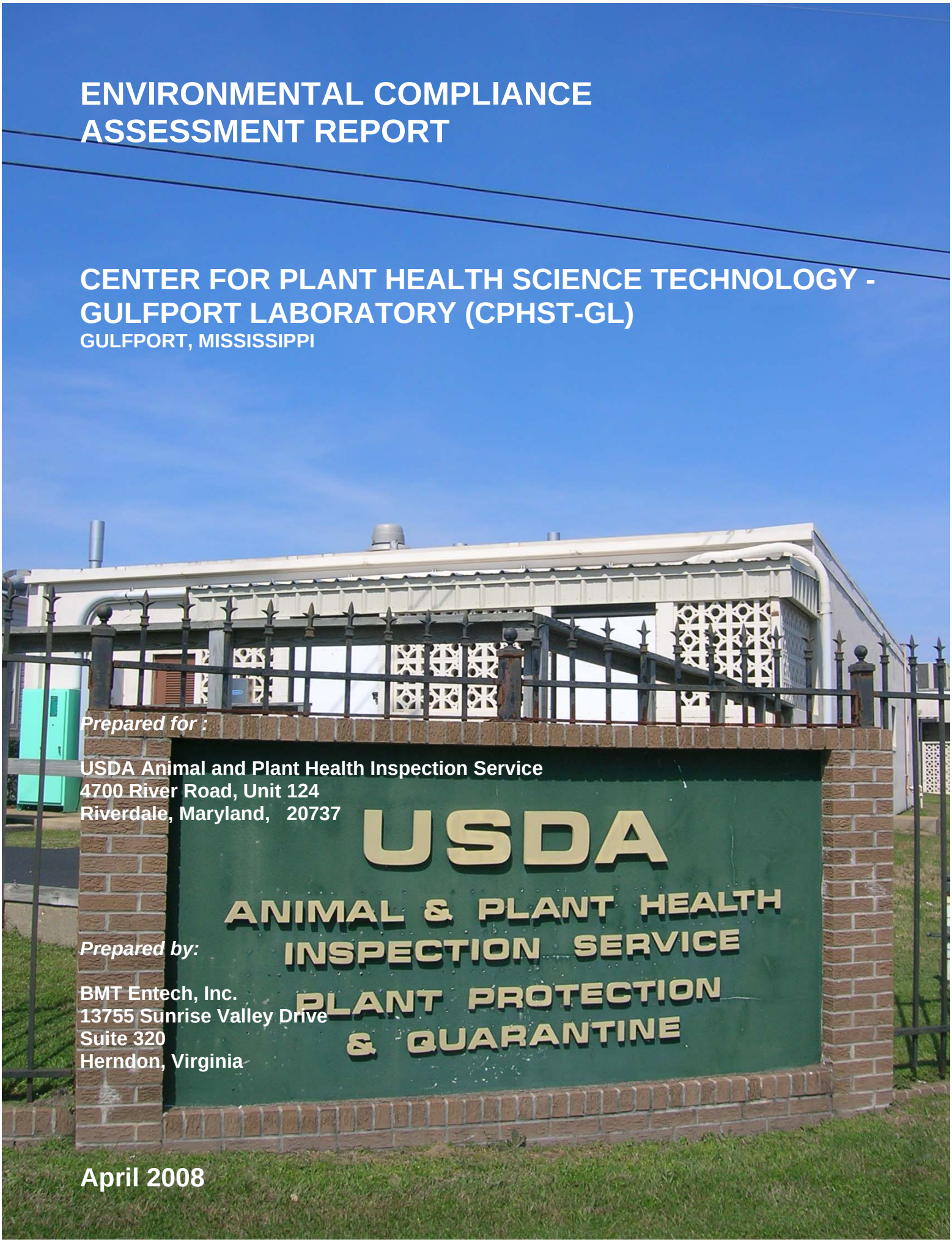
ENVIRONMENTAL COMPLIANCE ASSESSMENT REPORT

CENTER FOR PLANT HEALTH SCIENCE TECHNOLOGY - GULFPORT LABORATORY (CPHST-GL)

GULFPORT, MISSISSIPPI



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DISLCAIMER

This report has been prepared based on interviews with CPHST-GL facility personnel, data and reports reviewed and/or collected from the site, and other research information sources including State and Federal regulators and the Internet. BMT Entech (Entech) believes that the evaluation of facility practices and environmental compliance issues are fairly and accurately described. In the event that any new information is identified that materially changes the findings contained in this report, Entech reserves the right to review such new information, and revise any findings that may result from that further review.

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LIST OF ACRONYMS

AC Section	Analytical Chemistry Section, Gulfport Laboratory
ACM	Asbestos Containing Material
APHIS	Animal and Plant Health Inspection Service
AST	Above-ground Storage Tank
BACT	Best Available Control Technology
BMP	Best Management Practice
CAAA	Clean Air Act Amendments
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CPHST-GL	Center for Plant Health Science and Technology – Gulfport Laboratory
CWA	Clean Water Act
EA	Environmental Assessment
ECA	Environmental Compliance Assessment
EHS	Extremely Hazardous Substance
EIS	Environmental Impact Statement
ENTECH	BMT Entech, Inc.
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FRP	Facility Response Plan
HAP	Hazardous Air Pollutant
HRS	Hazard Ranking System
HSL	Hazardous Substances List
HSWA	Hazardous and Solid Waste Amendments
MDAC	Mississippi Department of Agriculture and Commerce
MDEQ	Mississippi Department of Environmental Quality
MSDH	Mississippi State Department of Health
NCP	National Oil and Hazardous Substance Pollution Contingency Plan
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRC	Nuclear Regulatory Commission
NTNCWS	Non-Transient, Non-Community Water Systems
OPA	Oil Pollution Act

LIST OF ACRONYMS (continued)

PA	Preliminary Assessment
PCB	Polychlorinated biphenyl
PL	Public Law
POTW	Publicly Owned Treatment Works
PPQ	Plant Protection and Quarantine
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
RQ	Reportable Quantity
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SIPS	Soil Inhabiting Pests Section, Gulfport Laboratory
SITC	Smuggling Interdiction and Trade Compliance
SPCC	Spill Prevention Control and Countermeasure
SWPPP	Storm Water Pollution Prevention Plan
SI	Site Inspection
TPQ	Threshold Planning Quantity
USC	United States Code
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
UST	Underground storage tank
VOC	Volatile Organic Compound
WS	Wildlife Services

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EXECUTIVE SUMMARY

BMT Entech (Entech) conducted an Environmental Compliance Assessment (ECA) of the Center for Plant Health Science and Technology - Gulfport Laboratory (CPHST-GL) in February 2008. This facility is located in Gulfport, Mississippi. The assessment was conducted using a modified (updated) version of EPA's Generic Protocol for Conducting Environmental Audits of Federal Facilities (EPA, 1996).

The ECA records the observations and information gathered to assess a facility's compliance with Federal and State environmental regulations. The ECA information gathering process relies primarily on interviews with site personnel and visual observations collected during Site Visits (SV). Additionally, information gathered from pertinent on-site management documents/records also contribute to the body of data used to evaluate regulatory compliance. The ECA itself entails a comprehensive review of 16 environmental program topics or "Protocols" that serve to qualify the overall status of the facility's regulatory compliance. Reporting on each of the individual Protocol elements is presented in Section 2 through 17 of this Report. In addition to the recounting of the information/observations gathered during the SV, a separate section within each Protocol discussion presents conclusions and recommendations commentary. This commentary is designed to specifically identify corrective actions to noted deficiencies as well as acknowledge superior activities or achievements. A ranking of these deficiencies and positive actions are awarded under a system of ECA Findings.

ECA Findings are comprised of four elements or Class categories: Class I, Class II, Class III, and Positive Findings. Class I Findings identify conditions that demonstrate a significant regulatory deficiency. A Class I Finding, for instance, might involve the improper storage or disposal of hazardous materials or neglect of a leaking underground storage tank. Class I Findings identify substantial threats to the environment and human health/well being and may have significant consequences (e.g., a significant fine and/or Notice of Violation [NOV]) for the facility owner/operator.

Class II Findings are actions that could also result in a NOV or fine, but typically does not pose a significant risk or threat to the environment or human safety. Administrative record keeping deficiencies or reporting violations might be included in this type of Finding. Class II Findings are nevertheless significant from a regulatory perspective and should be remedied immediately.

Class III Findings are typically associated with situations/cases where generally accepted management practices are not implemented or have not previously been considered. These Finding typically do not identify conditions that are expressly prohibited by current regulations, but represent an action that would subsequently have beneficial environmental or safety impacts. These Findings might include adopting

alternative techniques that could minimize the toxicity of chemicals used and/or the volume of waste generated by a facility.

Positive Findings highlight exceptional, proactive initiatives that facilities and personnel have implemented into everyday environmental practices. This might include diligent record keeping practices to ensure all site personnel receive timely, appropriate environmental training or establishing a notable rapport with off-site emergency response personnel.

A summary table of all Findings associated with the February ECA conducted at CPHST-GL is presented for quick reference purposes below.

ECA Findings Summary - February 2008

Protocol Area	Class I	Class II	Class III	Positive	Comments
Air Pollution Control			**X**		Filters for chemical fume hoods
				X	Reclamation of ozone-depleting substances from old/excess equipment.
				X	Pro-active Asbestos Containing Materials (ACM) surveys and removal activities.
Water Pollution Control				**X**	Past practice of limited chemical waste disposal in sinks has ceased.
Non-hazardous Waste Management					No notable/significant Positive or Negative Findings observed.
Hazardous Waste Management				**X**	Overall chemical waste management program is exceptional. Limited deficiencies noted below.
		X			Eliminate practice of >1day storage of chemical wastes in laboratory fume hoods.
			X		CPHST-GL needs designated Safety Officer w/ authority over all environmental programs.

Protocol Area	Class I	Class II	Class III	Positive	Comments
Hazardous Waste Management (con't)			X		Eliminate internal Guidance Procedures that are not applicable.
	X				Improper storage of RCRA Universal Wastes (fluorescent lamps) noted.
CERCLA/SARA				X	CERCLA PA/SI actions implemented since the 2002 Audit.
Spill Control and Response	X				Excellent SPCC Plan written, but never properly implemented.
	X				Secondary containment on diesel supply tank filled with water.
Management of Environmental Impacts					No notable/significant Positive or Negative Findings observed.
Hazardous Materials Management				X	Exceptional Hazardous Materials Management Program in place.
				X	Excellent personnel training and written Plans/Procedures in place.
				X	Chemical product (and waste) Management Programs are "championed" by the Deputy Director.
Emergency Community Right-to-Know (EPCRA)				X	On-going efforts to minimize or eliminate chemical usage.
		X			Episodic storage of diesel fuel in excess of 10,000 lbs requires EPCRA Tier I and II reporting.
				X	Annual "open house" held at the Laboratory for local emergency responders.
			X		Energy conservation measures should be considered.
Cultural and Historic Resources Management					No notable/significant Positive or Negative Findings observed.

Protocol Area	Class I	Class II	Class III	Positive	Comments
Storage Tank Management				**X**	Possible solvent storage tank and catch basin behind Building 10 satisfactorily investigated.
				X	Removal of Building 7 hydraulic lift completed.
Drinking Water Management					No notable/significant Positive or Negative Findings observed.
PCB Management			**X**		Signage recommended to clearly identify non-PCB status (as applicable) for each transformer.
			X		Improved record keeping and inspections of transformers recommended.
Pesticide Management			**X**		Block/plug floor drain in Headhouse of Building 14.
			X		Obtain copies of all pesticide applicator's licenses for on-site files.
				X	Survey of the John Clark Road Site and agreement w/ Sheriff's Office completed.
Groundwater Protection				**X**	GW monitoring (part of CERCLA investigation) has been implemented and is being monitored.
Environmental Radiation Program				**X**	An organized, well-documented Radiation Protection Program is in place.
	X				Temporarily misplaced piece of equipment w/ sealed source encountered during the Site Visit.
			X		Resolve on-going storage of unused tritium sealed sources.
		X			Update notices and warning signage to meet regulatory requirements.
Total Findings	**4**	**3**	**9**	**15**	

1. INTRODUCTION

This *Environmental Compliance Assessment Report* (Report) was developed by BMT Entech, Inc. (Entech) on behalf of the U.S. Department of Agriculture's (USDA's), Animal and Plant Health Inspection Service (APHIS). Entech was contracted by APHIS to perform an independent, third-party Environmental Compliance Assessment (ECA) of the Center for Plant Health Science Technology - Gulfport Laboratory (CPHST-GL) in Gulfport, Mississippi. The ECA was necessary to comply with the Policy Statement and Agency Goals set forth in Executive Order 13423 (EO 13423) - Strengthening Federal Environmental, Energy, and Transportation Management. This EO 13423 directs all Federal Agencies to, among its several implementing elements, establish programs for "environmental compliance review and audit" (Section 3 (c)(ii)). The ECA undertaken at CPHST-GL was conducted in partial fulfillment of the requirements of Contract No. AG-6395-B-07-0040 issued to Entech by APHIS's Procurement Branch. The findings and recommendations presented in this report reflect observational data collected during a Site Visit (SV) conducted on February 26 through February 28, 2008 at CPHST-GL (hereinafter referred to as the Gulfport Laboratory or Laboratory).

1.1 Site Background

The Gulfport Laboratory, as shown in Figure 1.1, is located on a 4.99 -acre tract of land on the northeast corner of the intersection of U.S. Route 49 and 34th Street in Gulfport, Mississippi. In September 1997, a portion of the facility (0.389 acres) was granted to the Mississippi Department of Transportation as a highway easement (Tetra Tech NUS, 2005). The Laboratory site was purchased by the Federal Government from the Sterling Drug Company of New York on March 27, 1962 for the sum of $25,000 (Deed Book 495,1962). Historical documentation collected during a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Preliminary Assessment (PA) indicates that USDA occupied the site in 1958, approximately four years prior to it purchase by the Federal Government. The PA report further states that:

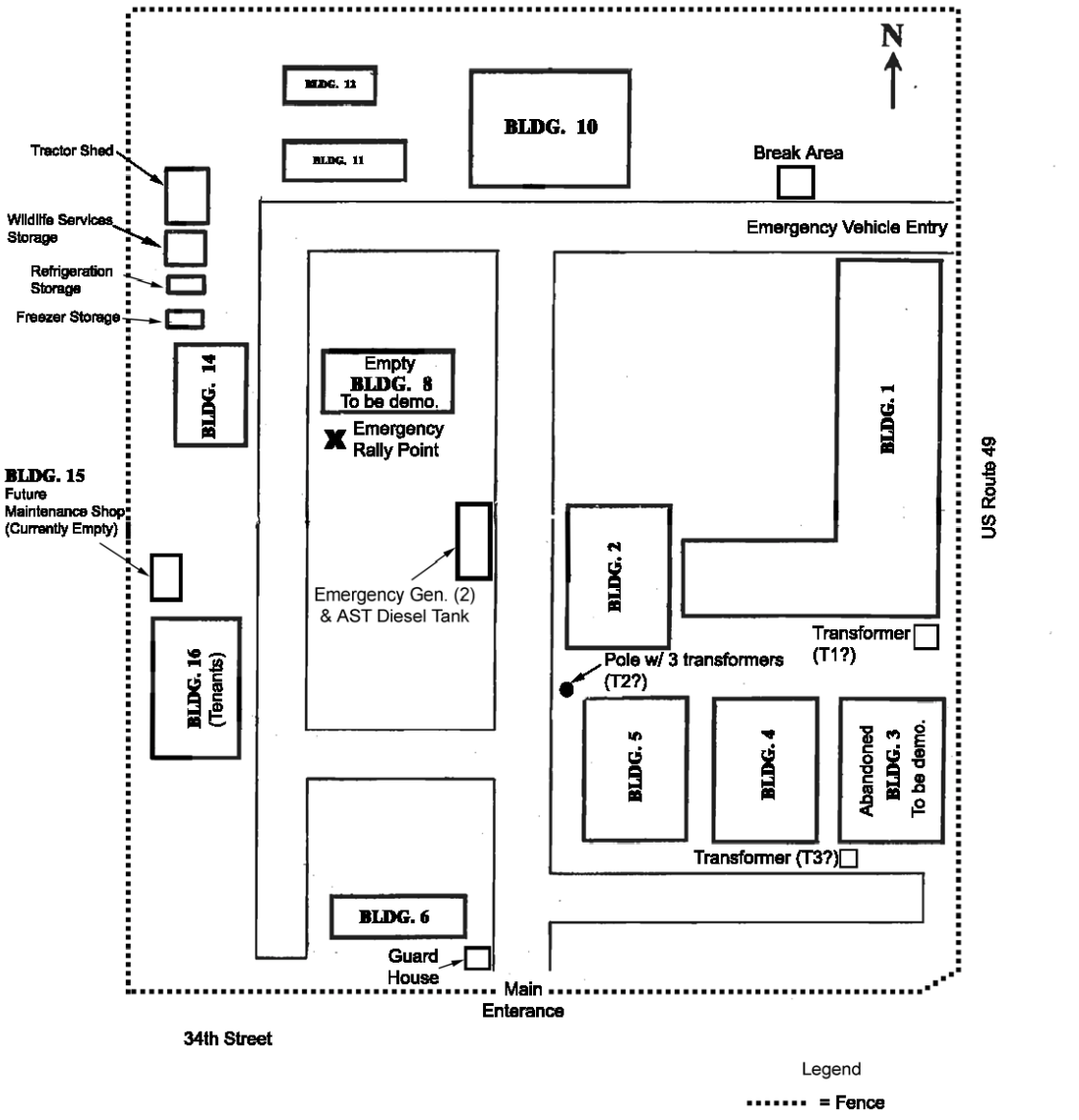
> Buildings on the property have undergone several changes since the facility began operation. The following information was obtained by review of several historical aerial photographs and topographic maps from 1954 to 1996. In 1958, there were approximately eleven buildings on the property and several small sheds or other structures. By 1972, the large building in the central area of the site had been removed and by 1976 many of the current structures on the property can be identified. By 1980 the site appeared the same as it does currently with the exception of an addition to Building 1 in the early 1990s, Building 4 in 1997, and the generator building added in 1998.

During Entech's SV of the facility in February 2008, a total of 13 numbered buildings and several storage sheds and shipping containers were on-site. The numbered structures are briefly identified in Table 1.1 below; Figure 1.2 provides an overall schematic view of all structures and ancillary structures on-site.

Figure 1.1
Gulfport Location Map

BMT Entech

FIGURE 1.2
USDA GULFPORT SITE PLAN*



* Update based on February 2008 site visit

Table 1.1 List of Identified (Numbered) Structures

Building Number	Description
1	Administrative Offices
2	Analytical Laboratory
3	Former Laboratory – Damaged by Katrina and identified for demolition
4	Sample Receiving Facility and Fire Ant Research Laboratory
5	Analytical Laboratory
6	Mail Room and Analytical Laboratory Storage
8	Former Laboratory – Slated for demolition
10	Hazardous Waste and Hazardous Chemical (Product) Storage
11	Fire Ant Research Head House and Greenhouse
12	Fire Ant Research Storage and Wildlife Services (Tenant) "Laboratory"
14	Fire Ant Laboratory
16	Tenant Offices – PPQ, Wildlife Services (WS), Safeguarding, Intervention and Trade Compliance (SITC)

1.2 Operational History

The following operational history of the Gulfport Laboratory is taken from CPHST's official website. CPHST provides scientific investigative and technology development services to APHIS's Plant Protection and Quarantine (PPQ) organization.

