to determine whether a waste is a listed hazardous waste under RCRA Listing determinations are often particularly difficult in the remedial context because the listings are generally identified by the sources of the hazardous wastes rather than the concentrations of various hazardous constituents; therefore, analytical testing alone, without information on a waste's source, will not generally produce information that will conclusively indicate whether a given waste is a listed hazardous waste. and also notes that, "at many CERCLA [Comprehensive Environmental Response, Compensation and Liability Act] sites no information exists on the source of the wastes." The proposed NCP [National Contingency Plan] preamble goes on to recommend that the lead agency use available site information such as manifests, storage records and vouchers in an effort to ascertain the sources of wastes or contaminants, but that when this documentation is not available

or inconclusive the lead agency may assume that the wastes (or contaminants) are not listed RCRA hazardous wastes. This approach was confirmed in the final NCP preamble. See, 53 FR 51444, December 21, 1988 for proposed NCP preamble discussion; 55 FR 8758, March 13, 1990 for final NCP preamble discussion.

This approach was also discussed in the HWIR-Media proposal preamble, 61 FR 18805, April 29, 1996, where it was expanded to also cover dates of waste disposal – i.e., if, after a good faith effort to determine dates of disposal a facility owner/operator is unable to make such a determination because documentation of dates of disposal is unavailable or inconclusive, one may assume disposal occurred prior to the effective date of applicable land disposal restrictions. This is important because, if hazardous waste was originally disposed of before the effective dates of applicable land disposal restrictions and media contaminated by the waste are determined not to contain hazardous waste when first generated (i.e., removed from the land, or area of contamination), the media are not subject to RCRA requirements, including LDRs.

In conclusion, environmental media is not a solid waste until it is extracted and managed as a waste. Generally this would include a decision to waste the extracted media. If investigation or remediation wastes do not meet the listing description or contain listed wastes, the wastes are not listed wastes. If the solid waste does not exhibit characteristics of ignitability, corrosivity, or reactivity and has contaminant values below the regulatory levels for toxicity, the solid waste is not a characteristic hazardous waste. A waste that is not a listed or characteristic hazardous waste is not a hazardous waste. The waste may still require appropriate management as non-hazardous industrial waste depending on the levels of contamination as discussed in the following section 3.1.2.

Through the preparation of the RFA that included a records search and the questioning of long-term staff involved with AOC-65 and SWMU B-3, CSSA has made a good faith effort to determine if the environmental media contain a listed hazardous waste. CSSA as the generator of potential investigation and remedial wastes cannot determine that the contamination resulted from hazardous waste because documentation regarding a source of contamination, contaminant, or waste is unavailable or inconclusive. USEPA regulations (and TCEQ through the adoption of the federal hazardous waste identification regulations and guidance) provide that CSSA may assume the source, contaminant or waste is not listed hazardous waste and, therefore, provided the material in question does not exhibit a characteristic of hazardous waste, RCRA management requirements do not apply.

3.1.2 Nonhazardous Wastes

Nonhazardous waste classification is mandated by the state regulations at 30 TAC §335, Subchapter R. Those solid wastes that do not meet the hazardous waste criteria as defined in 30 TAC §335.504, are classified as nonhazardous wastes. Nonhazardous wastes may be further classified as Class 1 (30 TAC §335.505 and §335.508), Class 2 (30 TAC §335.506 and §335.508), or Class 3 (30 TAC §335.503 and §335.508).

The state regulations require that nonhazardous wastes be classified at the point of generation (within 90 days of generation). A generator can use both waste characteristics,

as determined from analytical data, and process knowledge to classify nonhazardous wastes. The rules allow self-classification of nonhazardous wastes by the generators, provided that the state is notified of the classification prior to waste transfer off site or disposal.

3.2 WASTE ACCUMULATION AND STORAGE

Hazardous wastes, once generated, can be temporarily accumulated (3-days) at the point of generation and later stored for a limited length of time (90-days) at designated storage areas. There are no specific regulations that establish procedures for accumulation or storage of nonhazardous wastes. However, the general prohibition in 30 TAC §335.4 which prohibits management of hazardous constituents in manners harmful to human health and the environment applies to all nonhazardous waste management activities, including accumulation and storage. In addition, the generator of nonhazardous wastes is required to comply with the notification requirements as established in 30 TAC §335.6.