> The Environmental Monitoring Laboratory was established in 1970 under ARS and was transferred to the newly formed APHIS in 1971. At that time, its primary mission was to monitor mirex residues in environmental matrices for the Imported Fire Ant Control Program. In 1976, the name was changed to National Monitoring and Residue Analysis Laboratory (NMRAL) and was responsible for monitoring pesticide residues in environmental samples for all PPQ-sponsored programs, including grasshopper, witchweed, golden nematode, and boll weevil. The Imported Fire Ant Methods Improvement Laboratory was established prior to 1962 under ARS, and also was transferred to the newly formed APHIS in 1971. At that time, it was renamed the Methods Development, Imported Fire Ant Laboratory. Its mission was to develop new and improved methods of controlling the imported fire ant. These two groups were joined under one CPHST Laboratory Director in 2002 under the umbrella name of the Analytical and Natural Products Chemistry Laboratory (ANPCL).
>
> The CPHST ANPCL in Gulfport, Mississippi consists of two main sections, the ANPCL-Analytical Chemistry (AC) Section and the Soil Inhabiting Pests Section (SIPS). ANPCL-AC Section provides on-going analytical and organic chemistry support to chemical control programs within PPQ (i.e., AQI and domestic and emergency programs) and other CPHST laboratories. The laboratory conducts chemical analyses on agricultural commodities and environmental samples for detecting the presence of pesticide residues and toxic substances. In addition, the laboratory isolates, identifies, and synthesizes natural products, pesticides, pheromones, and other organic compounds. It evaluates instrumentation applicability for prohibited commodity identification and detection as well as development of field tests or technologies for detection of chemical treatments. Specifically, the AC Section provides residue analysis for environmental monitoring on a variety of environmental matrices (soil, water, vegetation, etc.), quality assurance of insecticide tank mixes or treatment applications, and lure preparation. Routine work includes sample analysis for PPQ operational programs such as Asian longhorn beetle, boll weevil, grasshopper, and fruit fly. Non-routine work includes improvements to in-house procedures and

methodologies to a broad base of sample matrices in determining requested residue analyses, as well as special projects with agency scientists conducting research on program pests. The AC Section assists in conducting specialized analysis (trace element analysis) of commodities, especially fruits and vegetables, to determine country of origin. Through chemical analysis, we are able to identify commodities, pests, noxious weeds, diseases and pathogens.

ANPCL-SIPS conducts field and laboratory experiments aimed at developing methods and tools for the survey, detection, regulation, and control of the imported fire ant. Technology and scientific information developed by SIPS is utilized by PPQ, State Plant Regulatory Officials (SPROs), the nursery industry, chemical industry, farmers, ranchers, homeowners, and other stakeholders. SIPS is the sole source of developing new quarantine technologies in support of the Federal Imported Fire Ant Quarantine (Title 7, Code of Federal Regulations, Part 301.81) for nursery stock and other commodities of interest. A primary focus continues to be the development of new quarantine treatments for field grown/balled-and-burlapped nursery stock and oversight of the APHIS funded phorid fly rearing and release program. .

The Gulfport Laboratory, at the time of the ECA was conducted, reportedly employed 36 personnel (Entech, 2008). In addition to these personnel, which are primarily spread among its two principal Sections (AC and SIPS) of the Laboratory, the facility hosts a small number of personnel from other APHIS entities. Three personnel from Plant Protection and Quarantine (PPQ), one from Smuggling Interdiction and Trade Compliance (SITC), and two from Wildlife Services (WS) occupy administrate spaces in Building 16 on the west side of the facility. These "tenant" personnel are not under the administrative control of the Gulfport Laboratory ("landlord") and operate at the behest of their respective headquarters' directions and initiatives. The tenants are, however, required to adhere to the physical security measures of the "landlord" and are provided with information regarding emergency procedures. Further discussions of the tenant organizations housed on the Gulfport Laboratory grounds and their compliance, as applicable, with the various Protocols assessed during this ECA are found in subsequent Sections of this Report.

1.3 Assessment Objective

The objective of the ECA was to collect relevant information related to the facility's compliance with state and federal environmental regulations. The assessment was conducted by Mr. Steve Baker, a full-time employee of Entech, Inc. The principal tool used to administer the assessment was a detailed set of environmental program checklists (Protocols) that were modified by APHIS from the U.S. Environmental Protection Agency's (EPA's) Generic Protocol for Conducting Environmental Audits of Federal Facilities Manual (EPA, 1997). Additionally, regulatory guidance and code obtained from the Mississippi Department of Environment Quality (MDEQ) was also consulted for requirements unique to the State or different than Federal requirements. Generally speaking, MDEQ has adopted Federal requirements in various environmental program areas verbatim or by reference.

A total of sixteen (16) specific Protocol areas were considered during the assessment process. These topical areas are:

- Air Pollution Control
- Water Pollution Control
- Non-Hazardous Waste Management
- Hazardous Waste Management
- Comprehensive Environmental Response, Compensation and Liability Act, and the Superfund Amendments and Reauthorization Act (CERCLA/SARA)
- Spill Control and Response
- Management of Environmental Impacts
- Hazardous Materials Management
- Emergency Planning and Community Right-to-Know
- Cultural and Historical Resources Management
- Storage Tank Management
- Drinking Water Management
- PCB Management
- Pesticide Management
- Groundwater Protection
- Environmental Radiation Protection

Only those topical areas applicable to the facility were addressed in a detailed manner. An initial "narrowing of the playing field" was accomplished by submitting a pre-visit survey to the facility to gather initial information regarding the Gulfport Laboratory's general mission and environmental compliance activities/history. This initial information collection task is discussed in further detail below.

1.4 Pre-Assessment Activities

In December 2007, a detailed, preliminary survey (Questionnaire) was sent to the Director of the Gulfport Laboratory, Mr. John Gallagher. The Questionnaire contained various general and program specific questions designed to identify or eliminate particular activities or infrastructure that may or may not need to be addressed during an on-site inspection of the facility. The completed Questionnaire was returned to Entech in late January 2008. Arrangements to conduct the SV portion of the assessment were made with Mr. Gallagher and a late February date was selected to ensure that all key personnel would be available to meet the assessment team.

1.5 Site Visit Summary

The SV portion of the assessment process was performed on February 26 through February 28, 2008. As previously noted, the assessment "team" was comprised of a single Entech representative. Key facility assessment participants included Mr. John Gallagher, Director; Mr. Robert Smith, Deputy Director and AC Section Chief; Ms. Anne Marie Callcott, SIPS Lead Scientist; and Mr. Kenny Peterman, Facility Maintenance Technician.

Discussions regarding environmental compliance were held in the administrative offices in Building 1. Several tours of the facility and visual inspections of key structures and physical appurtenances associated with the site were conducted during the course of the SV. Staff personnel from the facility were made available throughout the SV to answer questions or resolve procedural points identified during the inspection process. This included, among other topical points of discussion, queries into the facility's organizational structure, operational procedures, chemical inventories, management plans, training activities, and inspection records. All site personnel were helpful and forthcoming, and provided informed, honest answers to all questions posed by the assessor. When answers to questions were not immediately available, every effort was made to obtain the necessary information at the earliest convenience. The casual, friendly demeanor of all personnel was very much appreciated by Entech's representative. All participating staff should be commended for their participation and interest in maintaining the high level of site safety and environmental stewardship that exists within this facility.

1.6 Report Organization

This Report is organized in accordance with the 16 individual environmental protocol areas (Protocols) noted above and also included a separate references section. A Photo Log that documents relevant features or conditions observed by Entech's representative during the SV is included in the Appendix of the Report. In those instances where specific environmental protocol areas were not found to be applicable to the Laboratory's operation, a discussion of why it was not applicable is provided for completeness purposes.

Each Protocol discussion has been organized with the help of a uniform presentation template. Each discussion begins with a brief presentation of the purpose of the program area, and is followed by a summary of relevant Federal and State regulatory references. The third element of each discussion provides a narrative documenting Entech's on-site observations and information obtained from interviewees. The final Conclusions and Recommendations section of each Protocol presents the Findings associated with each topical assessment in which the categorical "grading" of the relevance and

significance of the observations/deficiencies is noted. Where applicable, findings of positive initiatives or proactive actions of note are also acknowledged and highlighted for their beneficial impacts.

The negative and positive Findings are placed into one of four grades or categories: Class I, Class II, Class III, and Positive Findings. Class I Findings represent conditions or actions that demonstrate a significant regulatory deficiency. A Class I Finding could result in a fine or Notice of Violation (NOV) from representatives of the Federal or State regulatory community. Class II Findings are actions that could result in a NOV, although Class II Findings are less severe than the Class I Findings. Class III Findings relate to management practices and identify conditions that are not expressly prohibited by current regulations, but create the potential for environmental or safety impact. These Findings might also be considered Best Management Practice (BMP) recommendations. Lastly, Positive Findings highlight exceptional, proactive initiatives that facilities and personnel have implemented into everyday environmental and safety practices.

2. AIR POLLUTION CONTROL

2.1 Intent of Protocol

The Air Pollution Control Protocol (Protocol) includes regulations, responsibilities, and compliance requirements associated with air emissions from vehicles, equipment, and operational processes. The Protocol focuses on proper registration and permitting of emission sources, as well as, proper record keeping and monitoring requirements. The requirements in this Protocol have been developed to maintain and improve air quality along with minimizing health impacts, and decreasing environmental impacts from air emission sources.

2.2 Key Regulatory Requirements

The following provides a description of Federal and State legislation that provides the requirements that constitute the basis for the Air Pollution Control Protocol.

The Clean Air Act (CAA) of 1977:
The CAA (42 USC 7401 et seq.) was enacted to protect and enhance the quality of the nation's air. To achieve this objective, EPA established five regulatory programs and objectives:

- National Ambient Air Quality Standards (NAAQS).
- New Source Performance Standards (NSPS).
- National Emission Standards for Hazardous Air Pollutants (NESHAP).
- Federal Permitting requirements (New Sources Review [NSR] and Prevention of Significant Deterioration [PSD]).
- State Implementation Plan (SIP) Program.

The Clean Air Act Amendments (CAAA) of 1990:
This Act, Public Law 101-549 (42 U.S. Code 7401-7671q), revised and added to the scope of the CAA. The Federal CAAA provides the most recent legislation for the control of air pollution in the United States. The CAAA strengthened earlier legislation by establishing specific goals for reducing acid rain, urban air pollution and toxic air emissions by encouraging a national permits program along with an improved enforcement program to ensure better compliance with the Act. This statute contains six program titles that address various aspects of the National Air Pollution Control Program.

Title I of the CAAA, Attainment and Maintenance of National Ambient Air Quality Standards, mandates technology-based emissions control for new and existing major air pollution sources. Title I also

describes air pollution control requirements for geographic areas in the United States that fail to meet the NAAQS. In addition, Title I requires air pollution source owners located in ozone non-attainment areas to submit an emissions statement to local regulatory authorities. This emissions statement must identify and quantify emissions of ozone precursors (i.e., nitrogen oxides and volatile organic compounds) from stationary air pollution sources.

New Source Review (NSR) requirements are part of the non-attainment and prevention of significant deterioration (PSD) programs of Title I of the CAAA. Major new sources and major modifications to existing sources must undergo NSR. This program is implemented through the State pre-construction permit program and requires that emission units use Best Available Control Technology (BACT) in attainment areas or comply with the lowest achievable emission rates in non-attainment areas. New Source Performance Standards are technology-based standards applicable to new, modified, and in some cases, existing stationary sources that are designed to maintain or improve NAAQS pursuant to Title I of the CAAA. NSPS standards are established by source category in 40 CFR Part 60.

Title II of the CAAA, Mobile Sources, deals mostly with emission controls for motor vehicles in the form of tailpipe standards, use of clean fuels, and mandatory acquisition of clean-fuel vehicles.

Title III of the CAAA, Hazardous Air Pollutants (HAPs), requires facilities that emit more than 10 tons per year of any single HAP, or more than 25 tons per year of a combination of HAPs, to meet NESHAPs. NESHAP standards are established by source category in 40 CFR Parts 61 and 63. Emission standards are based on Maximum Achievable Control Technology (MACT).

Title IV, Acid Deposition Control, established reductions in the amount of sulfur dioxide industries can release. The new law also includes specific requirements for reducing emissions of nitrogen oxides. These reductions will be done through allowing industries to trade allowances within their systems and/or buy or sell allowances to and from other affected sources.

Title V of the CAAA established a nationwide operating permit program for air pollution sources. The goal of Title V is for states to develop and implement their own operating permit programs. The Federal operating permit regulations are codified in 40 CFR Part 70. A Part 70, Title V operating permit is required for facilities with the potential to emit certain pollutants in excess of major source thresholds specified in Title I and Title III of the CAAA.

Title VI of the CAAA addresses stratospheric ozone protection. Under Title VI and its implementing regulation (i.e., 40 CFR Part 82), production and nonessential use of ozone depleting substances (ODSs), including certain chlorofluorocarbons (CFCs), halons, and halogenated solvents, are restricted. Maximum allowable leak rates for air conditioning and refrigeration equipment that utilize ODSs are also

established by this Title. In addition, because ODSs are regulated pollutants, they must be addressed when completing the Part 70 Permit Application under Title V of the CAAA. Usage and emissions of ODSs must be quantified in order to evaluate compliance with these statutory and regulatory requirements.

In Mississippi, air pollution management is regulated by the State's Department of Environmental Quality (MDEQ). A series of regulations identified as APC-S-1 through S-10 control various aspects of air pollutant emissions and emission activities. APC-S-1, -4, -6, and –8 appear to be the most relevant regulations associated with the present-day operation of the Laboratory.

2.3 Air Pollution Control Observations and Data Collection Findings

The Gulfport Laboratory operates a small number of stationary equipment and mobile units that create air emissions or have the potential to create air emissions (e.g., ozone depleting substances). Additionally, each of the operational laboratories (Buildings 2, 4, and 5) houses one or more fume hoods for chemical preparation uses. The following provides a list of known or potential air emission sources present within the grounds of the facility.

<u>Stationary Point Sources of Air Emissions</u>

- Air conditioning and refrigeration equipment (ozone depleting substances)
- Emergency generators
- Various volatile chemical solvents use in laboratory settings

<u>Mobile Sources of Air Emissions</u>

- Government owned passenger vehicles
- Tractors/ATVs and pesticide spray equipment

During the assessment, Entech interviewed facility personnel with knowledge of and/or responsibility for equipment or vehicles having air pollution control equipment or capable of emitting atmospheric pollutants. Based on this review, the following information and observations were collected.

Ozone depleting substances typically found in refrigeration units and air conditioners are being eliminated by taking old and/or unused units out of service. Nearly all of the older, inefficient window AC units have been removed from the Laboratory as have many of the storage refrigerators. These units are removed by local vendors who, in turn, reportedly bleed and capture ozone-depleting substances in accordance with EPA specifications. Conversion of other operational units to less destructive alternative cooling agents is underway, and some systems already run on these alternative substances.

Automotive and automotive-related emission sources are minimal with regard to the operation of the facility. The Gulfport Laboratory operates a small fleet of vehicles, which are maintained and inspected on a regular basis to ensure proper performance. Presumably, tenant organizations at the facility also maintain their vehicles to meet applicable emissions standards. No vehicle fueling facilities are found on-site, so no volatile emissions from gasoline or diesel storage units or dispensers occur. Diesel fuel is also found on-site in non-vehicular, emergency power units. These units and the fuel supply tank presumably emit some level of emissions; however, these are likely to be *de minimus* levels and are otherwise unregulated by Federal or State authorities.

Volatile chemical emissions from laboratory fume hoods are also a likely source of emissions, although probably very small contributors to the facility's overall emissions footprint. No written records or information regarding emissions calculations from these fume hoods was identified during the SV. Based on observational data, emissions from these sources would be limited to those volatile solvents that are handled within the hoods during container-to-container transfer processes. Otherwise, all chemical temporarily stored in hoods for near-term use were sealed or otherwise contained.

One aspect of the hood systems that was noted during the SV was the reported removal of filters from the stacks of these units. Historically, activated charcoal filters were present on each vent. After Hurricane Katrina, the existing filters were reportedly removed and disposed by a contractor, but no replacement units were installed. Laboratory personnel reported that new filters were obtained to replace the removed units, however, APHIS's Industrial Hygienist indicated that filters were not necessary and therefore did not need to be re-installed.

Asbestos containing materials (ACM) have historically been found throughout the Laboratory's many buildings. ACM surveys conducted in 1997 and 2001 documented the locations of these materials in detail. A cursory review of each report shows that ACM, in one form or another, was identified in most of the extant buildings present when the surveys were conducted. Fortunately, the ACM appears to have been largely associated with roofing coatings, floor tile mastics, and floor tiles. Some transite materials have also been identified in piping once found in Building 9 (now removed) and in a select number of former chemical fume hoods (also removed). Since the last survey was completed, some of the buildings identified as containing ACM have been completely demolished. ACM in these buildings were removed prior to demolition. Other structures have been subject to at least a partial removal of ACM, but the structure itself has been retained for current/future or later demolition. Documentation reviewed for Building 8, for instance, appears to be an example of this type of partial removal operation. In 2000, flooring and mastic materials from this building were removed by a local contractor; however, the roof of the building, which is cited as containing ACM "roofing material" remained intact. In this particular case, Building 8 is slated for near-term demolition and the remaining ACM will reportedly be addressed at that time.

Documentation regarding ACM removal actions taken to date suggests that these activities have been conducted by licensed ACM removal contractors. Indeed, Entech was tasked by APHIS to manage ACM removal activities at the Laboratory in November 2003. During that action, specific materials in Buildings 7, 9, 13, 15, and 17 were removed prior to full scale demolition operations (note: Building 15 remains on-site and is slated for re-use; ACM roofing materials are said to be present on this building per the 2001 ACM survey). Records showing that the State was notified of the 2003 action and Daily Report logs completed by the removal contractor were identified in the facility's files. Records regarding the partial removal from Building 8 in 2000 only included a copy of the invoice and the disposal tickets from the disposal facility.

Conclusions and Recommendations

Air emission sources at the Laboratory are minimal and those that were identified pose little significant threat to local air quality. No overtly negative Findings (Class I or II Findings) are assigned to this Protocol area; however, the following general recommendations are submitted for further consideration.

First, the removal of filters from the active fume hoods seems to be at general odds with best management practices, especially if filters are available for use. It is unclear on what basis the determination was made to discontinue filter use, especially since volatile solvents are the primary type of chemical substances used in the two, active chemistry laboratories. Presumably, the APHIS Industrial Hygienist based this determination on specific emission data and/or regulations regarding fume hood operations. Although the Laboratory has not experienced the heavy case load analytical work that was once associated with the AC's mission, a future ramping up of activities would necessarily result in more chemical (e.g., solvent) use in the fume hoods. Having the appropriate fume capture filters in place in all operational hoods, regardless of current casework throughput, would seem to be a good general practice. A qualified Class III Finding is awarded to this particular observation.

A Positive Finding is awarded to the Laboratory for its program to remove from service old or unused equipment containing ozone-depleting substances. These types of equipment appear to be handled by appropriate reclamation vendors who recover these substances according to accepted practices. Additionally, new or re-charged systems are reportedly using approved replacement heat-transfer substances to operate various cooling systems on-site.