The RCRA regulations, 40 CFR 262.34, establish specific procedures and requirements for accumulation and storage of hazardous wastes. Hazardous waste storage units can be operated to store wastes for no longer than 90 days without obtaining a RCRA permit or interim status for the unit. Such units are also exempt from certain RCRA regulations such as some of the operational and closure requirements. Small quantity generators may store hazardous waste for 180 days (or 270 days if transport is over 200 miles) without a RCRA permit provided that the generator complies with the requirements of 40 CFR 262.34(d, e, & f).

3.3 WASTE TREATMENT AND DISPOSAL

Wastes generated and accumulated at a facility will have to be ultimately treated and/or disposed. Waste treatment and disposal may take place either at an onsite or an offsite facility, or a combination of both. Specific treatment requirements have been established for most hazardous wastes prior to disposal. There are no regulatory treatment requirements for nonhazardous solid wastes prior to disposal. The treatment and disposal standards for the installation wastewater and storm water discharges are established under CWA and TPDES.

Nonhazardous solid wastes can be disposed of only at facilities that have been approved for receipt of such wastes. Offsite facilities for disposal of nonhazardous wastes must be state-permitted facilities. However, on-site facilities for disposal of nonhazardous wastes do not require permitting, but do require notification to the TCEQ and incorporation of such facilities into the installation Notice of Registration (NOR).

Hazardous waste treatment, storage, and disposal (TSD) activities are governed by various state and federal regulations. The majority of state regulations incorporate federal regulations by reference. CSSA is not a permitted facility for the treatment or disposal of hazardous waste. These rules and regulations are included below for an overview of hazardous waste regulations.

3.3.1 Hazardous Waste Treatment

Many of the IRA's will involve the short-term management (i.e., storage or treatment) of remediation waste. For example, wastes may be placed in tanks or containers prior to consolidation for treatment. Normally, RCRA regulations would require CSSA to comply with all requirements of 40 CFR 264 and obtain a full operating permit for storage and/or treatment of hazardous waste in such units (unless conducted in generator 90-day accumulation tanks or containers). The designation of the unit as a "Treatment Unit" (TU) provides the flexibility for short-term management of remediation waste in tanks or container storage units without the burden of compliance with the full 40 CFR 264 standards and without permit requirements. The TU rule to facilitate cleanups under RCRA corrective action provides flexibility in complying with requirements such as design, operation, and closure requirements, so that only those standards required to protect human health and the environment during the operating life of the unit would be required. TUs have a maximum permissible life of not more than 2 years; after this time an owner or operator must submit a permit application and comply with the full 40 CFR 264 requirements (see 40 CFR 264.553).

Within the final Hazardous Waste Identification Rule (HWIR)-Media the manner in which remediation wastes can be managed were promulgated to include the use of corrective action management and treatment units. Also, USEPA finalized the LDR treatment standards for hazardous contaminated soil, which were included in the HWIR-Media proposal, as part of the LDR Phase IV final rule (63 FR 28604, May 26, 1998). The Hazardous Waste Identification Rule (HWIR)-Media final rule has the following elements that affected management of remediation wastes.

- The existing definitions of "corrective action management unit (CAMU)" and "remediation waste" in 40 CFR 260.10 were modified (as discussed above) to clarify that remediation waste need not be generated by corrective actions conducted pursuant to RCRA in order to qualify for management in a CAMU or temporary unit.
- A new type of RCRA permit, a Remedial Action Plan (RAP), with a streamlined permitting process is established for governing treatment, storage, and disposal of hazardous remediation wastes. A RAP does not document and enforce site-specific alternative management requirements for hazardous contaminated media because the HWIR-Media final rule does not provide for such media to be exempted from RCRA Subtitle C, as was proposed. Instead, a RAP offers a streamlined permitting process for treating, storing, and disposing of hazardous remediation wastes, including hazardous contaminated media, in accordance with RCRA Subtitle C. USEPA uses the term "remediation-only facility" to refer to facilities that require RCRA permits solely because they manage hazardous remediation wastes (63 FR 65880).
- A definition for the term "remediation waste management site" is added to 40 CFR 260.10. A remediation waste management site is defined as "a facility where an owner or operator is or will be treating, storing or disposing of hazardous remediation waste." [63 FR 65937]. This definition allows wastes managed at off-site locations to qualify as remediation waste, even if they are removed from their site of origin. The