The emergency generator system is infrequently used for its intended purpose and is only "exercised" for short periods of time during weekly tests. The system test run conducted for Entech's benefit during the SV showed that soot emission from one generator was heavier than would otherwise be expected. The Facility Maintenance Technician explained that a mechanical overhaul of the unit was probably needed to improve the operational efficiency of the unit. Entech recommends that this be considered in the near

term and that low-sulfur diesel fuel be purchased in the future to further cut particulate emissions for both generators. Records from the Laboratory's fuel provider indicate that diesel deliveries have a high sulfur content.

A Positive Finding for conducting ACM surveys and removal actions is also awarded to the Laboratory under this Protocol. It appears that the facility's infrastructure has been reasonably well evaluated and that appropriate removal actions have been initiated and completed. Records regarding these past removals were readily identifiable; however, internal efforts to collect all relevant information from removal vendors should be redoubled. Copies of documents from vendors showing that they have notified the State of impending removal actions are important records to keep in the Laboratory's archives. Additionally, obtaining copies of certificates from removal firms showing that all participating removal personnel are appropriately trained (and currently licensed) to undertake these operations is recommended. These types of documentation would more clearly satisfy an outside auditor's review of ACM remediation initiatives at the Laboratory by showing that the commercial service provider(s) engaged in these actions are bona fide removal specialists operating in accordance with State and Federal regulations. Future removal actions (e.g., Building 8 and possibly Building 3) would appear to present the next opportunity to fully document ACM removal activities at the Laboratory.

3. WATER POLLUTION CONTROL

3.1 Intent of Protocol

The Water Pollution Control Protocol (Protocol) addresses regulations, responsibilities, and compliance requirements associated with potential wastewater discharges at facilities. Wastewater discharge can include any of the following:

- Sanitary wastewater discharges directly to a receiving stream.
- Sanitary or industrial wastewater discharges to a Publicly Owned Treatment Works (POTW) or other treatment facilities.
- Storm water runoff from operational areas of the facility to a receiving stream or water body.
- Industrial or storm wastewater drained to an industrial waste reservoir.

3.2 Key Regulatory Requirements

The following is a summary of key Federal and State regulations that provide the basis for the requirements in this Protocol.

The Federal Water Pollution Control Act: This Act, commonly referred to as the Clean Water Act (CWA), as amended on February 4, 1987 (33 USC 1251-1387; PL 100-4), governs the control of water pollution in the United States. The objective of the CWA is to restore and maintain the chemical, biological, and physical integrity of the nation's waters by controlling the discharge of pollutants into those waters. The CWA regulates direct wastewater discharges to surface or navigable waters and indirect charges to POTWs. In addition to this, the CWA established the National Pollutant Discharge Elimination System (NPDES) (40 CFR Part 122), which prohibits the direct charge of any pollutants from a point source into waters of the U.S. except by special permit.

Federal agencies are required to comply with all applicable Federal, state, interstate, and local water pollution control requirements for the control and abatement of water pollution as determined by 33 USC 1323(a). The following includes areas of facility operation that are regulated:

- Operations involving point source discharge.

- Onsite water treatment works that discharge to a public sewer or into navigable waters.

- Untreated discharges to sanitary or storm sewers.

NPDES Permit Program (40 CFR Part 122): As authorized by the CWA, the NPDES permit program controls water pollution by regulating point source discharges. Point sources are discrete conveyances such as pipes or man-made ditches. In most cases, while EPA administers the program, the NPDES permit program is regulated by authorized (i.e., "delegated") states. Mississippi has an EPA-approved NPDES program in place. Facilities with point source discharges and/or treatment works treating domestic wastewater are required to have a NPDES permit. Facilities that have discharges of storm water associated with industrial activity are required to apply for an individual permit, apply for a permit through group application, or seek coverage under a promulgated storm water general permit. Facilities must meet the sampling requirements stipulated by NPDES permits. Basic requirements for a permit are at 40 CFR Part 122-EPA Administered Permit Programs: The National Pollutant Discharge Elimination System. 40 CFR Part 123-State Program Requirements specifies the procedures EPA uses to approve State programs and the requirements State programs must meet. Procedures for obtaining a NPDES permit are outlined in 40 CFR Part 124-Procedures for Decision-Making. Technology-based treatment requirements in permits and establishing a monitoring system are laid out in 40 CFR part 125-Criteria and Standards for the National Pollutant Discharge Elimination System, and 40 CFR Part 133-Secondary Treatment Regulation specifies what sampling and test procedures should be used when monitoring NPDES discharges.

Treatment Works: Facilities must not discharge into a treatment works any pollutant that would cause interference. Facilities shall not introduce into a treatment works pollutants that create a fire or explosion hazard, cause corrosive structural damage, have a pH below 5.0, or are solid or viscous enough to cause obstructions (40 CFR 403). Treatment plant supervisors are required to maintain operating logs and records (40 CFR 403).

In Mississippi, wastewater treatment requirements and discharged permits (NPDES permits) are administered by the Municipal and Private Facilities Branch of the Environmental Compliance and Enforcement Division of the Department of Environmental Quality. Regulations regarding these activities are promulgated in State regulations WPC-1.

3.3 Water Pollution Control Protocol Observations and Data Collection Findings

All wastewaters generated by the Gulfport Laboratory are managed by sewer or stormwater runoff drainage systems that are connected to municipal wastewater collection and treatment systems. Domestic sewage (including sink wastes) at the Laboratory is handled by a dedicated sewer system. No

septic systems, settling ponds, or other water treatment systems are present on-site. Surface water runoff from precipitation events is captured by a series of storm drains, most of which are located in paved parking areas of the site. Most of the collection system's wastewaters are moved southeastward beneath the site to a connection with the municipal system located at the corner of US Route 49 and 34th Street. It is unclear whether separate sewage and stormwater systems serve the greater municipal area.

Chemical wastes generated in the AC laboratories are expressly prohibited from being disposed in sink basins. In the past, some aqueous wastes were disposed via the laboratory sink/sewer system; however, this practice has not occurred since at least 2002. During the Laboratory's last ECA, which was conducted by APHIS (in 2002), the audit team noted that permission from the Harrison County Wastewater and Solid Waste Management District had been received by the Laboratory (in 1998) to discharge small quantities of methanol and water down laboratory drains. Other waste mixtures that included acetonitrile were also being considered for disposal down lab sinks at that time. These wastewaters would subsequently be treated by the local POTW. APHIS headquarters staff strongly suggested that this practice be curtailed, if not prohibited altogether, by the Laboratory's management team. Although the 2002 audit finding correctly indicated that some discharges of chemical wastes are permitted under RCRA for domestic sewage waste streams, knowingly disposing of any chemical via this method was cited as conceptually unsound practice.

During Entech's SV, Mr. Robert Smith, Deputy Director of the Laboratory and Chief of the AC Section, indicated that all analytical derived wastes are containerized and disposed in an appropriate fashion. No disposal of liquids other than wash waters and glass cleaning (soapy) solutions and general equipment rinsing are permitted to be disposed/discharged to the Laboratory sewage system. Further discussion of waste management issues is discussed at length in Section 5 of this Report.

Conclusions and Recommendations

A Positive Finding is awarded to this Protocol with regard to the management of analytical wastes and the sewer system. All chemical wastes are now managed in an appropriate manner and are not disposed via laboratory sinks. Correction of this 2002 Class II ECA Finding warrants positive acknowledgement in this 2008 ECA.

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4. NON-HAZARDOUS WASTE MANAGEMENT

4.1 Intent of Protocol

The Non-hazardous Waste Management Protocol (Protocol), in the context of this discussion, addresses the collection, storage, and disposal of non-hazardous or "municipal" solid waste streams. These items typically include wood, plastic, paper, metal and related debris or garbage that is carted to an ordinary landfill or materials reclamation center for destruction and/or disposal. The term *solid waste* does not refer to the physical state of the materials being discarded. Solid waste in its technical, regulatory usage can refer virtually to any solid, liquid, sludges, or gas (in containers) that is purposefully discarded. The term also applies to waste streams that are generally referred to as "hazardous wastes". That particular subset of solid wastes is discussed separately in the Hazardous Waste Management Protocol (Section 5) of this Report. Similarly, the handling and disposal of asbestos and ozone depleting substances that have been or are intended for disposal are addressed in the Air Pollution Control Protocol (Section 2). Recycling, resource recovery, and medical waste topics have been included in this section because they are generally considered a form of non-hazardous solid waste management.

The Non-hazardous Waste Management Protocol is addressed in the ECA process to ensure that general debris/refuse generated by the Gulfport Laboratory is handled and disposed in a responsible manner that that does not present a danger to human health and the environment. Improper management of these types of wastes can attract unwanted insect and rodent vectors which can, in turn, pose health risks to on-site personnel and people living/working in the immediate communal surrounds.

4.2 Key Regulatory Requirements

The following provides a summary of primary Federal and State regulations that provide the basis of the requirements listed in this protocol.

Resource Conservation and Recovery Act (RCRA), Subtitle D: RCRA was enacted in 1976. RCRA's primary goal is to protect human health and the environment from the potential hazards of waste disposal, to conserve energy and natural resources, to reduce the amount of waste generated, and to ensure that wastes are handled in an environmentally sound manner. Subtitle D of this act, as last amended in November of 1984 (Public law (P.L.) 98-616; 42 U.S. Code (USC) 6941-6949a), established Federal standards for the management of non-hazardous waste. The primary objectives of Subtitle D are to encourage the following: resource conservation, recycling of waste materials, and sound solid waste management practices. The Federal government establishes overall regulatory direction, minimum standards for protecting human health and the environment, and technical assistance in planning and

developing environmentally sound waste management practices. However, Subtitle D focuses on state and local governments as the primary planning, regulating, and implementing entities of the management of non-hazardous waste.

The Solid Waste Disposal Act of 1965, as amended: This Act requires that Federal facilities comply with all Federal, state, interstate, and local requirements concerning the disposal and management of solid wastes. These requirements include permitting, licensing, and reporting.

Executive Order (EO) 13101 - Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition: This EO, dated September 14, 1998, requires each executive agency to incorporate waste prevention and recycling in their daily operations and work to increase and expand markets for recovered materials through greater Federal Government preference and demand for such products. The EO further states that it is national policy to undertake operations that opt for pollution prevention techniques, embrace recycling, and when necessary, manage wastes in an environmentally safe manner. Waste disposal should only be considered as a last resort.

The EO also directs agencies to acquire and use environmentally preferable products and services and implement cost-effective procurement programs that favor these products and services. These waste prevention, recycling, and acquisition directives are to be coordinated by a Steering Committee, a Federal Environmental Executive (FEE), and a Task Force, and establishes Agency Environmental Executive (AEE) positions within each agency to be responsible for ensuring the EO is implemented.

In Mississippi, responsibility for non-hazardous solid wastes is overseen by the State's Department of Environmental Quality (MDEQ). Various State regulations and codes, as well as Federal requirements for which the State has received authorization to enforce, are administered by the Solid Waste and Mining Branch of the Environmental Compliance & Enforcement Division. These requirements primarily address owners and operators of facilities that receive Subtitle D solid wastes from residential and commercial generators within the State. Individual residential and commercial trash "generators" (customers) would need to comply with trash removal vendor requirements as well as limitations issued by receiving faciities with regard to the content of the solid waste stream.

4.3 Non-Hazardous Waste Management Protocol Observations and Data Collection Findings

The Gulfport Laboratory typically generates small amounts of non-hazardous solid wastes on a weekly basis. At the time the SV was conducted, only one general refuse dumpster was required to service the facility's waste disposal needs. The dumpster was located near the main security checkpoint, opposite (west of) Building 5. The dumpster is reportedly emptied approximately twice a week by a local commercial waste hauling firm. The dumpster was equipped with retractable lid to secure its contents

from the elements. Wastes disposed in this container are generally limited to administrative and housekeeping wastes (e.g. paper, food/break room garbage) generated in Building 1, the three active AC and SIPS Section labs, and the small tenant operations present in Building 16. Environmental sample residues (e.g., soils, plant materials) that have been processed in the labs are also discarded in this container on a periodic basis. Larger items such as damaged furnishings, cabinets, shelving, scrap metal and wood, etc. are stockpiled in an unused building until such time as enough material has accumulated to justify renting a large roll-off container. This type of disposal activity reportedly occurs once a year on average.

No organized recycling of spent materials presently occurs on-site. In the past when the facility was home to 70 or more employees, scrap paper, cardboard, and aluminum cans were collected and then removed by an outside vendor. Due to staff reductions – only 36 employees are identified as CPHST employees at the Laboratory - and the limited quantities of solid wastes currently generated, continuation of the recycling program, especially with regard to paper products, was not considered worthwhile. Site personnel indicated that aluminum cans are still collected by individual personnel and recycled for personal commitment reasons.

Recycling of spent automotive wastes generated by the facility does occur, but the volume of these items is limited. Small quantities (e.g., one to five gallons) of used motor oil are periodically taken to a local vehicle service station for recycling after SIPS vehicles (e.g., tractors, ATVs) are serviced on-site. Similarly used automotive batteries are taken to a local automotive service vendor who accepts such items for recycling.

The facility does not have any medical facilities on-site nor does it generate any laboratory materials that might have a perceived medical use (e.g., hypodermic needles, syringes). Used chemical glassware and empty chemical stock bottles are destroyed via a dedicated glass crushing device situated on the enclosed “patio” on the south side of Building 5. The processed glass accumulates in a 55-gallon drum that is integral to the crusher. When full, this drum is removed by the local waste hauler for disposal in a local solid waste landfill. Approximately 1 full drum a year is generated given the current workload of the facility.

Conclusions and Recommendations

No notable Findings were observed with regard to the management of the facility’s current solid waste streams. There is no evidence to suggest that general debris is handled or disposed in an unauthorized manner. Under ideal circumstances, a robust program of recycling administrative wastes would be in

place at this facility, however, the rate at which such wastes are currently generated make contracting for removal of recyclables impractical.

5. HAZARDOUS WASTE MANAGEMENT

5.1 Intent of Protocol

The Hazardous Waste Management Protocol (Protocol) applies to facilities that generate, store, transport, treat, or dispose of hazardous waste, as defined by the Resource Conservation and Recovery Act (RCRA). The particular regulations that a facility (Generator) is required to meet are based to a large extent on the amount and type of hazardous waste produced by the Generator in a given month. Regulations for other aspects of hazardous waste management, including specific treatment, storage, transport, and disposal requirements are also addressed, if applicable, under this Protocol.

The management of RCRA hazardous wastes is one of the more significant Protocol elements typically reviewed in an audit of an industrial or commercial facility. The Protocol explores/evaluates current waste management practices to ensure compliance with applicable Federal and State regulations are observed. Improper management of hazardous wastes can lead to fires, explosions, and significant damage to natural resources. Personnel safety is another key compliance area regarding this topical area of inquiry. Typically, outside auditors (State or EPA Region regulators) will focus on RCRA issues much more closely than other protocol topics.

5.2 Key Regulatory Requirements

The following provides a description of key regulations that constitute the basis for this protocol.

<u>The Resource Conservation and Recovery Act (RCRA), Subtitle C (1976):</u>
Public Law (PL) 98616; 42 USC 6921-6939b, establishes standards and procedures for the handling, storage, treatment, and disposal of hazardous waste. The regulation promulgated as a consequence of the Act provide broad authority to regulators to evaluate and enforce operational and management standards for virtually all aspects of waste generation, transport, treatment, storage, and disposal. Amendments to RCRA passed into law under the Hazardous and Solid Waste Amendments (HSWA) of 1984, further strengthen Federal and State oversight.

In its most fundamental form, RCRA/HSWA requires all facilities, including Federal Facilities, to identify and register themselves as generators, transporters, and/or waste receiving facilities. Those entities that treat, store, or dispose of hazardous waste (known generally as TSD facilities) typically must obtain an operating permit that contains rigorous management and operational requirements. Due to the nature of the research and scientific support provided by the Laboratory, RCRA regulations applicable to the facility

are largely found in Part 262 of 40 Code of Federal Regulations (CFR). Some of the key regulatory elements of Part 262 are noted below:

- Hazardous waste generator requirements (40 CFR 262.34 and 262.12).
- Accumulation time and areas (40 CFR 262.34)
- Hazardous waste storage (40 CFR 262.34)
- Hazardous waste determination (40 CFR 261.2, 262.3, 262.10. 262.11)
- Incompatible wastes (40 CFR 267.72)
- Record keeping and reporting (40 CFR 262.21, 262.40-44)
- Labeling (40 CFR 262.31)

Federal Facility Compliance Act (FFCA) of 1992:

This Act provides for a waiver of sovereign immunity with respect to Federal, State, and local procedural and substantive requirements relating to RCRA solid and hazardous waste laws and regulations. Additionally, it defines hazardous waste in relation to public vessels, expands the definition of mixed wastes, addresses the issue of munitions, and discusses waste discharges to Federally owned treatment works (FOTWs). This Act gives state and local agencies the authority to inspect Federal agencies, and provides these agencies, as well as EPA, with the authority to issue fines and to assess penalties for RCRA violations at Federal facilities.

In Mississippi, the State has received approval from US EPA to manage and enforce RCRA Program requirements. The State's RCRA Program is found in a series of regulations identified as HW-1 through HW-3. The most applicable regulations to the assessment being conducted at the Gulfport Laboratory are those found in HW-1. A review of these regulations show that they are comprised of a blanket incorporation (by reference) of all Federal Regulations for which the State is authorized to manage and enforce. Very few additional requirements "above and beyond" the Federal standards have been adopted.

5.3 Hazardous Waste Management Protocol Observations and Data Collection Findings

The Gulfport Laboratory has long been classified as a RCRA Generator. The Laboratory notified EPA of its activates initially in August 1980 and again in March 1988 (MDNR, 1988). It is unclear why there were two notifications, but changes in name of the facility and the specific commercial chemical products identified as potential waste streams were noted in the two Notification of Hazardous Waste Activity forms. By filing, the facility also received an EPA Identification number (MS9123430598) that allowed it to subsequently operate and offer for transport and disposal all RCRA wastes generated by the Laboratory.

The Laboratory has been operated as a Small Quantity Generator (SGQ) for many years. Unlike typical waste generating facilities that are required to develop, submit, and receive approval for an operating permit, facilities such as the Laboratory that generate relatively modest quantities of hazardous waste may be eligible for SQG status. SQG status provides for a reduced level of administrative management if the facility generates between 100 and 1,000 kg (220 and 2,200 pounds) of RCRA waste a month. These wastes can be stored on-site (as specified by the regulations) for up to 180 days as long as no more than 6,000 kg of waste are accumulated. A typical "large" quantity generator can only store wastes up to 90 days. An additional benefit provided to SQGs that must transport wastes more than 200 miles to an appropriate TSD facility is a lengthened storage "clock". In this scenario, the SQG is given 270 days to hold wastes, but they still must observe the 6,000 kg weight limit.

Generators are also allowed to collect hazardous wastes outside a typical storage facility in situations known as Satellite Accumulation Areas or SAAs (40 CFR 262.34 (c)). Wastes must be held in containers that are "…at or near the point of generation… and are under the control of the operator of the process generating the waste…" . These SAA wastes may not exceed 55 gallons. If quantities in excess of 55 gallons are generated, the Generator has three days to remove the waste held in overage and must date the excess quantity of waste with the date that amount began to accumulate.

During the SV, Entech identified 3 waste storage areas/units within the Laboratory. These units/areas included the Laboratory's central RCRA waste storage facility and two SAAs. The central waste storage facility is located in Building 10. This building is also used to store all chemical products (new or unused) not actively in use in the AC laboratories found in Buildings 2 and 5.

Building 10 was inspected during the SV and was observed to be in excellent condition. Very little waste was currently stored in this building when the SV was conducted. Floor drains that had originally been located in the building's floors had been grouted to prevent releases. All containers were observed to be in good condition and no evidence of spillage was observed. Aisle space and lighting were also excellent and well maintained. No communications devises were present in the structure; however, alarm systems associated with the entry/exit door were considered sufficient and appropriate apparatus for alerting security and first responders should a release incident or fire occur. Product storage was also observed to be orderly and well organized. These materials were adequately segregated from waste storage areas.

The principal waste streams in storage were bulk solvents (chlorinated and non-chlorinated) that were held in plastic 40-gallons drums. Other chemical staged on several nearby shelves were awaiting "lab pack" management. These lab pack chemicals were all "off-spec" or dated substances that had been generated as a result of a recent clean out of a retired chemists laboratory. A clean-out action of this

nature was reported to be unusual by Laboratory staff. None of the materials present in Building 10 were considered useful to other chemists at the Laboratory, so the product materials had been declared waste and were moved to Building 10 in preparation for packaging, transport, and subsequent disposal. All chemicals were in their original containers (primarily glass bottles/jars) and were in good condition; no spillage or leakage was observed. No incompatible chemicals were observed to be improperly stored in the vicinity of one another. The upcoming lab packing process was reportedly scheduled to occur in the next few months when the Laboratory's designated commercial waste hauler is scheduled to pack and ship all wastes that have accumulated in the building.

The bulk solvent wastes noted above all originated from the SAAs located in the chemical labs (Buildings 2 and 5). These drummed wastes were appropriately marked and segregated by waste type. All drums were placed atop secondary containment pallets as a precautionary measure should a catastrophic release from one or more of the drums occur. Photographs documenting the general condition of the waste storage area are provided in the Photo Log section of this Report.

As previously mentioned, two SAAs (one in each laboratory) were identified on-site. Each SAA was comprised of three plastic drums (40-gallon plastic containers) for the three individual waste streams generated by analytical activities. All drums were located, as seen in photographs presented in the Photo Log, on secondary containment pallets. For purposes of ready identification by laboratory personnel, each drum was assigned an alphabetic identifier to keep like chemical wastes together. The three waste streams addressed by this methodology are:

"A" Wastes – methanol, acetonitrile, HPLC water, buffers

"B" Wastes – acetone, hexane, (non-chlorinated solvents)

"C" Wastes – methylene chloride (chlorinated solvents)

Each of the satellite areas was closely inspected for potential violations of the SAA regulations. All drums were appropriately marked and were closed when not in use (e.g., waste solvents solutions being added to the accumulation vessels). Each satellite area contained, based on a visual estimate, less than the 55-gallon threshold limit of waste materials specified by the regulations. Mr. Robert Smith, Deputy Director of the Laboratory and Chief of the AC Section, indicated that the each of the lettered drums are never filled to capacity and that a close watch is kept to ensure that a collective exceedance of the 55-gallon threshold limit does not occur. Additionally, the production of the various solvent waste types varies from lab to lab (Building 2 and 5), so accumulation rates, by solvent type, is highly variable. Accumulation

rates are also affected by workload, which has been reduced in recent years. Regardless, SAA wastes are transported to Building 10 as necessary to remain compliant with regulatory requirements.

In addition to chemical waste streams regulated by RCRA, other wastes subject to regulatory requirements are also managed at the Laboratory. These wastes include used oil and RCRA Universal Wastes. Used oil is generated by maintenance on the small number of tractors and mechanical equipment associated with SIPS activities. These oils are accumulated in appropriate containers and taken to a local, off-site vehicle maintenance station for recycling. These are the only oil wastes generated by the facility. There are no vehicle maintenance/garage facilities on the Gulfport Laboratory grounds. All other government-owned vehicles (e.g., pick up trucks, automobiles) are taken to off-site vehicle maintenance businesses for mechanical servicing and safety inspections.

Waste streams regulated under RCRA Universal Waste regulations are largely limited to spent fluorescent light bulbs (lamps) that are commonly found in most general lighting fixtures on the Laboratory grounds. Other Universal Waste items such as lead acid batteries from tractors and non-passenger vehicular equipment are taken offsite for recycling at commercial automotive maintanance businesses in the area. Spent batteries are items that are infrequently encountered at the facility. Other wastes such as mercury containing equipment and off-spec and/or dated pesticides, which are also addressed under Universal Waste requirements, are managed with other RCRA chemicals prior to transport and disposal by the contracted waste hauler.

Waste and product chemical handling and emergency response training are addressed in detail in one or more written Plans or Procedures that have been created by Mr. Smith in the past several years. Documents applicable to the handling of all chemical substances and reacting to emergency situations include: 1) Chemical Hygiene Plan; 2) Emergency Action Plan; 3) Waste Consolidation, Storage, and Disposal Procedure; and 4) Hazard Communication plan. These documents have been tailored to conditions and activities conducted within the Laboratory and are updated on an annual basis. All personnel are provided “refresher” training on each of the plans soon after their annual revisions have been completed. All internal training is documented via sign-in sheets and in employee training files. Other Plans and Procedures that have been internally developed and are addressed here because of their tangential association with physical safety and chemical activities include: the Laboratory Warehousing Procedure; the Lock Out/Tag Out Plan; the Confined Space Plan; and the Basic Glassware Treatment Procedure. These Plans and Procedures are also reviewed/updated on an annual basis. Training is similarly provided each year.

Conclusions and Recommendations

The overall management of RCRA Wastes (and chemical products generally) at the Gulfport Laboratory is exceptional. Waste and product chemicals are well marked and segregated. Chemical storage cabinets and functional fume hoods are readily available for managing product chemicals in the labs. None of the poor management practices cited in the 2002 Audit findings (e.g., caches of chemicals tucked away under sinks or in infrequently used buildings) were noted during this assessment. Additionally, appropriate labeling, an overall understanding of SAA requirements, and a well-managed system to address waste storage, tracking, and removal requirements were all observed to be in place. Training and written procedures for managing chemicals also appeared to be exceptional and are conveyed to personnel with responsibilities for chemical-related activities. Positive Findings for the overall chemical management program (waste and product materials), training of personnel, and provisions for written, frequently updated Plans/Procedures, are awarded in this Protocol area.

Although the chemical management program is exceptional, a small number of Protocol deficiencies were nevertheless noted during the course of the SV. The most significant of these findings involved the temporary storage of waste chemical solvents in a handful of fume hoods in Buildings 2 and 5. These closed containers, which were clearly marked as waste receptacles, were reportedly used to collect spent solvents until such time as a "run" to the SAA for transfer was convenient. It was reported that spent (waste) materials might linger in these containers for several days or even a week before being transferred. Entech viewed this practice as akin to a "SAA for the SAA" and felt that it would be cited by State or Federal auditors as a violation of RCRA. It was explained to Mr. Smith that such temporary holding vessels, if necessary at all, should be transferred at the end of each day's/shift's activities if immediate deposits to the true SAA was not possible. The use of this short-term waste holding system is considered, for purposes of this assessment, as a Class II Findings. The condition was immediately corrected by Mr. Smith and will be reflected in the next update to the Waste Consolidation, Storage, and Disposal Procedure and Chemical Hygiene Plan. This revised practice will also be verbally conveyed to all AC Section chemists.

Another practice that was observed, but would be corrected in the near term was the storage of large quantities of spent fluorescent lamps in Building 10. During the SV, these lamps had been stacked inside a trash cans (see Photo Log) until appropriate shipping containers could be procured. This practice made the lamps highly susceptible to breakage and would likely be considered a significant violation of the RCRA Universal Waste standards if observed by a regulator. As such, the condition observed is considered a Class I Finding for this Report. Correction of this deficiency was underway by the time the SV was completed.

As mentioned previously, Mr. Smith has done a commendable job of ensuring that written procedures and training is given to all personnel with regard to handling chemicals and overall personnel safety.

These duties/responsibilities, however, have been undertaken strictly on a voluntary basis. The Laboratory does not currently have a designated Safety Officer to oversee these critical managerial issues. Consideration should be given to identifying/designating an appropriate individual (existing personnel or new hire) to act in this capacity and be responsible for the broader scope of safety and health issues at the facility. This condition is considered a Class III Finding and should be addressed in an appropriate manner.

Another Class III Findings reported to Mr. Smith involves the elimination of one or possibly two written procedures currently available among the Laboratory's policies and procedures. The first of these involves the Confined Space Procedure. The procedure, although well written and documented, lists no "Qualified Employees" who are trained and authorized to enter such hazardous environments. In fact, all personnel are said to be expressly forbidden to enter any structure deemed to be a confined space (confined space warnings were observed on several manholes within the facility grounds). Entech recommended that this Procedure be eliminated completely in light of fact that no on-site personnel are permitted to enter such structure. Additionally and perhaps most importantly, by eliminating the "roadmap" this plan lays out for entering such environs, it might further discourage any individual who considers such an action as an acceptable risk in light of directions that it provides.

Similarly, the Lock Out/Tag Out Procedure does not authorize any on-site personnel to engage in activities where handling of electrical power to equipment is required. It is assumed, at some level, some site personnel occasionally do this type of activity. Even working on relatively simple electrical machines or lighting systems should apply to concepts of Lock Out/Tag Out before any action is taken. As such, maintenance/facilities personnel should be identified as qualified personnel if the Procedure is to be retained. If caveats regarding amperage/voltage limitations are necessary, modifications/additions to the text of the Procedure should be made. If, however, <u>any</u> work requiring energizing or de-energizing systems (equipment or lighting) is expressly forbidden, then the Procedure should be eliminated, thus avoiding the "roadmap" principle described above.

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6. CERCLA/SARA

6.1 Intent of Protocol

The CERCLA/SARA Protocol (Protocol) addresses facilities where hazardous substances were released or have been determined to pose a suspected or potential release threat. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 – commonly known as "Superfund" - and its most significant amendment, the Superfund Amendments and Reauthorization Act (SARA) of 1986, are designed to identify sites where hazardous substances have been, or might be, released into the environment. These laws also ensure that they are cleaned up by responsible parties or the Government, evaluate damages to natural resources, and create claims procedures for parties that have cleaned up the site or spent funds to restore natural resources. In most instances, CERCLA/SARA is brought to bear when contaminants are known or suspected to be present on closed or abandoned sites. In practice, active sites can also be drawn into the CERCLA investigation system under the notification requirements of the Act (Section 103 (c)). Owners/operators of sites where hazardous wastes have been, at one time or another, treated, stored, or disposed (TSD) are responsible for filing a notification with EPA once such a determination has been made. If prior notification of TSD activity under RCRA has occurred, subsequent identification under 103 (c) is not necessary.

The Protocol has been evaluated to follow-up on a prior recommendation to perform a CERCLA Preliminary Assessment/Site Investigation (PA/SI) at the Gulfport Laboratory (APHIS, 2002). In February 2002, APHIS headquarters performed a multi-medial audit of the Gulfport facility. During the audit, the inspection team apparently determined that the management of chemical products and waste streams was insufficiently controlled and that a possible release to the environment might have occurred at some point in time. Gulfport had submitted the appropriate notifications of TSD activities under RCRA on August 4, 1980 when it submitted the EPA's form (Form 8700-12) for such notification. This action negated the need to report under 103 (c), so it is presumed that some other condition led the audit team to recommend the PA/SI.

An initial reading of the 2002 audit report suggest that the recommendation for a PA/SI was intended as a voluntary, information collection activity perhaps modeled on the CERCLA program. A further investigation into this matter by Entech revealed that the Gulfport Laboratory was instead formally identified as a possible release site and was identified and listed on the CERCLA Information System (CERCLIS) database. Identification on CERCLIS is the initial step in the formal CERCLA process for investigating sites that might be subject to listing on the National Priorities List (NPL).

APHIS Headquarters arranged for a contractor (TetraTech NUS) to conduct the PA and a subsequent SI at the Gulfport Laboratory. This investigation evaluated all standard contaminant pathways and ultimately resulted in the removal of a hydraulic lift system, detection of pesticide residues in soil, and the development of 6 groundwater monitoring well (TetraTech NUS, 2005 and 2007).

6.2 Key Regulatory Requirements

The following regulations provide the basis for the requirements in the CERCLA/SARA protocol.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980:
This Act, PL 96-510 (42 USC (9601 *et seq*.)) provides for the liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and cleanup of inactive hazardous waste disposal sites. CERCLA addresses past, present, and threatened releases of hazardous substances, pollutants, and contaminants that "may pose an imminent and substantial danger to the public health or welfare (CERCLA, Section 104(a)(1)). CERCLA established a fund which is financed by hazardous substance generators and is used to financially support cleanup and response actions of abandoned hazardous waste sites when no financially responsible parties can be found. The EPA has generated and periodically updates a list of sites requiring cleanup under CERCLA, known as the National Priorities List (NPL). Although Federal agency hazardous waste sites may be listed on the NPL, Federal facilities are not eligible to receive financial assistance from the Superfund program.

Superfund Amendments and Reauthorization Act of 1986: This Act, PL 99-499, was passed in October of 1986. SARA amended and strengthened CERCLA through the following:

- Stressed the importance of permanent remedies and innovative treatment technologies in cleaning up hazardous waste sites.
- Provided new enforcement authorities and settlement tools.
- Increased state involvement in every phase of the Superfund program.
- Increased the focus on human health programs posed by hazardous waste sites.
- Increased the amount of funding.

National Oil and Hazardous Substances Pollution Contingency Plan: National Oil and Hazardous Substances Pollution Contingency Plan, more commonly called the National Contingency Plan or NCP, requires that whenever there is a release of any Reportable Quantity (RQ) of any hazardous substance, the National Response Center must be notified. The RQ's for many individual substances are presented on appendices and tables found in 40 Code of Federal Regulations (CFR). The NCP also requires notification to the National Response Center whenever there is a harmful discharge of oil.

6.3 CERCLA/SARA Protocol Observations and Data Collection Findings

Substantial progress has been achieved with regard to on-site activities associated with this Protocol. As noted above, APHIS Headquarters arranged for the PA/SI it recommended during the February 2002 audit. The PA/SI and subsequent Expanded Site Investigation (ESI) were undertaken between 2002 and 2007. Documentation of the physical and analytical findings associated with these actions was found on file in the facility's document archives. A review of the most recent consulting report identified among this collection of documents indicates that low-level pesticide contamination has been consistently detected in soil and groundwater media beneath the site (TetraTech NUS, 2007). A recommendation for additional sampling was presented in the consultant's report; however, site personnel indicated that it was not likely any further action would proceed. It was reported to Entech that the significance of the contamination was felt to be minimal and that no identifiable source of the residues had been revealed to warrant a further round of investigation.

Conclusions and Recommendations

Regardless of APHIS Headquarters' decision whether to pursue/discontinue additional investigations at this site, CERCLA/SARA program activities are categorized as a Positive Finding in for this Protocol. The requirements to address this issue in the 2002 audit were fulfilled, thus eliminating the Class III citation noted in the audit report. Additionally, key on-site personnel were very familiar with actions taken to date regarding this issue, records of the investigation findings were readily identifiable and retrievable, and the sites around the 6 permanent monitoring wells were well maintained and secured.

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7. SPILL CONTROL AND RESPONSE

7.1 Intent of Protocol

The Spill Control and Response Protocol (Protocol) applies to all facilities that store oil (petroleum) in tanks or containers meeting certain volumetric requirements and have the potential to discharge oil into or upon navigable water of the United States or adjoining shorelines. Specifically, if a facility has underground storage tank (UST) capacity greater than 42,000 gallons or aggregate above ground storage tank (AST) capacity of 1,320 gallons of oil they are subject to requirements that include the preparation of a Spill Prevention Control and Countermeasure (SPCC) Plan. Facilities may also be subject to Facility Response Plan (FRP) requirements under this Protocol. The FRP requirement is only applicable to facilities that have petroleum storage capacity greater than 42,000 gallons and other criteria that are outlined in 40 CFR 112(f)(1).

This Protocol is included in the assessment process to ensure that facilities with substantial oil storage follow proper petroleum storage, transfer, spill prevention, and response practices. Improper handling of petroleum products can lead to significant degradation of the environment and human health.

7.2 Key Regulatory Requirements

The following statutory Acts and regulatory requirements provide descriptions of the key elements that are evaluated by this Protocol.

Federal Water Pollution Control Act (FWPCA) of 1972: This law was the primary Federal law governing the discharge of oil into navigable waters. The FWPCA of 1972 was amended by the CWA of 1977. Section 311 of the CWA establishes a policy of prohibiting discharges of oil or hazardous substances into navigable waters. The intent of the CWA is to restore and protect the integrity of the nations' waters by controlling the discharge of pollutants into streams and rivers. In addition to regulations pertaining to the discharge of oil, the CWA regulates discharges of wastewaters directly into navigable or surface waters and direct discharges into Publicly Owned Treatment Works (POTWs) (40 CRF 403).

Requirements for oil spill reporting and preparation of oil spill plans for facilities exceeding the threshold quantities of stored oil are established in regulations found in 40 CFR 110 and 112. 40 CFR 110 prohibits the discharge of harmful quantities of oil into navigable waters and defines harmful quantities as those discharges that will cause a sheen or discolorization of the surface of the water or a sludge or emulsion to be deposited beneath the surface.

Oil Pollution Act of 1990: This law, PL 301-308; USC 2702-2761, as amended, was enacted in response to major oil spills such as the Exxon Valdez incident in Prince William Sound, Alaska; The American Trader in California's coastal waters; the Mega Borg in the Gulf of Mexico; and the discharge from the Ashland Oil Terminal into the Monongahela River in Pennsylvania. The OPA requires oil storage facilities and vessels to submit to the Federal government plans detailing how they will respond to large discharges. The OPA increased penalties for regulatory noncompliance, broadened the response and enforcement authorities of the Federal government, and preserved State authority to establish law governing oil spill prevention and response.

The National Oil and Hazardous Substances Pollution Contingency Plan, Subpart J**:** more commonly called the National Contingency Plan or NCP, is the federal government's blueprint for responding to both oil spills and hazardous substance releases. The National Contingency Plan is the result of our country's efforts to develop a national response capability and promote overall coordination among the hierarchy of responders and contingency plans.

The first National Contingency Plan was developed and published in 1968 in response to a massive oil spill from the oil tanker *Torrey Canyon* off the coast of England the year before. More than 37 million gallons of crude oil spilled into the water, causing massive environmental damage. To avoid the problems faced by response officials involved in this incident, U.S. officials developed a coordinated approach to cope with potential spills in U.S. waters. The 1968 plan provided the first comprehensive system of accident reporting, spill containment, and cleanup, and established a response headquarters, a national reaction team, and regional reaction teams (precursors to the current National Response Team and Regional Response Teams).