HWIR-Media final regulations governing remediation waste management sites differ from those governing other hazardous waste management facilities in the following three respects [63 FR 65882]. Remediation waste management sites can be permitted using either the new RAP, or a traditional RCRA permit. If a remediation waste management site is located at a remediation-only facility, facility-wide corrective action is not required, whether the remediation waste management site is permitted using a traditional RCRA permit or a RAP. Remediation waste management sites must comply with performance standards that address general facility requirements, preparedness and prevention, and contingency planning and emergency procedures. They are not compelled to comply with 40 CFR 264, Subparts B, C, and D, which govern the same activities at other hazardous waste management facilities.

- A new type of hazardous waste management unit, the staging pile, is created for accumulation and temporary storage of solid, non-flowing hazardous remediation waste. A definition for the term "staging pile" was also added to 40 CFR 260.10. The HWIR-Media final rule defines a staging pile as "an accumulation of solid, non-flowing remediation waste (as defined in [40 CFR] §260.10) that is not a containment building and is used only during remedial operations for temporary storage at a facility" [63 FR 65939, codifying 40 CFR 264.554(a)]. A staging pile must be located within the contiguous property under the control of the owner/operator where the wastes to be managed in the staging pile originate. Remediation waste may be stored in the staging pile for a maximum of two years, with the possibility of one 180-day extension.

In summary, hazardous waste treatment at CSSA can occur without a RCRA permit or interim status. However, for the planned IRA's associated with this WMP no treatment is expected. If treatment is deemed necessary, CSSA will coordinate with USEPA and the TCEQ to effectively the promulgated rules allowing treatment of remediation waste without obtaining a RCRA permit.

3.3.2 Hazardous Waste Disposal

All hazardous waste disposal facilities must have hazardous waste permits and comply with 40 CFR 264 and/or 265. Hazardous wastes may be disposed of in containment systems such as landfills, surface impoundments, and deep well injection systems. The wastes may also be treated via destructive technologies such as incineration and wet air oxidation.

Hazardous waste disposal in land-based systems are further restricted under 40 CFR Part 268. The waste disposal options may also be restricted based on the waste characteristics. All hazardous wastes that are disposed in offsite facilities must be properly manifested.

Hazardous waste disposal cannot occur at CSSA without a RCRA permit or interim status. The planned IRA's associated with this WMP do not plan for any on-site disposal of hazardous waste. All hazardous wastes/treatment residues (if treatment occurs) will be sent to permitted of site TSD facilities for final disposal.

3.4 OFFSITE WASTE TRANSPORTATION

Wastes that are generated and stored at CSSA are transported to offsite facilities for treatment and disposal. Offsite waste transportation (both interstate and intrastate transports) are regulated both under RCRA and the Department of Transportation (DOT). The offsite transportation of hazardous wastes must be performed by a RCRA permitted transporter. Offsite transportation of nonhazardous solid wastes must be performed by state-permitted transporters.

The RCRA regulations that are applicable to hazardous wastes transportation are established at 40 CFR Parts 262 and 263. The regulations in 40 CFR Part 262 establish the requirements with which a generator must comply with respect to waste manifest, pre-transport preparations, and recordkeeping and reporting. The regulations in 40 CFR Part 263 apply to transporters of hazardous wastes. As CSSA does not itself transport hazardous wastes, only the generator requirements established in 40 CFR Part 262 will be discussed in this document. In addition to the RCRA regulations, state regulations established at 30 TAC §335.10 (Shipping and Reporting Procedures Applicable to Generators of Hazardous Waste or Class I Waste) are also applicable.

Hazardous waste generators are required to prepare manifests, in accordance with 40 CFR 262.20, 262.21, 262.22, and 262.23, for wastes designated for offsite management. The generator must also meet pre-transport requirements established at 40 CFR 262 Subpart C. The pretransport requirements are essentially the packaging, labeling, and placarding requirements established by the DOT under 49 CFR Parts 171-179, incorporated by reference under RCRA. In addition, RCRA also requires generators to maintain records and to periodically report hazardous waste shipments (40 CFR Part 262.40 and 262.41). The state requirements for generators shipping hazardous wastes for offsite management (30 TAC §335.10) are essentially identical to the RCRA requirements.

The DOT regulations governing the transport of hazardous wastes are established at 49 CFR Parts 171-180. These regulations include the requirements for hazard class determination (Part 173), pretransport preparation (Part 172), and packaging specifications (Part 178). The DOT regulatory requirements, including recordkeeping and reporting, are in addition to the RCRA requirements, although these requirements overlap or are identical. In other words, the generator should comply with both the RCRA and DOT requirements. Although the generator may not be physically performing offsite transportation or disposal activities, the generator is ultimately responsible for the wastes shipped offsite.

3.5 SPILLS AND RELEASES

Spills and releases of hazardous constituents may occur at the installation from material storage units, transfer areas, various processes, and waste management areas. All spill residues, including spill cleanup debris, should be classified based on the type of material or waste spilled and the characteristics of the residues. The residues should be managed in accordance with the regulations applicable to the waste classification. Spills

and accidental releases of hazardous materials and oils are also discussed in Section 5 and presented in detail in the Spill Prevention, Control, and Countermeasures Plan (SPCCP) and the Installation Spill Contingency Plan (ISCP).

Oil spills are regulated under 40 CFR Part 112. All facilities with oil storage capacity in excess of a specified volume are required to prepare and implement an SPCCP. Any oil spills in excess of the reportable quantities should be reported to appropriate local, state, and federal agencies.

All hazardous waste TSD facilities, including those containing only less-than-90 day storage facilities, are required to prepare and implement an emergency contingency plan. Any spills of hazardous constituents listed in 40 CFR Part 117 to navigable waters of the United States in excess of the reportable quantities should be reported to the appropriate local, state, and federal agencies. In addition, CERCLA also requires notification to local, state, and federal agencies in the event of releases of hazardous wastes or constituents listed in 40 CFR 302 in excess of reportable quantities.

Furthermore, under the Texas Oil and Hazardous Substances Spill Prevention and Control Act, the TCEQ has prepared a spill contingency plan (State of Texas Oil and Hazardous Substances Spill Contingency Plan, October 1988). CSSA must also comply with the requirements of the act and procedures established in the state spill contingency plan when responding to an oil or hazardous substance spill on the installation.

SECTION 4 HAZARDOUS WASTE MANAGEMENT TASKS

This section describes various activities involved in remediation waste management at the installation. The following is a brief description and overview of each of the waste management activities at the installation.

4.1 WASTE IDENTIFICATION

Waste management activities begin at the point of waste generation. The waste classification dictates the sequence of subsequent waste management activities. Hence, the first and foremost activity, once a waste is generated, is to properly identify and classify the waste.

Any remediation wastes generated will require waste characterization for waste classification. Waste characterization may be based on process knowledge or on the results of chemical analysis. After waste classification, the waste stream may be added to the Installation's NOR or managed using a one-time disposal code from the TCEQ. Documentation regarding new waste streams generated should be sent to TCEQ within 90 days of generation, in accordance with 30 TAC §335.513.

4.2 WASTE ACCUMULATION

All waste accumulation areas must be authorized by the CSSA Environmental Office prior to waste accumulation activities. Prior to the approval of a new waste accumulation site, the Environmental Office will consider potential health and environmental consequences in the event hazardous constituents are released during a spill, fire, or explosion, or otherwise released from the accumulation site.

4.3 CONTAINER MANAGEMENT AND STORAGE

The hazardous waste storage facility at CSSA consists of a container storage area at Building 86 (TCEQ facility number 002). Hazardous wastes accumulated at the initial generation points may be transferred to the container storage facility for storage until transportation. Most hazardous waste storage at this facility is accomplished using 55-gallon drums or smaller containers.

The waste storage activities at CSSA involves ensuring integrity of waste containers, storage facility operation and maintenance procedures, inspections, and record keeping.

The designated personnel for the management of the container storage areas shall be responsible for ensuring that the following procedures are implemented. The container storage area waste management procedures include operation, inspection, and record keeping activities associated with these areas.