Congress has broadened the scope of the National Contingency Plan over the years. As required by the Clean Water Act of 1972, the NCP was revised the following year to include a framework for responding to hazardous substance spills as well as oil discharges. Following the passage of Superfund legislation in 1980, the NCP was broadened to cover releases at hazardous waste sites requiring emergency removal actions. Over the years, additional revisions have been made to the NCP to keep pace with the enactment of legislation. The latest revisions to the NCP were finalized in 1994 to reflect the oil spill provisions of the Oil Pollution Act of 1990.

In Mississippi, SPCC regulations are not addressed by the State's Department of Environmental Quality (MDEQ). Responsibility for enforcement and application of spill control measures are managed instead by the US EPA. In cases when spills occur, the owner/operator of any tank system should call the National Response Center at (800) 424-8802.

7.3 Spill Control and Response Protocol Observations and Data Collection Findings

The Gulfport Laboratory has emergency electrical power production capacity in the form of two large, pad-mounted generators that are located west of Building 2. The generators are powered by diesel fuel and have the capacity to generate 200 and 400 kW, respectively. Fuel is drawn from "day tanks" located on each unit, which are in turn, supplied by a large 2,000 gallon AST. The AST is located immediately north of the generators. The supply tank has a double wall design in which the interstitial space serves as a secondary containment vessel. A drain valve located at the base of the north end of the tank can be used to remove spillage that might escape from the primary containment vessel.

The generators and AST are enclosed by a chain link fence, which has a locking gate. The two day tanks and supply tank are the only non-automotive fuel holding vessels located on the property. Other non-combustion oil storage (e.g., dielectric fluids) is located within the grounds of the facility. These oils are found in the two ground based and three pole mounted electrical transformers present on-site. These transformers, which are identified as T1, T2, and T3, are discussed in greater detail in Section 14 of this Report. No other substantial oil containing devices or equipment is present on-site.

Prior to initiating the SV, Entech had the opportunity to review the Laboratory's SPCC Plan. This Plan had been developed in 2002 in response to a Class I Finding identified in the previous APHIS Multimedia Environmental Compliance Audit of the Gulfport Laboratory. That audit called upon the Laboratory to develop a written SPCC Plan because the emergency generator's diesel fuel supply tank exceeded the 1,320 gallon threshold for an AST holding petroleum products. A textbook plan was subsequently produced by the facility and the Plan was subsequently approved by an Entech licensed, professional engineer in November 2003.

During the SV, the Facility Maintenance Technician was interviewed and asked to elaborate on the various performance aspects of the Plan. This included questions regarding the several observation, training, and emergency reaction elements of the Plan that were identified in detail in the body of the document.

Unfortunately, it was soon clear that the Plan and its key elements had never been implemented. Although no leaks or spill had occurred during the period the Plan was in force, none of the key personnel identified by title in the Plan had been appointed nor had any of the training, drills, or spill clean up equipment ever been practiced or acquired per the Plan specifications. Other than the period visual inspection of the tank, none of the elements of the Plan were in place.

Subsequent to this discussion, Entech's representative was shown the emergency generator site. The diesel supply tank was found to be in generally good condition, but some evidence of rusting surfaces were observed. Additionally, the upper fill port housing on the tank exhibited evidence of physical damage. The sheet metal housing was bent and the covering lid was ajar. The inspection port on the east side of the tank was opened to view the interstitial space between the primary storage and secondary containment wall of the tank structure. The outer wall of the primary tank was observed to be heavily rusted. This condition is not unexpected given the humid conditions that prevail in this region during most of the year. No smell of diesel fuel was noted, which suggested that no leakage from the tank body or fill port had/was occurring. A further inspection of the interstitial space resulted in the identification of water within the void between the tank walls. It was soon clear that the secondary containment vessel was full of water. This water presumably infiltrated the damaged housing of the fill port located at the top of the tank. Although the volume of the interstitial space is not known, it is presumed that several hundred gallons of water was present in the tank at the time the SV inspection was conducted.

Conclusions and Recommendations

A Class I Finding is assigned to this Protocol topic for obvious reasons. The root cause for the Plan's failure was identified as the lack of funding for training and supplies necessary to credibly implement the Plan. Additionally, and perhaps most importantly, no one at the facility is has a job description assignment that addresses responsibility for SPCC issues. Entech was told that since the facility has not had a Site Safety Officer for many years – this Officer apparently had general environmental responsibilities in the past – all facility environmental issues have been handled on a voluntary, ad hoc basis by site personnel willing to assume nominal responsibility for individual issues or conditons that arise within the site. In the case of the SPCC plan, no "champion" volunteered to address this particular functional activity and no funds were available to appropriately train such a volunteer to assure compliance with Plan requirements. Other than the Facility Maintenance Technician's periodic visual inspections of the unit, no actions regarding the tank have presumably occurred since the inception of the Plan.

In light of the apparent administrative hurtles associated with assigning responsibility and training personnel to meet the stated elements of the SPCC Plan, Entech advised the Laboratory's Deputy Manager, Mr. Robert Smith, to consider replacing the existing tank storage system with an newer, low maintenance system that does not exceed the 1,320 gallon SPCC threshold limit. Based on Entech's understanding of the historical use of the emergency generator system, a support tank with a small capacity would address virtually all emergency needs, even a situation as desperate as that experienced during Hurricane Katrina. Costs associated with removing the old tank and acquiring a new, smaller tank system are thought to be competitive with repairing the existing system, training appropriate personnel,

and maintaining the various physical and spill release supplies necessary to comply with the Plan as it is currently written. Additionally, fines that might be levied by EPA regulatory compliance officers for non-compliance with Plan elements would only exacerbate costs and administrative hardships associated with meeting the minimum standards of a functional SPCC program. Entech and its engineers can work with the site to identify an appropriate replacement tank if that avenue is pursued as a remedy to this Class I Finding.

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8. MANAGEMENT OF ENVIRONMENTAL IMPACTS

8.1 Intent of Protocol

The Management of Environmental Impacts Protocol (Protocol) integrates the requirements of diverse laws and regulations pertaining to the assessment, documentation, management, monitoring, and mitigation of environmental impacts resulting from the actions and policies of Federal agencies. The protection of human health and the environment, including the protection and management of natural resources such as physical media (soil, water, air) and biological components of the ecosystems; protected habitats (e.g. wetlands); endangered and threatened species; agricultural resources; and commercial and recreational facilities are elements of this Protocol review. The National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), and Section 404 of the Clean Water Act (CWA) are key laws that govern these considerations. Management of agency/facility impacts to cultural and historic resources, which must be evaluated concurrently with impacts to ecological resources under NEPA, are addressed separately in Section 11 of this Report.

8.2 Key Regulatory Requirements

The National Environmental Policy Act (NEPA):

The purpose of this Act (42 USC 4321-4370c), as last amended in November 1990, is to declare and implement a national policy to prevent or eliminate damage to the environment and biosphere and to stimulate the health and welfare of humans (42 USC 4321). NEPA requires the integration of environmental values into decision-making processes by considering the environmental impacts of proposed actions and reasonable alternatives to those actions. Under NEPA, the continuing policy of the Federal government is to use all practicable planning, policy, and regulatory means and measures in a manner calculated to foster and promote the general welfare; to create and maintain conditions under which man and the environment can coexist productively; and to fulfill the social, economic, and other needs of present and future generations of Americans (42 USC 4331(a)).

The Endangered Species Act (ESA) of 1973:

The intent of this Act (16 USC 1531-1547 et al.), last amended in October 1988, is to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved; to provide a program for the conservation of such endangered species and threatened species; and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions for protection of endangered species (16 USC 1531 (b)).

Sections 404 and 401 of the Clean Water Act (CWA):

Section 404 of this Act (33 USC 1344) requires that all discharges of dredge and fill material into "water of the U.S.," including vegetated wetlands, must meet all requirements of EPA's 404 (b)(1) guidelines (40 CFR 230). All dredge and fill projects permitted individually or jointly under Section 10 (Rivers and Harbors Act of 1989) and Section 404 of the CWA also must obtain a Section 401 water quality certification from the state (33 USC 1341), unless specifically exempted from Congress under Section 404(r) of the CWA.

Executive Order (EO) 11514, Protection and Enhancement of Environmental Quality:

This EO, issued in May 1970 and amended by EO 11991 in May 1977, implements NEPA. Under the EO, the Federal government must provide leadership in protecting and enhancing the quality of the nation's environment to sustain and enrich human life. Federal agencies must direct their policies, plans, and programs so as to meet national environmental goals.

Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements On August 3, 1993, the President signed E.O.12856 requiring, among its several directive elements, all Federal agencies to develop and implement a written pollution prevention strategy to achieve:

- toxic chemical reduction goals,
- acquisition and procurement goals,
- Toxic Release Inventory/Pollution Prevention Act reporting; and
- Emergency Planning and Community Right-to-Know Act reporting.

USDA, in its November 4, 1993 E.O. response memo, directed all of its operational entities to develop and submit draft pollution prevention policies/strategies to meet the President's requirements. To the maximum extent possible, all USDA entities should identify, evaluate, and incorporate pollution prevention strategies, energy/water conservation, life-cycle cost analysis and total cost accounting concepts and considerations into:

- the design and execution of program, mission, and mission-related activities;
- the design, construction, and maintenance of facilities;
- the acquisition, procurement, and use of equipment, materials, services, and supplies;
- the acquisition, procurement, use, and release to the environment of extremely hazardous substances and toxic chemicals; and
- the disposal or offsite transfer of wastes resulting from procurement and use of toxic chemicals.

Executive Order 11987, Exotic Organisms of 1977:

This EO requires executive agencies to restrict the introduction of exotic species into natural ecosystems that they own or lease and encourage the states to prevent surge introductions.

The Federal Noxious Weed Act of 1970:

This Act, last emended in September 1987 (7 USC 2803 and 2809), states that no person is permitted to move any noxious weed identified in a regulation into or through the United States or interstate, unless such movement is:

- From Canada, or authorized under general or specific permit from the Secretary of Agriculture.

- Made in accordance with such conditions as the Secretary may prescribe in a permit and in regulations to prevent the dissemination into the U.S., or interstate, of such noxious weed (42 USC 2803).

A listing of aquatic, parasitic, and terrestrial plant species that are federally designated as noxious weeds is found at 7 CFR 360.200.

Additional Acts and EOs that are important to the management of environmental impacts are:

- The Fish and Wildlife Coordination Act of 1946.
- The Migratory Bird Treaty Act of 1981.
- Section 10 of the Rivers and Harbors Act of 1899 (RHA).
- Highly Erodible Land and Wetland Conservation Regulations (7 CFR 12).
- Executive Order 11988 Flood Plain Management.
- Executive Order 11990 Protection of Wetlands.
- The Convention on Wetlands of International Importance Especially as Waterfowl habitat (Ramsar Convention).
- Sikes Act of 1960 (Managing natural resources on military property).
- Public Law 86-337: Hunting, Fishing, and Trapping on Department of Defense facilities.
- The Coastal Zone Management Act (CZMA) of 1972.
- The Marine Mammal Protection Act (MMPA).
- Marine Protection, Research, Sanctuaries Act of 1972 (MPRSA).
- Wild and Scenic Rivers Act of 1986.
- Farmland Protection Policy Act of 1981.
- The Aviation Safety and Noise Abatement Act of 1979.

8.3 Management of Environmental Impacts Protocol Observations and Data Collection Findings

The Gulfport Laboratory is situated in an urban setting, surrounded by industrial tracts of land and as small number of abandoned/degraded residential properties. The site itself is slightly less than 5 acres in size and is largely developed. It is situated on level ground and exhibits no evidence of erosion or other negative physical impacts. Numerous individual buildings occupy the site and a large percentage of the remaining land area is paved with asphalt for parking and intra-site access roads. A handful of trees and some small grass-covered parcels are the only "natural" environs within the facility. No evidence of any fauna or unusual flora was observed. The most recent structural additions to the site are reported to be Building 1, which was constructed in the early 1990s and Building 4, which was erected in 1997. The emergency generator station ("generator building") was added to the site in 1998 (TetraTech NUS, 2005).

No water bodies of any description are located in or around the immediate vicinity of the site. Site drainage is controlled by a system of collection drains that are located strategically throughout the site. Surface water runoff captured by these drains is channeled via subterranean piping in a southeasterly direction towards the northwest corner of Route 49 and 34th Street. At this point, the on-site drainage conveyance system joins the municipal stormwater system. Waters collected via this intra-site system eventually feed into a municipal wastewater treatment system.

No prior NEPA impact statements or assessment have reportedly occurred during the life of the facility. Information gathered from the initial Pre-SV questionnaire also indicated that no additions to existing structures or construction of new facilities are anticipated for the site in the foreseeable future. Conversely, several structures have been removed in recent years. Two buildings (Buildings 3 and 8) are tentatively schedule for demolition once funding is earmarked for such an action.

Comments and Recommendations

No positive or negative Findings are assigned with regard to this Protocol. The declining level of work and personnel staffing that has reportedly occurred at the site during the past five years does not suggest that any major construction initiatives are likely planned for the facility. Additionally, the size and urbanized nature of the facility are unlikely to attract any unusual or sustained flora or fauna that might evoke Endangered Species Act protections. Wetlands and dredging issues associated with the Clean Water Acts are also non-issued with regard to the Laboratory. All in all, this Protocol is not currently applicable to the facility or its operational activities.

9. HAZARDOUS MATERIALS MANAGEMENT

9.1 Intent of Protocol

The Hazardous Materials Management Protocol (Protocol) addresses the proper storage and handling of chemicals and spill contingency and response requirements related to hazardous materials. For purposes of this discussion, chemicals used by the AC Section of the Gulfport Laboratory are evaluated by this particular Protocol. Other substances such as motor oils, pesticides, and asbestos, radioactive substances, and "hazardous wastes" (spent chemicals) are addressed in other Protocol sections of this Report. Furthermore, this Protocol does not focus on individual hazardous chemicals or substances used by the Laboratory, but deals instead with the general management practices associated with minimizing impacts to the environment. These potential impacts include spills, releases, and/or improper storage, handling, and use of chemical products prior to or during their use.

Chemical usage is largely associated with the AC Section of the Laboratory. SIPS chemical usage is almost all tied to the preparation and use of commercial pesticide products that are applied, with some minor exceptions (e.g., drench tests), to off-site locations. SIPS activities are discussed in greater detail in Section 15 of this Report. Non-CPHST tenant organizations housed at the Gulfport Laboratory manage very little in the way of chemical products. Those chemical products that were identified during the SV were limited to a small quantity (1 pound) of bird poison (DCR-1339) that is held by APHIS Wildlife Services personnel and a small but unspecified quantity of pheromone agent(s) used by APHIS PPQ personnel. Another, unusual "hazardous material" not typically encounted during these types of audits involves firearms. A small number of weapons are managed by Wildlife Services in Building 16. These weapons and ammunition are held in a locked safe in an annex to the Wildlife Services administrative offices. Entech was shown the safe, which was substantial and very well securred.

The tenant organizations on the Laboratory grounds operate independently of each other and the CPHST management staff. Entech was told that the Laboratory has no control over their operational activities or the procedures they implement, including the storage of chemical products (and weapons). The only proceedures observed by all site personnel appear to revolve around site security and emergency evacuation proceedures.

9.2 Key Regulatory Requirements

The following provides a description of the primary legislation that provides the basis for the requirements listed in this protocol.

The Occupational Safety and Health Act (OSHA): This Act, last amended in November 1990 (29 USC 651-678), regulates workplace conditions to protect the health and safety of employees by providing occupational safety and health standards, an enforcement program, and reporting procedures. The OSHA regulations that pertain to this protocol are:

- Flammable and combustible liquids (29 CFR 1910.106)
- Hazardous materials in labs (29 CFR 1910.1450)
- Hazard communication program (20 CFR 1910.1200)

The Hazardous Materials Transportation Act of 1975: This Act, last amended in November 1990 (49 USC 1801-1819), governs the transportation of hazardous materials. The Act provides for the protection of the environment against the risks to life and property inherent in the transportation of hazardous materials (49 USC 1810).

The National Fire Code, Flammable, and Combustible Liquids Code NFPA 30: Flammable and combustible liquids are regulated by the state fire marshal.

9.3 Hazardous Materials Management Protocol Observations and Data Collection Findings

The AC Section of the Gulfport Laboratory is a full service analytical chemistry laboratory that primarily focuses on the extraction and analysis of pesticide residues from various types of environmental media. Nearly all of the chemicals used by the Section are present in a liquid form. The largest class of chemicals used in the labs is common, readily available chlorinated and non-chlorinated solvents. These solvents include: acetone, hexane, methanol, acetonitrile, and methylene chloride. All chemical products are presently obtained from chemical manufacturers and vendors in relatively limited quantities. In the past, tremendous quantities (thousands of gallons) of solvents were stored and used by the Laboratory in support of mission activities. In recent years, however, decreasing annual workloads (analytical throughput) have resulted in a reduction in chemical needs for both immediate use or inventory purposes. Additionally, a conscience effort has been made by the Section Chief to minimize chemical stock in storage in favor of “just in time” deliveries. Improved analytical methods have also contributed to reduced usage, furthering the Laboratory’s goals for continued waste minimization (and product usage) improvements.

During Entech’s inspection of the facility, the AC Section’s chemical stores were observed in Buildings 2, 5, and 10. Buildings 2 and 5 are active AC laboratory areas and are secured from unauthorized entry by electronic, key card access devices. Chemicals present in these areas are either stored in chemical cabinets for near-term use or, if in active use, are held in one of several chemical fume hoods found in each lab. Examples of these chemical storage units are provided in the Photo Log of this Report. While touring these facilities, chemical hygiene practices were noted to be excellent and no evidence of past

spills (e.g., damaged metallic surface, scarred/discolored flooring) were noted. Accidental releases, should they occur, would be adequately contained in cabinets or fume hoods or, if released to the floor, could be readily recovered. No floor drains that could serve as a release route to the environment were noted in either laboratory.

Longer-term product chemical storage is present in Building 10, which also serves as the facility's hazardous waste storage unit. The inspection of this structure is discussed in further detail in Section 5 (RCRA Hazardous Waste Protocol) of this Report. Chemical product stocks were minimal at the time the SV was conducted and were reportedly going to be further reduced in favor of the "just in time" delivery practice previously mentioned. This reduction in stockpiled product materials also supports the facility's goals of shrinking its "chemical footprint" and minimizing the potential for a catastrophic release or emergency event.

Chemical products present and under the control of the AC Section at the time of the SV are documented in a current Chemical Inventory List that was provided to Entech's assessment representative. As previously mentioned, most of the chemicals present in the labs are found in liquid form, and most, by volume, are restricted to the small number of solvents previously cited. A cursory review of the inventory shows that approximately 160 gallons of solvents and other liquid chemicals were present either in the labs or in storage in Building 10 during Entech's visits. Non-liquid chemicals were limited, and totaled approximately 100 pounds. Most of this non-liquid chemical inventory is comprised of sodium chloride, per the inventory listing.

Gaseous chemicals are also used in support of the AC Section's mission requirements. These materials are primarily located in an enclosure on the west side of Building 2. Several cylinder banks of oxygen and hydrogen were observed in this location, as shown in the Photo Log. A large tank of nitrogen was also present in this area. These gases primarily support the use/function of analytical equipment present in Building 2.

Guidance and training for handling chemicals is provided in a written Chemical Hygiene Plan, Hazard Communication Plan, and Waste Consolidation, Storage, and Disposal Procedure. Each of these documents is reviewed and/or updated on an annual basis by Mr. Robert Smith, Assistant Laboratory Director and Chief of the AC Section. Additional chemical reference/guidance is provided in binders filled with up-to-date Material Safety Data Sheets (MSDSs) that are received with each new shipment of chemical products.