1. Only the Warehouse Branch designated personnel shall perform the waste management activities at the container storage area. These personnel are required to be trained in proper waste handling and emergency procedures.
2. The personnel conducting waste management activities in the container storage areas must wear appropriate protective clothing and equipment, as required by the personnel hazardous waste training programs. At least two employees shall be present during any work execution at the container storage area.
3. Upon receipt of a hazardous waste container, appropriate personnel will inspect and ensure the following:
 - The containers are in good physical condition.
 - The containers are labeled and all required information is completely filled out.
 - A completed turn-in document, DD Form 1348-1, accompanies the waste container.
 - The container is labeled or stenciled on the outside with words "HAZARDOUS WASTE."
 - The container outer surface is free of apparent contamination.
4. Some waste containers may be designated as "Hold for Test Results": These containers are considered to have insufficient waste profile information, and will be entered into an operating log and stored separately. The container label and the turn-in document will be updated when the waste profile becomes available.
5. Upon the acceptance of waste containers for storage, ensure that these are stored properly according to their waste compatibility.
6. Do not store more than three 55-gallon waste containers on each four barrel pallet.
7. Do not stack the pallets with waste containers more than two rows high.
8. A minimum of 3-foot aisle space shall be maintained for inspections and spill or emergency response activities.
9. At no time exceed the maximum waste storage capacity of the areas. The maximum waste storage capacities of the container storage area is:

Building 86 - 2,560 gallons
10. Minimize fire and explosion potential by separating and protecting the storage areas from ignition sources. No smoking is allowed in or near the container storage area. Smoking on the installation is permitted only in the designated areas. Also, all container opening/closing tools shall be spark-proof.

11. Place a sign at each entryway into the container storage area that is legible from at least 25 feet away which reads "Danger - Unauthorized Personnel Keep Out."
12. Inspect the container storage area at least once a week, or more often in the event of potential threat to human health or the environment. At a minimum, the following items will be inspected:
 - Monitoring equipment.
 - Safety and emergency equipment.
 - Security devices for preventing, detecting, or responding to environmental or human health hazards.
 - Waste drums (for leaks, corrosion, deterioration, bulging, or damage).
 - Waste drums (for labeling, dating, and proper storage conditions such as aisle space, stack height, and bungs and covers in place).
 - Condition of the secondary containment structure.
13. Inspect the loading and unloading areas at the container storage area on each day of operation for any signs of leaks or spills. The inspection results will be documented on the inspection log. If any spills or leaks are discovered during the inspections, spill response shall be immediately implemented as described in section 5.0. Completion of remedial actions should also be noted on the inspection logs.
14. Inspection records for the facility must be maintained until the closure of the storage area and should be made available, when requested to do so, during facility inspections.

4.4 WASTE LABELING

Waste labeling requirements are established both under RCRA regulations and DOT regulations. The RCRA regulations (40 CFR 262.31-34) apply to all waste labeling required during the waste accumulation and storage activities. These require that during accumulation the container be marked as hazardous waste with contents and accumulation dates. In addition, USEPA has expressly adopted the DOT regulations governing transportation of hazardous wastes (49 CFR Parts 171 through 179). Both USEPA and the DOT have authority to enforce regulations applicable to waste transportation outside the installation, including waste labeling.

4.5 OFFSITE WASTE TRANSPORTATION

Offsite waste transfer occurs when wastes generated at CSSA are shipped for treatment and/or disposal at offsite facilities. Offsite waste transfer will be initiated from initial remediation waste generation points. The offsite waste disposal facilities may include offsite incineration and landfilling facilities. All offsite transfers from CSSA will

be initiated by the Environmental Office. The waste transfer may occur in containers and/or bulk.

SECTION 5 SPILL PREVENTION, REPORTING AND RESPONSE

Accidental spills and releases may occur at the installation during various steps of hazardous materials and waste management activities. These spills may occur at process and operation areas using or generating hazardous substances, or at waste accumulation, transfer, storage, treatment, and/or disposal facilities. Spill response actions are required for any imminent or actual spills or releases at CSSA.

Federal regulation contained in 40 CFR Part 110 defines oil spills or releases that are prohibited under Federal Water Pollution Control Act (FWPCA). Federal regulations at 40 CFR Part 112 require that the installation prepare and implement an SPCCP to address oil spills or releases prohibited under 40 CFR Part 110. This regulation establishes procedures, methods, and equipment to prevent discharge of oil from non-transportation-related facilities into surface waters.

CERCLA, RCRA, and Army regulations expand the scope of the SPCCP to incorporate responses to spills and releases of hazardous substances as defined in 40 CFR 302.3. RCRA regulations for small quantity generator (SQG) require the establishment, posting, and employee training of emergency procedures and information in 40 CFR 262.34(d)(5). RCRA regulations for large quantity generators (LQG) require the preparation of a written Contingency Plan and employee training for spill responses and emergency procedures in 40 CFR 262.34(a) and 265.50-56. Also, the Clean Water Act requires that entities notify appropriate government agencies after certain hazardous substance discharges to navigable waters. In addition, the *State of Texas Oil and Hazardous Substances Spill Contingency Plan*, dated October 1988, also requires notification and response actions following releases of oil and hazardous substances.

In accordance with the requirements of the above mentioned regulations, CSSA has prepared and implemented an **SPCCP** that is available in CSSA's environmental encyclopedia **Volume 1-6**. The plan describe the potential spill sites and equipment and measures available to prevent, control, and respond to spills and releases of oils or hazardous substances.

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SECTION 6 RECORDKEEPING AND REPORTING

Federal and state regulations establish requirements for record keeping and reporting for various waste management activities conducted at CSSA. These requirements cover activities including waste generation; waste analysis; waste storage, treatment, and disposal; and spills and releases. The hazardous waste program under RCRA requires "cradle to grave" tracking of hazardous wastes; that is, managing wastes from the point of generation to the point of treatment, storage, or disposal. The following is a brief description of recordkeeping and reporting requirements applicable to CSSA.

6.1 RECORDKEEPING

Various recordkeeping requirements have been established for many of the waste management activities. State regulations at 30 TAC §335.9 require that generators maintain records of all hazardous waste activities regarding the quantities generated, accumulated, processed, and disposed of on site or shipped off site for storage, processing, or disposal. These records may be maintained in any format, provided they are retrievable and easy to copy. The records must be sufficiently detailed and complete to support any contentions or claims made by the generator pertaining to waste management activities. Waste records are maintained at the CSSA Environmental Office. These requirements are described below for each waste management activity.

6.1.1 Waste Generation

The state regulations (30 TAC §335.501 to §335.515) allow self-classification of waste streams by the generator. However, the generator is required to document and maintain all available information necessary to classify the waste stream, as follows:

- Records noting the waste description, characteristics, and classification of each waste should be maintained.
- The quantity of wastes generated should be recorded.
- All records of any test results, waste analyses, or other determinations performed for waste streams generated at CSSA should be maintained (30 TAC §335.70).

CSSA must notify the TNRCC of all waste streams and waste management units at the installation and be listed on the Installation's NOR.

6.1.2 Waste Storage

The generator, in accordance with the state notification requirements, should notify the Executive Director (TCEQ) of waste storage areas as waste management units. Information pertaining to whether the unit is permitted or qualifies for an exemption as a less-than-90 day storage unit should also be submitted. In addition, a listing of the wastes managed in the unit should be provided.

6.1.3 Spills and Releases

CSSA must maintain records of spills and releases of harmful quantities of oil and hazardous substances on the installation. Records of spills should include written descriptions of spills, corrective actions taken, and plans for preventing recurrence. A detailed description of the recordkeeping requirements pertaining to spills and release of oil and hazardous substances are presented in the **SPCCP**.

6.2 REPORTING

The generators are also required to notify and submit reports to the regulatory agencies regarding various waste management activities. These reporting requirements are described below.

1. Each generator of hazardous wastes must submit an annual waste summary on the specified TCEQ Form (*Annual Waste Summary Form*). The instructions for preparation and the mailing address are contained on the form. This form must be submitted to the TCEQ by January 25 of each year [30 TAC §335.9(a)(2) and §335.71(a)].
2. Monthly waste summaries prepared on TCEQ Form 0500, *Waste Shipment Summary*, must be submitted to the TCEQ on the 25th of each month for shipments originating for the previous month. This summary is only completed for those wastes shipped out of state [30 TAC §335.13(b)].
3. Unreturned Manifest Exception reporting is required for unreturned manifests after 45-days for LQG and 60-days for SQG as stated in 40 CFR 262.42.
4. Releases of oil and hazardous substances in harmful quantities into the environment will require certain notification and reporting. These requirements are described in the **CSSA SPCCP**.
5. In the event the ISCP is implemented in response to an emergency situation, CSSA must submit an incident report within 15 days after the incident to the Executive Director.