Personnel training on each Plan/Procedure is organized and presented by Mr. Smith. Training on the content of each document typically occurs shortly after each document's scheduled annual

review/revision effective date. The date the training is given is also memorialized on the cover page of each Plan/Procedure and is committed to an internal training register for future reference/referral purposes.

Conclusions and Recommendations

The overall management of chemical products (and wastes) at the Gulfport Laboratory is exceptional. Waste and product chemicals are well marked and segregated. Chemical storage cabinets and function fume hoods are readily available for managing product chemicals either in use or in near-term use storage. None of the poor management practices cited in the 2002 Audit findings (e.g., caches of chemicals tucked away under sinks or in infrequently used buildings) was noted during this assessment. The Laboratory's Chemical Inventory was up to date and efforts to minimize overstocking of chemical products were seen to be effective. On-going efforts to improve analytical techniques to minimized chemical usage (and waste production) was also explained to Entech's representative. Training and written procedures for managing all aspects of chemical handling also appeared to be exceptional and records showing that re-fresher reviews of appropriate Plans/Procedures were examined. Positive Findings for the overall chemical management program (product and waste materials) at the facility as well as the training of personnel and the provisions for written, frequently updated Plans/Procedures are awarded in this Protocol. No negative Findings were noted during the examination of this Protocol.

10. EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW (EPCRA)

10.1 Intent of Protocol

The Emergency Planning and Community Right-to-Know Act (EPCRA) Protocol (Protocol) was passed under the Superfund Amendments and Reauthorization Act (SARA) in 1986. EPCRA responded to public concerns regarding environmental and safety hazards posed by the storage and handling of toxic chemicals. These concerns were triggered by the incident in Bhopal, India in which more than 2,000 people suffered death or serious injury from the accidental release of methyl isocyanate. The primary goals of EPCRA are:

- To increase public knowledge of and access to information on the presence of toxic chemicals in communities, releases of toxic chemicals into the environment, and waste management activities involving toxic chemicals.

- To encourage and support planning for responding to environmental emergencies.

10.2 Key Regulatory Requirements

The following presentation provides a description of the key regulations that form the basis for the evaluation elements of this protocol.

Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986: This Act, also known as SARA Title III, was designed to promote emergency planning and preparedness at both the state and local level. EPCRA provides citizens, local governments, and local response authorities with information regarding the potential hazards in their community and then provides an infrastructure at the state and local level to plan for chemical emergencies. Facilities that store, use, or release certain chemicals, may be subject to various reporting requirements. EPCRA has four major provisions:

- Emergency planning release notification (40 CFR 355.302).
- Emergency release notification (40 CFR 355.304).
- Hazardous chemical inventory reporting (40 CFR 355.311 and 355.312).
- Toxic Release Inventory (TRI) reporting (40 CFR 355.313).

EPCRA requirements apply to all facilities that store extremely hazardous substances (EHSs) above their threshold planning quantity (TPQ) as well as hazardous chemicals, as defined by OSHA, above 10,000 pounds. A list of EHSs and their respective threshold planning quantities (TPQs) can be found in 40 CFR

355.50. No similar, comprehensive list of hazardous chemicals has been promulgated. Essentially all chemical substances that can be identified as products and/or waste materials can/should be considered a hazardous chemical for EPCRA compliance considerations.

Executive Order 13428, Strengthening Federal Environmental, Energy, and Transportation Management : This EO, dated January 24, 2007, requires the heads of Federal agencies to address various energy efficiency, resource conservation, and recycling and waste prevention goals to improve the overall operation of the Federal bureaucracy. Relevant portions of this EO regarding this particular protocol direct agencies to implement practices that reduce or eliminate the quantities of toxic or hazardous chemicals used at facilities under their control. This EO revokes an earlier Order (E.O. 13148) that specifically directed agency heads to develop a written pollution prevention strategy for their organizations. The head of each agency was also instructed to ensure that each of its covered facilities develops a written pollution prevention plan.

Pollution Prevention Act of 1990:
Enacted in 1990, the Pollution Prevention Act requires operators of facilities to file an annual toxic chemical release form under EPCRA Section 313 and to file an annual toxic chemical source reduction and recycling report for the proceeding calendar year (Note- this particular requirement is not applicable to the Gulfport Laboratory).

In addition to the previously mentioned requirements, facilities must submit an annual Energy and Hazardous Chemical Inventory form to the state emergency response commission, the local emergency planning committee, and the fire department that has jurisdiction over the facility. EPCRA also requires annual reporting of all releases of toxic materials (40 CFR 372.65).

Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements On August 3, 1993, the President signed E.O.12856 requiring all Federal agencies to comply with the requirements of EPCRA and pollution prevention requirements. Section 3-301 of the E.O. specifically requires each Federal agency to develop and implement a written pollution prevention strategy to achieve:

- toxic chemical reduction goals,
- acquisition and procurement goals,
- Toxic Release Inventory/Pollution Prevention Act reporting; and
- Emergency Planning and Community Right-to-Know Act reporting.

USDA, in its November 4, 1993 E.O. response memo, directed all of its operational entities to develop and submit draft pollution prevention policies/strategies to meet the President's requirements. To the maximum extent possible, all USDA entities should identify, evaluate, and incorporate pollution

prevention strategies, energy/water conservation, life-cycle cost analysis and total cost accounting concepts and considerations into:

- the design and execution of program, mission, and mission-related activities;
- the design, construction, and maintenance of facilities;
- the acquisition, procurement, and use of equipment, materials, services, and supplies;
- the acquisition, procurement, use, and release to the environment of extremely hazardous substances and toxic chemicals; and
- the disposal or offsite transfer of wastes resulting from procurement and use of toxic chemicals.

In Mississippi, compliance with the requirements of EPCRA is enforced at the EPA regional level; however, emergency response systems are coordinated at the State Level by the State Emergency Response Commissions (SERCs) and at the local level by Local Emergency Planning Committees (LEPCs). Each State in the Region (EPA Region IV) is assigned a Federal Liaison Officer to support enforcement of the Act and its various reporting and technical elements.

10.3 EPCRA Protocol Observations and Data Collection Findings

Entech interviewed Mr. Robert Smith, Deputy Director of the Gulfport Laboratory for the status of EPCRA compliance activities at the site. Mr. Smith is also the manager of the AC Section of the Laboratory. Mr. Smith is intimately familiar with the waste and product chemical inventories that are held within the facility as well as the training requirements for personnel handling chemicals. He also serves, in a voluntary capacity, as the Laboratory's Emergency Coordinator.

Entech reviewed the hazardous chemical inventories for both Sections (AC and SIPS) of the facility. The inventory list for the AC Section, which was updated during the SV, identifies a small number of EHSs among the chemical stocks used by the chemists within this Section. The quantities of these chemicals (e.g., chloroform, carbofuran, chloroacetic acid, and nitric acid) were very small and were orders of magnitude below the TPQ reporting values recognized under EPCRA Section 301. No EHSs were noted among the SIPS inventory of chemicals (primarily commercial pesticides and ant baits). Other non-EHS listed chemical products used by both Sections meet the general definition of EPCRA hazardous chemicals, but these materials, with one exception, are also kept in relatively small quantities and are below EPCRA Sections 311 and 312 Hazardous Chemical Reporting minimum thresholds. One exception to this Hazardous Chemical Reporting observation involves the diesel fuel tank that supplies the facility's two emergency generators.

The emergency generators and fuel tank are considered part of the facility infrastructure and are not technically tied to either of the scientific Sections that comprise the Laboratory. The emergency generator system is discussed in greater detail in Section 7 of this Report; however, the diesel fuel stored

in this system does have EPCRA hazardous materials reporting ramifications (EPA, 2008).

The Laboratory has reportedly never experienced a release of any substance that would warrant notification of the EPCRA-organized LEPC for Harrison County or the Mississippi SERC. The facility does, however, annually invite representative of the City's emergency response community to tour and inspect the grounds of the Laboratory. These tours primarily focus on those areas of the site where chemical products and wastes are stored. This "open house" generally occurs every May and has been organized and led by Mr. Smith for several years. These annual open houses typically draw representatives from the City's police, fire, and emergency medical response departments. All parties are provided with an up-to-date copy of the Laboratory's Chemical Inventory for their information and planning purposes.

One party that has not participated in these past events is the City's Wastewater Treatment Department. Mr. Smith indicated to Entech that he felt it was important for the wastewater personnel to be familiar with conditions at the Laboratory should a large spill or catastrophic event occur. In the case of a large release or fire, chemical wastes and/or products and contaminated fire suppression water/chemical would likely flow to one or more of the storm drains present within the facility. These drains are connected to the City wastewater drainage system and treatment plant(s). It is the Laboratory's position that the City should be aware of potential hazards posed by chemicals at the facility so that precautionary measures might be taken to protect the treatment plant from possible damage should a disaster strike. Mr. Smith continues to extend this invitation to the Wastewater Department in the hope that they will attend a future open house.

The Laboratory does not have a formal, written Pollution Prevention Plant (P3); however, Mr. Smith has made continued strides in minimizing the volume of chemicals used to conduct mission activities as well as in the storage of chemical products held for future use. Improvements in analytical methods have reduced the quantities of chemicals needed to support mission requirements. This, in turn, has resulted in a reduction in the volume of waste/spent materials produced over time. Additionally, reduced sample support "Program" work (the central mission of the AC Section) during the past seven years has resulted in a de-facto waste minimization environment that further supports USDA's overall policy goals to reduce, eliminate, conserve resources on a facility–level scale. Similarly, the overall presence of product chemicals at the Laboratory has been steadily reduced, eliminating the need to stock and manage a large inventory of chemicals. Due to the ready availability of chemical products in the southeast U.S. and the rapid delivery of materials identified for purchase, the Laboratory is increasing turning to a "just in time" delivery system for its chemical needs. Stocks of "warehoused" chemicals observed by Entech during the SV were rather meager. The visual inspection of Building 10, which is used to house waste and product chemicals, was filled with empty shelving that had once been used for product storage. Mr. Smith indicated that he hopes to further reduce the product stocks observed during the SV in a continued

effort to streamline operational activities and eliminate management requirements associated with holding excessive chemical inventories.

Energy/water efficiency and use is a topical area that was difficult to assess at the Gulfport Laboratory. The facility currently has two fully operational "wet chemistry" labs (Buildings 2 and 5) and a Chain of Custody/Sample Receiving facility (Building 4) that relies heavily on electrical power to operate numerous instruments and coolers/freezers. Long term freezer and refrigeration storage units are located adjacent to Building 14. Buildings 1 and 16 (tenant space) are used for administrative purposes and house the approximate 40 personnel (of all affiliations) that occupy the Laboratory. All other structures are either minimally occupied by staff or are currently inactive. No evidence of power saving devices (e.g., motion sensor lighting) was noted. Additionally, a small bank of solar hot water heaters located on the roof of Building 2 were observed during the several site inspections conducted during the course of the SV; however, these units were said to be inoperable (or at least off-line).

Conclusions and Recommendations

The Laboratory appears to be largely in compliance with the regulatory aspects of EPCRA by virtue of their minimal, and ever-decreasing use of chemical substances. No significant quantities of EHS chemicals were identified during the SV nor were hazardous substances, save one, found to be present in quantities that trigger EPCRA reporting. Waste minimization issues were also discussed and reported upon in the prior audit of the Laboratory that was conducted by APHIS Headquarters (APHIS, 2002). The Laboratory's continued interest and improvements in this area of mission operations suggest the goals of improved chemical management, source reduction, and waste minimization are taken seriously by staff and are not occasional initiatives. Efforts in this protocol area are awarded a Positive Finding for purposes of this Report.

As noted above, only one substance was identified on-site that requires attention under EPCRA. The diesel fuel present in the emergency generators main storage tank exceed the threshold quantity limits specified for hazardous chemicals under Section 312 of EPCRA. The tank in question has a capacity of 2,000 gallons and is presumably filled to capacity from time to time. Given that diesel fuel weighs slightly more that 7 pound/gallon, the total weight in pounds of the full tank would significantly exceed the Section 312 threshold limit of 10,000 pounds. As such, reporting under Section 312 requires that Tier I and Tier II forms be submitted to the SERC, LEPC, and local fire department by March 1st of each year. The reporting period is for the year preceding the March submission deadline. Additionally, filing of an EPCRA Section 313 "Form R" for substances used in excess of threshold limits may also be required depending on annual fuel consumption. This Form must be filed on or before July 1 and reflect usage of the previous year (reporting cycle).

In light of the interest and concern shown by the facility with regard to the management of all chemical substances on the facility, the past failure to report under Section 312 (and possibly Section 313) is considered an oversight and not a willful or negligent act. Furthermore, efforts to keep all emergency responders informed of hazardous materials located on-site during the Laboratory's annual open house inspection events is further proof that there has been no intentional effort to hide the large quantity of fuel that is stored on the premises. In light of these factors, this deficiency is judged to be a Class II Finding that could lead to a NOV for administrative reporting practices should an EPCRA inspector investigate the site. It is recommended that the facility contact the LEPC and SERC to indicate they have failed in the past to identify its diesel reserves and to submit, at their earliest convenience, the required Tier I and Tier II forms required by EPCRA.

The voluntary "open house" invitations extended to the emergency response community by Mr. Smith is also recognized in this assessment report as a Positive Finding. This action is viewed as a good stewardship initiative on behalf of the facility and should be recognized by CPHST and the larger APHIS Headquarters community.

Energy/power conservation measures are identified as a qualified Class III Finding in this Report. Conservation measures could be implemented in some areas of the facility to address the policies and goals of resource conservation set forth in various E.O.s and Department directives. However, significant improvements in core mission areas (labs) may not be possible. Entech recommends that motion detecting light sensors in administrative areas (e.g., individual offices, conference rooms) be considered, at a minimum, as a low-cost/low impact means of addressing resource conservation goals. Additionally, a further assessment of the existing solar hot water heating system should be undertaken to determine whether this unit is still viable and could help meet energy conservation goals. Other solar projects, given the geographic latitude of the Laboratory and the flat roofs present on operational structures, might also make investments in these types of energy conservation technologies viable and cost effective options.

11. CULTURAL AND HISTORIC RESOURCE MANAGEMENT

11.1 Intent of Protocol

The Cultural and Historic Resources Management Protocol (Protocol) applies to any facility with cultural and historic resources. This Protocol is designed to identify any known archeological and paleontological sites, objects of historical or scientific interest, architecturally significant building and/or associated engineered structures, and other man-made of natural physical features that are important to the community and of notable public interest. The ultimate aim of this line of inquiry is to safeguard these types of assets from intentional or unintentional damage until such time that a formal evaluation of their significance can be fairly assessed. Numerous Public Law protecting historical features on land and in the sea, Native American sites, and cultural and environmental preservation considerations have been enacted during the past several decades. Some of the more prominent Laws that might be applicable to this assessment process are summarized below.

11.2 Key Regulatory Requirements

The following regulations provide a basis for the requirements listed in this protocol.

Antiquities Act of 1906:
Within this Act, 16 USC 431-433, the President of the United States is authorized to declare historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Federal government, to be national monuments.

Historic Sites Act of 1935:
This Act, PL 74-292 (16 USC 470-470w-6), authorizes the designation of natural historic sites and landmarks, authorizes interagency efforts to preserve historic resources, and establishes a fine for violations of the Act.

National Historic Preservation Act (NHPA) of 1966:
This Act, 16 USC 470-470w-6, last amended in August 1989, addresses the issue of preserving our national history. The policy of the Federal government is to:

- Foster conditions under which our modern society and our prehistoric and historic resources can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations.
- Provide leadership in the preservation of the prehistoric and historic resource of the United States.

Executive Order 11593, Protection and Enhancement of the Cultural Environment:
This EO, dated May 13, 1971, directs Federal agencies to: provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the nation; ensure the preservation of historic resources; locate, inventory, and nominate to the national registry all properties under their control that meet the criteria for nomination; and ensure that historic resources are not inadvertently damaged, destroyed, or transferred before the completion of inventories and evaluation for the National Register.

Archaeological and Historic Preservation Act of 1974:
This Act, PL 93-291 (amends PL 86-523) (16 USC 469-469c), directs Federal agencies to notify the Secretary of the Interior if a Federal construction project may cause irreparable loss or destruction of significant, prehistoric, historical, or archaeological data.

Archaeological Resources Protection Act (ARPA) of 1979:
This Act, 16 USC 470aa-470mm, last amended October 1988, secures the protection of archaeological resources and sites which are on public lands and Indian lands, and fosters increased cooperation and exchange of information between government authorities.

In addition to the regulations mentioned, the following also have importance to this protocol:

- The National Environmental Policy Act (NEPA).
- American Indian Religious Freedom Act of 1978.
- Native American Graves Protection and Repatriation Act (NAGPRA) of October 1990.
- Religious Freedom Restoration Act of 1993.

The Historic Preservation Division of the Mississippi Department of Archives and History (HPD of MDAH) is responsible for the development and implementation of a Statewide Preservation Plan under requirements by the National Park Services. The Plan addresses the preservation of Mississippi's historic and cultural resources, including architectural, historic and prehistoric properties. The Plan identifies the trends affecting and impacting historic and cultural resources so that informed decisions can be made about the management and care of these properties. Unfortunately, Mississippi does not have a statewide, coordinated governmental planning program to hold state agencies and local governments accountable for implementation of this Plan. However, the development of private-public partnerships among these groups to meet the preservation goals of the state of Mississippi will result in implementation of the Plan.

11.3 Cultural/Historic Resources Management Protocol Observations and Data Collection Findings

No known cultural or historic structures, features, or archeological sites are present within the approximately 5-acre footprint of the Gulfport Laboratory. The Federal Government has owned the property since 1962 when it was purchased from a New York-based pharmaceutical firm (Sterling Drug Company) with a local presence in the area. The site was subsequently used for administrative and scientific research purposes. The prior use of the property could not be ascertained from site personnel or written documentation available for review during the SV.

The description of the post-1962 use of the site provided in the 2005 CERCL PA/SI indicates that many structural (building) changes have occurred within the Laboratory over time (TetraTech NUS, 2005). A number of buildings have been removed from the site in the past 5 years and two more (Buildings 8 and 3) have been identified for future removal. None of the extant structures on-site appear to be more than 30 to 40 years old and none would appear to warrant preservation based on architectural design or aesthetic appearance.

Conclusions and Recommendations

No positive or negative Findings are assigned to the Laboratory with regard to this Protocol. Although a baseline historical/cultural identification survey could be conducted at this site to ensure that important Protocol resources haven't been overlooked, such an action is not recommended given the size, use, and known improvements made to the property.

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12. STORAGE TANK MANAGEMENT

12.1 Intent of Protocol

The Storage Tank Management Protocol (Protocol) applies to facilities with underground storage tanks (USTs) and aboveground storage tanks (ASTs). This protocol focuses on the management of USTs, ASTs, and associated pipelines that are used for the storage and conveyance of hazardous materials, petroleum products, or hazardous waste. This protocol addresses the following:

- Secondary containment and tank integrity requirements for ASTs.
- Tank construction and emission control requirements.
- Construction standards, leak detection, spill prevention, and release response for USTs.
- Tanker truck loading/unloading area, structural standards, and operational practices.

The storage tank management protocol ensures that facilities follow proper construction, installation, and operational standards of storage tanks. In addition to this, this protocol includes requirements pertaining to emissions, leak detection, spill prevention, and corrective action requirements.

12.2 Key Regulatory Requirements

The following regulations provide a basis for the requirements listed in this protocol.

The Resource Conservation and Recovery Act (RCRA) Subtitles I and C:
RCRA Subtitle I regulates underground storage tanks that contain petroleum or hazardous substances as defined by CERCLA (but not hazardous wastes regulated by Subtitle C of RCRA). The major objective of Subtitle I is to prevent and clean up releases from tanks. Under Subtitle I, EPA is required to issue standards for new tanks, upgrading requirements for existing tanks, and regulations to prevent, detect, and clean up releases at all UST sites.

RCRA Subtitle C establishes regulations for the generation, transportation, treatment, storage, and disposal of hazardous waste. Specifically, RCRA prohibits the placement of bulk containerized liquid hazardous waste or free liquids containing hazardous waste, into a landfill.

The Clean Air Act Amendments (CAAA) of 1990:
This Act is currently the comprehensive Federal legislation that regulates the prevention and control of air pollution.

Clean Water Act of 1977:

The Clean Water Act of 1977 established a program to regulate certain non-transportation related aboveground and belowground oil storage tanks that have the potential to release oil into or upon navigable waters of the United States or adjoining shorelines.

Federal Facilities Compliance Act (FFCA) of 1992:

This Act provides for a waiver of sovereign immunity with respect to Federal, State, and local procedural and substantive requirements relating to RCRA.

The Occupational Safety and Health Act (OSHA):

This Act, last amended in November 1990 (29 USC 651-678), is a Federal statute that governs issues related to occupational safety and health. The purpose and policy of this Act is to assure safe and healthful working conditions by providing occupational safety and health standards, an effective enforcement program, and appropriate reporting procedures with respect to occupational safety and health (29 USC 651 (b)(9)(10)(121)).

Executive Order 12088, Federal Compliance with Pollution Standards:

This EO, dated October 12, 1978, requires federal owned or operated facilities to comply with applicable Federal, State, and local pollution control standards. This EO requires that each agency ensure that sufficient funds for environmental compliance are included in the agency budget.

In Mississippi, applicable tank requirements are overseen by the State's Underground Storage Tank (UST) Program. Specific regulatory requirements appear to be identical to the Federal EPA regulations (40 CFR, Part 280) and are covered in three, separate sets of regulations identified as UST-1, UST-2, and UST-3. The regulations in UST-2 (Technical Standards And Corrective Action Requirements For Owners And Operators Of Underground Storage Tanks) would be most applicable regulatory reference to be consulted if UST were found to be present within a Federal Facility. Above ground tanks are not regulated by the State, but are instead regulated under the authority of EPA and/or Federal Spill Prevention, Control, and Countermeasure (SPCC) regulations (MDEQ, 2007).

12.3 Storage Tank Management Protocol Observations and Data Collection Findings

Facility personnel indicate that the Gulfport Laboratory does not currently have and has not historically operated petroleum UST's on its property. This assertion could not be supported by any documentation available for review during the SV. The only non-vehicular storage tanks (e.g., non-compressed gasses) currently found on the premises are a 2,000 AST that is used to supply diesel reserves for the facility's two emergency electrical generators and two "day tanks" mounted on the generators themselves. These

day tanks have a reported capacity between 20 to 40 gallons each. These tanks and the associated generators are discussed in further detail in Section 7 of this Report.

A possible underground tank and "catch basin" were cited in the previous APHIS audit as being potentially located behind (North of) Building 10 (APHIS, 2002). These features were identified for further consideration under the CERCLA PA/SI recommendation made in the Audit report. The subsequent SI investigation of the tank, which was reportedly shown on construction plans of Building 10 as a solvent storage vessel, did not result in the identification of a tank body. The PA/SI report suggested that the tank was never actually installed. As for the "catch basin", the PA/SI report indicates that this subterranean feature had been filled with concrete four years prior to the field portion of the PA/SI (2003) investigation. It was never determined whether the basin was part of the former internal drainage collect system originally installed in Building 10 – this system was plugged with cement in 1999 – or associated with some other unknown function (TetraTech NUS, 2005).

Removal of the hydraulic lift system and contaminated soil formerly associated with Building 7 also occurred during the PA/SI investigation conducted by the consultant. This system was tangentially referenced in the 2002 APHIS Audit report and was grouped with the several sites requiring investigation during the PA/SI. Although no tank system was apparently associated with the lift, hydraulic fluid leak apparently contaminated near surface soils in the area. Soils were not removed in the affected area, but sample results suggest if a remove is conducted in the future, this contaminated soil media would need to be properly disposed because contaminate concentrations exceed State Tier 1 threshold limits.

Conclusions and Recommendations

No Negative Findings are assigned to the Gulfport Laboratory with regard to this Protocol. It is recommended, however, that further research into the possible historical presence of USTs on-site be considered to support the currently held assumption that such vessels were never present at the facility. This search might include a close visual inspection of available historical aerial photography and interviews with retired site personnel who might still live in the general area or might otherwise be reached by telephone or personal visitations. If evidence is uncovered that petroleum fuel pumps were once present on-site, this might suggest that underground tanks were present as part of the fuel delivery system.

As noted above, findings and recommendations regarding the ASTs and generators are presented in protocol Section 7 of this Report.

A Positive Finding is awarded for the completion of CERCLA SI activities associated with the presumed tank and basin features behind Building 10. This investigation appears to have satisfactorily remove any

future suspicion regarding to possible presents of an UST in this area. Additionally, the filling of the catch basin with concrete also eliminates this feature as a potential future “attractant” for improperly discarded materials and as a conduit to underlying groundwater resources.

A second Positive Finding is awarded under this Protocol for the investigation and removal of the old motor pool hydraulic lift in April 2003. This action was appropriate in light of the abandoned status of the system and its potential as a further contamination source. It is presently unclear why a removal of contaminated soils did not proceed at the time the lift was removed; however, it is presumed that the consultant advised APHIS on the matter and indicated a removal was not absolutely necessary.

13. DRINKING WATER MANAGEMENT

13.1 Intent of Protocol

The Drinking Water Management Protocol (Protocol) identifies rules, regulations, and requirements for any facility that has jurisdiction over any public water supply system. A public water supply system is defined as a system for providing piped water to the public for human consumption, has at least 15 service connections, or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. The term public water supply system includes:

- Any collection, treatment, storage, and distribution facilities under control of the operator of such system.
- Any collection or pretreatment storage facilities not under such control that are used primarily in connection with such system.

A public water system is either a community water system or a non-community water system (40 CFR 141.2). Systems that only supply the needs of a institution or facility such as an APHIS site are identified as Non-Transient, Non-Community Water Systems (NTNCWS). Furthermore, facilities that meet all the criteria below are not required to comply with the requirements of the Safe Water Drinking Act (SWDA) since, by definition, they are not public water systems (40 CFR 141.3):

- The system consists only of a distribution and storage facilities and does not have any collection and treatment facilities.
- The system obtains all of its water from a public water system that is owned and operated by another party.
- The system does not sell water to any party.

This section also identifies rules, regulations, and requirements for facilities that have underground injection control (UIC) activities.

13.2 Key Regulatory Requirements

The following regulations provide the basis for the requirements listed in this protocol.

<u>Safe Drinking Water Act (SDWA):</u>
This Act, PL 99-339, last amended in 1996 is the Federal legislation, which regulates the safety of drinking water in the country. The SDWA sets requirements for the level of contaminants in drinking water and standards by which water supply operators must comply to meet these levels. EPA

promulgated contaminant limitations in two phases. The first phase consists of the National Primary Drinking Water Regulations, which are legally enforceable standards that apply to public water systems. The second phase consists of the National Secondary Drinking Water Regulations which are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (i.e. skin or tooth discoloration) or aesthetic effects (i.e. taste, odor, or color) in drinking water. The SDWA mandates regulation of underground drinking wells to protect drinking water sources through the UIC program.

The National Primary Drinking Water Regulations (40 CFR 141) specify the following key compliance requirements:

- Maximum contaminant levels for inorganic chemicals: 40 CFR 141.11
- Maximum contaminant levels for total trihalomethanes: 40 CFR 141.12
- Turbidity, inorganic chemical, organic chemical, and radioactive sampling and analytical requirements: 40 CFR 141.22-.25
- Reporting requirements: 40 CFR 141.31 and 141.75
- Record maintenance and record keeping: 40 CFR 141.33 and 141.75
- Maximum contaminant level goals: 40 CFR 141.50-141.55 and 141.61-141.65
- Analytical and monitoring requirements: 40 CFR 141.74
- Filtration: 40 CFR 141.71 and 141.73
- Coliform sampling: 40 CFR 141.21
- Lead and Copper: 40 CFR 141.80-141.90

Executive Order 12088, Federal Compliance with Pollution Standards:
This EO, dated October 13, 1978, required Federally owned and operated facilities to comply with applicable Federal, State, and local pollution control standards. This EO requires that each agency ensure that sufficient funds for environmental compliance are included in the agency budget.

In Mississippi, the State has received primacy for administering PSW system under the authority of the SDWA and passed its own Mississippi Safe Drinking Water Act in 1997. The Act is administered by the Division of Water Supply, which is an element of the Mississippi State Department of Health.

13.3 Drinking Water Management Protocol Observations and Data Collection Findings

The Gulfport Laboratory does not have an on-site potable water treatment plant. The facility's drinking water is provided by the City of Gulfport. The City, in turn, obtains its source water from the Pascagoula and Graham Ferry Formation Aquifers that lie beneath the coastal plain of Mississippi. Water quality is routinely monitored by the City for contaminants according to Federal and State laws and is reported

annually to residence of the area in an Annual Drinking Water Report. An Internet search of the City's Public Works department website yielded a recent water quality report dated June 2007. In that report, which presents test results for samples collected from three source wells, no exceedance or "violations" of regulatory standards (MCLs) were reported for any of the individual inorganic or disinfect ion by-product contaminant parameters evaluated. The data presented represents water samples collected during the January 1 to December 31, 2006 reporting period. By inference, Gulfport Laboratory's incoming potable water "meets or exceeds all Federal and State Requirements" (Gulfport, 2007).

Questions regarding the quality of the water from water fountains and sinks within the facility were posed to several on-site personnel. No negative reports regarding the color, taste, odor, or other physical attributes of the water were noted. Entech's assessment representative also sampled the water from each of the water fountains in Building 1 and detected/observed no defects in the quality of the water. Site personnel also reported that shortly after Hurricane Katrina hit the coastal area, APHIS's Industrial Hygienist collected water samples from several taps on the facility for quality analyses. A copy of the analytical findings associated with this assessment was not available in the Laboratory's document archive; however, personnel verbally indicated that water quality parameters were found to be good.

Conclusions and Recommendations

No positive or negative Findings are assigned to this Protocol. Site personnel expressed no concerns with the quality of their potable water; however, periodic monitoring, especially for copper and lead that might leach from supply lines or water fountain cooling tanks, should be considered to provide continued confidence in the quality of this resource. Additionally, a copy of the previous water quality testing results generated by APHIS's IH should be obtained and placed with relevant records in the facility's document archive for future reference and referral.

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14. PCB MANAGEMENT

14.1 Intent of Protocol

The Polychlorinated Biphenyl (PCB) Management Protocol (Protocol) addresses the storage, transportation, and disposal of PCBs. This Protocol is used to determine the compliance status of the management activities associated with PCBs and in-service and out-of-service PCB-related items. PCBs are mixtures of organic chemicals that are non-flammable, chemically stable, and have high insulating qualities. These characteristics make them ideal in industrial and commercial applications including paints, plastics, and rubber products. PCBs are considered to be Persistent Bioaccumulative Toxins (PBT), substances that build up in the food chain and accumulate to levels that are harmful to environmental health and carcinogenic to humans. PCBs also can be VOCs; respiratory precautions, as well as dermal protective precautions, should be taken by any individual that may come in contact with PCB-related items. In most instances, PCBs have been removed from commercial products developed since the mid-1970s. Because of their prevalent use in electrical equipment and the long-lived nature of some electrical components, PCBs and/or PCB residues continue to pose a hazard to maintenance personnel and the environment at large.

14.2 Key Regulatory Requirements

The following regulations provide a basis for the requirements presented in this protocol.

The Toxic Substance Control Act (TSCA): TSCA, which was enacted in 1976 and has been amended several times since to address asbestos, radon, and lead-based paint considerations, gives EPA the ability to regulate and control harmful chemicals and toxic substances that are produced or imported into the United States for commercial use. TSCA was enacted to reduce risks from chemicals that pose an environmental or human-health hazard. The Act consists of four subchapters, the first of which regulates the control of toxic substances (such as PCBs). The other subchapters address asbestos hazard emergency responses, indoor radon abatement, and lead abatement reduction. Findings and observations regarding asbestos are discussed in Section 2 while information regarding the prevalance of radon particles is disussed in Section 17. Lead paint issues are briefly mentioned in this Section.

The Federal regulations for PCBs are contained in 40 CFR 761. These regulations cover the following areas:

- PCB Items: 40 CFR 761.30
- PCB marking requirements: 40 CFR 761.40 and 761.45
- PCB Disposal Requirements: 40 CFR 761.60, 761.61, 761.65

- PCB Storage: 40 CFR 761.65
- PCB Spill: 40 CFR 761.120, 761.123, 761.125
- PCB Records: 40 CFR 761.180
- PCB Transportation: 40 CFR 761.125, 761.207, 761.210, 761.218
- PCB Transformers: 40 CFR 761.

14.3 PCB Management Protocol Observations and Data Collection Findings

The Gulfport Laboratory owns two ground-based transformers and three pole-mounted units; they are not the property of the local utility provider. These units are identified as T1 through T3. The numerical reference is presumed to correspond to the buildings to which they are proximally located. Both the T1 and T3 units are ground based (pad mounted) and are situated on the south sides of Buildings 1 and 3, respectively. A visual inspection of the units found them to be in good working order; no evidence of past or present leakage of dielectric fluids was noted. Each of the units was manufactured in 1983 and contained statements on their manufacturing plates (or on other signage) that they contained non-PCB oils at the time of manufacture. The T1 unit contains 1,318 pounds (178 gallons) of dielectric fluid; T3 contains 1,900 pounds (260 gallons) of dielectric fluid. The composition of the dielectric fluid (e.g., mineral oil, silicone) could not be ascertained. The TSCA regulations indicate that owners/operators of such transformers that were manufactured after July 2, 1979 are assumed to be non-PCB items (i.e., < 50 ppm for PCBs) [40 CFR Part 761.2 (a)(2) and (3)].

The three pole-mounted units are located between Buildings 2 and 5. The Facility Maintenance Technician reported that the two larger units have been situated on this pole “as long as anyone remembers”, but a third, identical-sized transformer had been replaced about a decade before due to some unspecified malfunction. No report of spilled or burned oil was recalled in association with this defective unit.

Written records on file at the facility indicate that the pole-mounted unit was removed in June 1996 by a local electrical contractor. A replacement unit (physically smaller) was re-installed on the pole at that time. Oil samples from the defective unit were collected and sent for analytical analysis to determine whether PCBs were present. The resulting data showed that one of the specific PCB congeners (Arochlor 1260) was present in the oil, but at levels less than 50 ppm. The actual concentration of Arochlor 1260 was reported to be 6.73 ppm (Haynes, 1996).

It is presently presumed that the three existing pole-mounted transformers do not contain PCBs in excess of TSCA’s 50 ppm threshold. The two older units are presumed to contain dielectric fluids of the same chemical composition as the “sister” unit that was removed in 1996. Similarly, the replacement unit is

presumed to be of a manufactured age that post-dates the July 2, 1979 regulatory-approved "assumption" of being a non-PCB item [40 CFR, 761.2(a)(2) and (3)]

Close inspection of the pole transformers was not possible. No identifying marks or labels were visible from the ground that might indicate the manufacture date or possible PCB content of any of the units. A strict reading of the regulatory language of 40 CFR 261.2(a)(2) and (3) indicates that unidentified units must be considered PCB-containing items until proven otherwise. The presumptions noted above are based on Entech's engineering judgment, but cannot be "assumed" to be correct in the context of the regulatory language.

In addition to the transformers noted above, the Facility Maintenance Technician indicated that the only other possible PCB-containing items that have historically been identified on-site are older fluorescent light ballasts. When the occasional replacement of these items is necessary – if the unit is found to be defective (e.g., burned out) or is being taken out-of-service - it is inspected for markings that indicate it potential PCB content. If no markings are observed, it is labeled as a possible PCB item and placed in the facility's hazardous waste storage facility (Building 10) in preparation for removal during the next scheduled waste pick-up. No ballasts were found to be in storage in Building 10 during Entech's SV.

A second TSCA substance addressed in this Section is lead paint. No records of lead paint surveys were identified during the SV. Given the age of the structures on-site, it is likely that many have exposed surfaces (or latex paint-covered surfaces) that have lead content. The visual inspection of the several occupied buildings on-site yielded no obviously degraded conditions that might contribute to lead dust inhalation problems.

Conclusions and Recommendations

No PCBs of regulatory significance appear to be present within the confines of the facility, however, deficiencies regarding the management of existing, operational units are presented for consideration.

First, it is recommended that the facility investigate the pole-mounted transformers to determine their age and possible PCB contents. At present, they must be assumed to be PCB containing. No written records are available to determine the nature of these units and none of the three are marked in such a way as to be readily identifiable from a ground-observers point of view. If such an inspection reveals information indicating they do not contain PCBs (or that they were manufactured after the July 2, 1979 "assume" date), then they should be marked with weatherproof labels or other markings to indicate they are PCB-free. Additionally, it might be worthwhile to indicate the date of manufacture as well on the body of the unit. All information obtained from this activity should be committed to a written record for future maintenance and tracking purposes. Similarly, clearly visible markings on the two ground-based units

would also be a Best Management Practice (BMP). As noted above, information regarding the age and PCB content of these transformers were found inside the units, but this information was difficult to pinpoint. Appropriate marking on the outer bodies of these two units would allow ready identification of their status. This marking action would also meet regulatory requirements set forth in 40CFR Part 761.40 which requires that PCB transformers be clearly marked for firefighters responding to a fire or related incident involving any of these units. (Note: If transformers are not classified as PCB containing, they do not technically need to be marked; however, in an emergency situation, readily available information confirming they do not pose a PCB hazard would also be extremely useful).

A second area of management improvement that should be addressed involves record keeping and inspection requirements. TSCA specifies relatively rigorous record keeping and inspection requirements in Subparts J and K of the Act. While these requirements explicitly address PCB-containing equipment and items, it would be a BMP to treat the facility's presumed non-PCB containing electrical equipment in a less rigorous but nevertheless managed and documented manner. To that end, it is recommended that a file be developed that inventories the existing transformers and provides any known information regarding their manufacture, operational history, and maintenance records. Included in that record keeping file would be an inspection record showing that the units are periodically visually inspected for potential leaks or other phyiscal defects. Additionally, with regard to the replaced 1996 pole transformer, information regarding where the oil was removed, treated, and/or ultimately disposed would be useful for documentation completeness. The only documentation produced by site personnel regarding transformers was analytical data associated with the defective 1996 unit. This is important information and that would likely satisfy some potential queries posed by a State or Federal auditor; nevertheless, it is still advisable to have a more robust record to show an auditor that these items are important environmental considerations in the facility's overall environmental management program.

The observations noted above are collectively considered to be Class III or BMP findings. It is currently presumed that all on-site transformers will be determined to be non-PCB equipment once a thorough inspection of the pole-mounted units is conducted. If this presumption is incorrect, and one or more units are determined to contain PCB's in concentrations greater than 50 ppm, a Class I finding would be appropriate. One or more Notices of Violation (NOVs) could be levied by a State or Federal auditor for lack of proper identification and management of PCB equipment, record keeping deficiencies, and inspection failures.

There does not appear to be a clear-cut need to conduct a lead paint analysis at the facility at this time. Housekeeping practices within the facility overall were good and no obvious paint deterioration was identified. Consideration of lead paint issues might be brought to the attention of future demolition contractors when structures like Building 8 and 3 are eventually slated for demolition; however, lead paint has apparently not been considered a disposal issue with regard to past demolition activities at the site.

15. PESTICIDE MANAGEMENT

15.1 Intent of Protocol

The Pesticide Management Protocol (Protocol) applies to any facility that uses, stores, or handles pesticides. Pesticides include insecticides, herbicides, and fungicides. Vector poisons are also addressed in this Protocol. The use, storage, and handling of pesticides are regulated at both Federal and State levels.

This Protocol examines regulatory requirements and general management practices designed to minimize impacts to personnel and the environment due to improper pesticide usage, storage, and handling activities. The key areas of consideration associated with this review involve the effectiveness of the facility's storage and disposal practices as well as the proper certification of pesticide applicators. It must be noted that pesticides by nature are hazardous materials and are subject to hazardous materials management regulations. A further discussion of the Hazardous Materials Management Protocol is provided in Section 9 of this Report.

15.2 Key Regulatory Requirements

The following summary provides general information regarding regulations that support the Pesticide Management Protocol.

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA):
This Act, as amended in December 1991 (7 USC 136-136(y)) pertains to the sale, distribution, transportation, and the use of pesticides. The Act requires the registration of new pesticides, and when pesticides are reregistered, requires that they will not present any unreasonable risks to human health or the environment when used according to label directions. FIFRA regulations and recommended practices included in this protocol are listed below:

- Pesticide registration: 40 CFR 152.15-152.30
- Pesticide application: 40 CFR 171.3-171.9
- Labeling requirement: 40 CFR 156
- Records: 40 CFR 169.1-169.3
- Worker protection: 40 CFR 170

Executive Order 12088, Federal compliance with Pollution Standards:

This EO, dated October 13, 1978, requires Federally owned and operated facilities to comply with applicable Federal, Sate, and local pollution control standards. The EO requires that each agency ensure that sufficient funds for environmental compliance are included in the budget.

In Mississippi, pesticide use and management is regulated by the State's Department of Agriculture and Commerce (MDAC). Mississippi has several Pesticide Program rules that apply to the registration and distribution/sale of pesticides within the confines of the state. Additionally, regulations governing the licensing of different types of pesticide applicators (personnel) are also administered by the MDAC. State regulations that address applicators at the Gulfport Laboratory are presented in Rule 2 of the Mississippi Pesticide Application Act. Under Rule 2, regulations presented under Sections 11 and 12 (Reciprocity and Exemptions) appear to be applicable to site personnel who manage and handle registered pesticides at the Laboratory (MDAC, 2008).

15.3 Pesticide Management Protocol Observations and Data Collection Findings

Entech's assessment representative spoke at length with Ms. Anne-Marie Callcott, the Chief of the Gulfport Laboratory's Soil Inhabiting Pests Section (SIPS), about the use and management of pesticides at the facility. Pesticides are used at the Laboratory to support the primary mission of the SIPS: to investigate and develop management strategies for controlling fire ants. Fire ants are an invasive species from South America that were inadvertently introduced to the U.S. in the early 20th Century. Fire ants have spread throughout much of the southern US; their proliferation historically has been tied to shipments of plant nursery stock grown in affected area and sent to locales that did not previously contain this pest. Nursery stocks are now closely monitored and treated with pesticide to prevent infestations in "virgin" areas of this country.

The SIPS is the only entity on-site that manages and uses pesticides in the performance of mission requirements[1]. All SIPS pesticide products are held in the handful of large, upright cabinets located in the Headhouse portion of Building 11 (Greenhouse). Pesticides present in these cabinets are publically available commercial products; no special or unique pesticides are formulated by on-site research personnel. Furthermore, pesticides are not applied by site personnel to control nuisance pests that may be present on the Laboratory grounds. These types of pest control services are provided by commercial exterminator/vector control firms on an as needed basis.

Entech's conducted a visual inspection of the Headhouse to determine the nature and conditions of available stores and storage facilities. The inspection revealed that that all pesticide containers were in

[1] The AC Section is responsible for processing and analyzing pesticide contaminated environmental media (e.g., soils, plant materials) it receives from off-site sources. This section does not apply pesticide products to conduct its mission requirements.

good condition and no evidence of spillage was present. All containers inspected were clearly marked and hand-dated to indicate when they were acquired and when product materials were first withdrawn. Signs reminding personnel to log in/out all pesticides appeared prominently within the room. Additionally, a pesticide log was also available to document how much product material was taken from storage for use in field investigations. The most commonly used pesticide appeared to be a product identified as Bifenthrin. An eye wash and body shower station were also located in the room to address any emergency situations. A floor drain in the center of the Headhouse was also noted, however, no one available during the inspection of the building knew where this system drained. When asked if there had ever been a product spill in the room, no recollections of such an incident were reported.

Site personnel indicated that waste pesticide is rarely encountered. At the time of the SV, a small quantity of off-spec (dated) pesticide was being prepared for transfer to Building 10 (Hazardous Waste Storage) in preparation for a near-term waste pick-up from the facility. Typically, it is dated materials that are eventually designated as waste. The materials designated for disposal were shown to Entech's representative and were comprised mostly of dry, granular product. Approximately 60 pounds of materials appeared to be present in this disposal lot; these materials were held in a separate cabinet away from the active use product. A list of the items designated for discard was present on an up-to-date inventory of chemicals controlled by the SIPS. A copy of this inventory was provided to Entech.

Empty containers are generated periodically as product containers are emptied. Typically, containers are cleaned and discarded per labeling instructions. No special handling of containers is necessary unless labeling instructions specify non-washing treatment. On occasion, labeling specifies incineration of certain types of containers. In those instances, the container is retained in a marked area within the Headhouse until it can be transferred to Building 10 for disposal with the Laboratory's hazardous wastes. In nearly all instances, however, labeling instructions direct the user to triple rinse containers and discard the vessel in the trash. Clean containers are disposed in the solid waste dumpster that handles all the other general administrative wastes generated by the facility. Diluted rinseates are applied to the surrounding ground (fire ants are also present on the facility grounds).

Activated or "mixed" pesticide solutions are created in the field and are never retained or discarded as a waste stream. All pesticides are applied to test plots at concentrations/ rates specified by labeling instructions and in research work plans. If excess solutions are present at the end of a test, these pesticides are "treated out" to the ground in compliance with labeling instructions. No solutions are disposed in natural or man-made drainage conveyances or sewer systems or returned to the Gulfport Laboratory.

With the exception of “drench” testing - pesticide solutions applied to shrub root balls or potted soils for research purposes - that occurs in or around Building 11, no pesticide test plots or application fields are present within the confines of the Gulfport Laboratory. Test plots are typically several acres in size and can contain several sub-plots that are sprayed with varying concentrations of pesticides. With the exception of the Laboratory’s annex property, the approximately 14-acre John Clark Road site, all test sites used by SIPS are located on remote tracts of land offered for use by private landowners. Airfields and military posts (i.e., Camp Shelby) are the most prized sites for testing as they are typically secured and inaccessible to the public and nearly all site personnel. Application restriction (no-access/no-contact) periods are typically short regardless of site conditions, but controlled sites offer additional protection against unwarranted intrusion and contact with pesticide residues. In those instances where control is less certain, signs are posted to alert individuals to the recent application of pesticides.

At the time the SV was conducted, four site personnel had credentials, or were otherwise authorized, to apply pesticides for research purposes. Testing and certification of pesticide applicator licenses for Laboratory personnel is administered by APHIS’s PPQ Office in Frederick, Maryland. Presently, two personnel are licensed applicators. Two newer personnel were preparing to take PPQ’s pesticide application certification tests shortly after the SV was completed. These personnel are legally able to apply pesticides in lieu of certification as long as they are supervised by licensed individuals.

Personal Protective Equipment (PPE) requirements associated with the pesticides used by the Laboratory are minimal and conform to the labeling instructions presented on pesticide containers as well as applicable Materials Safety Data Sheets (MSDSs). Typical PPE for application tasks include goggles, gloves, and long sleeve and leg clothing. None of the pesticide products applied by site personnel require respiratory protection.

No Notices of Violation (NOVs) or other citations have reportedly been received by the facility regarding its pesticide management and application activities. Similarly, no record of any program reviews or audit findings citing poor performance regarding pesticide handling or operational activities were uncovered in documents review for this assessment.

Poisons, as noted at the onset of this protocol description, are held on the premises by Wildlife Services, an APHIS tenant organization located in Building 16. This small, two-man office reportedly maintains a small supply (approximately one pound) of a poison identified as DCR-1339. This poison is used to kill pigeons and is mixed with whole corn or related feed materials in areas where birds are identified as a health hazard (Alls, 2008). The poison is kept in a locked container in the Supervisors office. The materials was not shown to the Assessor, but its was presumed to be well maintained given its secure location and proximity to the Supervisor. It should be noted that Wildlife Services, as reported by the

Laboratory's management personnel, is not under the administrative control of the Gulfport facility Director and, therefore, operates as an independent management unit.

Several photographs showing pesticide storage, on-site treatment (drench locations), and spray equipment used by the Laboratory are presented in the Photo Log that accompanies this discussion.

Conclusions and Recommendations

Pesticide stores appear to be well managed and accounted for at the Gulfport Laboratory. No evidence of spills or improperly handled product was observed. Signage and logs give technicians and researchers alike ample opportunity to track and maintain stocks in an appropriate, controlled manner. Additionally, no litter, poor housekeeping, or evidence of inappropriate smoking or eating around pesticide stocks was noted.

Only three observations of note were identified during the review of the pesticide protocol element. Two of the three observations are classified as Class III Findings. A Positive Finding has been given to the final observation presented below.

First, it is recommended that the drain in the center of the Headhouse be blocked (with a permanent or possibly a removable plug) to prevent the potential accidental escape of pesticides stored in this room. Although no spills have ever been reported in this location and most of the pesticides present are stored in a dry (granular) state, the presence of an open drain so close to the storage cabinets nevertheless provides a ready route of escape for any materials that fall to the floor. Additionally, since the track and/or end-point of this drain was not known, there can be no assurance that spilled products that might make there way to this drainage feature will not contaminate subsurface soils or underlying groundwater resources. It would be prudent, therefore, to block this drain if it does not provide any useful purpose.

As a Best Management Practice, it is recommended that copies of the Pesticide Application Certificates for each licensed applicator be obtained and placed on file within the Laboratory. Entech's assessment representative was told that copies of licenses were previously distributed by PPQ to the Laboratory's personnel. It was unclear why this practice was stopped, but it is highly recommended that copies of valid certificates be available in personnel files (or related files) for ready accessibility and inspection should State or Federal environmental auditors/regulators conduct an impromptu inspection of the facility.

A prior Class III finding noted in the February 2002 Audit conducted by APHIS Headquarters appears to have been corrected prior to the onset of this Assessment. Recommendations that a professional site survey and a formal land use agreement with the Sheriff's Department be developed for the 14-acre John

Clark Road site have been addressed (APHIS, 2002). A large-scale survey map of the site was provided to Entech for review as was a copy of a Use Agreement (Agreement) between APHIS and the Harrison County Sheriff's Office. The Agreement is valid between August 1, 2005 and July 31, 2010 (APHIS, 2005). Efforts should be made APHIS to ensure the agreement does not lapse and is renewed prior to the 2010 date.

16. GROUNDWATER PROTECTION

16.1 Intent of Protocol

The Groundwater Protection Protocol (Protocol) identifies activities that could adversely impact groundwater quality. This protocol applies to facilities that have solid waste management units (SWMUs) and/or hazardous waste treatment, storage, or disposal facilities (TSDFs), and/or underground injection control (UIC) activities. Facilities that use, store, or handle hazardous materials and petroleum products are also included in this discussion due to potential environmental impacts on groundwater quality that could result if a release occurred. Groundwater well protection regulations are also included in this protocol.

16.2 Key Regulatory Requirements

The following regulations provide the basis for the requirements found in this protocol.

Resource Conservation and Recovery Act (RCRA), Subtitles C and D:
This Act, PL 98-616, 42 USC 6921-2939(b), establishes standards for groundwater protection and monitoring at hazardous waste treatment, storage, and disposal facilities, and solid waste disposal facilities. Under the Underground Storage Tanks (UST) rules of RCRA, Subtitle I, USTs containing petroleum products or hazardous substances must have a release detection program. A major objective of Subtitle I, is to prevent and clean up releases from USTs. Under Subtitle I, EPA has developed performance standards for new tanks, upgrading requirements for existing tanks, and regulations to prevent, detect, and clean up releases. The UST program can include a shallow groundwater-monitoring program. In addition to this, UST regulations require environmental sampling during a UST closure to determine if a release occurred, and if remediation is necessary to protect groundwater resources.

The Safe Drinking Water Act (SDWA):
This Act, PL 99-339, as amended in 1996, is the Federal legislation that regulates the safety of drinking water in the United States. Under the SDWA, EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement the standards. In 1996, the SDWA was amended to establish a new emphasis on preventing contamination through source water protection and enhanced water system management. The amendments increase State flexibility, provide for more efficient investments by water systems, give better information to consumers, and strengthen EPA's scientific work by including the use of risk and cost-benefit considerations in setting drinking water standards. The amendments have four main themes:

- New and stronger approaches to prevent contamination of drinking water.

- Better information to consumers, including “right-to-know.”
- Regulatory improvements, which include risk assessment considerations.
- New funding for states and communities through a Drinking Water State Revolving Fund.

The SDWA also established the underground injection control (UIC) program to ensure that underground injections would not endanger current and future underground sources of groundwater. In addition to the UIC program, the SDWA in 1986 established the Wellhead Protection Program (WHPP). The WHPP is a pollution prevention and management program used to protect underground-based sources of drinking water. Under the SDWA Section 1428, certain program activities, such as delineation, contaminant source inventory, and source management, must be incorporated into State programs, which are approved by EPA before implementation.

Water Pollution Control Act:

The Federal Water Pollution Control Act, commonly known as the Clean Water Act, established various standards pertaining to the release prevention and detection of releases from hazardous materials and petroleum product storage containers. While the CWA primarily is oriented towards the protection of surface water, the regulations also provide standards for groundwater protection.

Groundwater protection requirements are enforced by the Mississippi Department of Environmental Quality (MDEQ) through its Office of Land and Water Resources - Groundwater Investigation & Planning Division. This unit conducts hydrologic investigations and evaluations of groundwater resources that are current or potential sources of water supply throughout the State. Additionally, the Mississippi Department of Health’s (MDOH’s) Water Supply Division is responsible for assuring that drinking water quality is maintained. State regulations that are most applicable to groundwater protection requirements are presented in LW-2, Surface Water and Groundwater Use and Protection and HW-1, Hazardous Waste Management Regulations. The HW-1 regulations are largely referenced regulatory citation taken directly from Federal RCRA Subtitle C standards.

16.3 Groundwater Protection Protocol Observations and Data Collection Findings

The Gulfport Laboratory contains several potential sources of groundwater contaminants; however, no historical records or personnel recollections of release incidents that might have affected soil or groundwater resources were identified during the SV. Additionally, conclusions presented in the CERCLA PA regarding threats to groundwater resources are characterized as follows:

> “No release into the deeper Graham Ferry or Pascagoula aquifers supplying the local drinking water is likely from the USDA APHIS facility. The depth to these aquifers, combined with the multiple confining layers of clay, indicate that contaminants would not

migrate into them. Therefore, a release of hazardous materials at the USDA APHIS facility would not be expected to migrate below the surface aquifer". (TetraTech NUS, 2005).

Although a threat to potable resources is not suggested, the "surface aquifer" could still be placed at risk should a release occur. In an effort to assess that potential threat, several possible sources of contamination have been identified within the facility. Potential sources of present-day contaminants include Building 10, the hazardous waste and hazardous materials storage facility; Buildings 2 and 5, chemistry laboratories; Building 11, Headhouse and Greenhouse; and, the emergency generators/fuel tank area. Past sources of contamination include Building 7, Miscellaneous Storage, which was removed in the past few years. Spills of petroleum products from various vehicles located on-site cannot be ruled out as posing a possible threat to groundwater; however, the capacities of any given vehicular fuel tank or crankcase could only be considered as a minor source. No other land-based product or waste units (e.g., USTs, UICs, landfills, surface impoundments, waste piles, large chemical storage facilities) are presently found, or have historically been located, within the confines of the site.

On-site conditions generally favor the containment of releases to man-made surfaces such as concrete floors, paved roads and parking lots, or purposely-installed secondary containment devices. A brief summary of release vulnerabilities (or engineered modifications to possible release conduits) at each of the specific structures/locations previously cited is presented below.

Building 10

Building 10 serves as the Laboratory's chemical waste and product storage facility. This use is consistent with its original design and construction as a solvent storage facility. The floors in this partially subterranean building are concrete. Curbing associated with the foundation of the structure is also designed to retain the contents of the building. Drains were originally installed in the building, but these were sealed with concrete in 1999. A large dry well or cistern is located outside the building (on the north side of the structure), but this feature was also filled with concrete several years ago. It is unknown whether the building's original drainage system and this well/cistern feature were associated with one another (TetraTech NUS, 2005).

A suspected underground tank was also identified from construction drawing near the northeast corner of Building 10. This tank site was identified in the 2002 audit by APHIS SHEMB and was further investigated during CERCLA PA/SI that was arranged by APHIS. No tank was ultimately found during exploratory excavations (TetraTech NUS, 2005).

The present day release potential of chemical contaminants from this building (or any of its formerly suspected appurtenances) is nil. Reduced levels of storage (chemical products and wastes) in recent years further minimize the release threat potential of this location.

Buildings 2 and 5

These buildings are active AC Section laboratories and contain relatively small amounts of chemical products (primarily solvents). Chemical products in these locations are intended for near-term use and are stored in chemical storage cabinets when not in use. These cabinets have some secondary containment capacity. All floors in these buildings are tiled and sealed to prevent releases to sub flooring or underlying soils. Chemical in use are typically handled inside fume hoods where they are dispensed in quantities necessary for on-going investigations at individual lab stations. Any spillage in these dispensing areas would be contained and readily recoverable.

Waste chemicals (primarily solvents) are also collected and temporarily stored in each building. Buildings 2 and 5 each have Satellite Storage Areas (SSAs) that in turn have independent secondary containment systems. Releases from these waste storage areas are also improbable.

Building 11

This structure and its immediate surroundings have along served as the SIPS' on-site pesticide testing ("drench testing") and storage area. Pesticide products are stored in cabinets located in the Headhouse portion of the building. This structure has concrete floors that appeared to be in good condition. A floor drain is located in this area and could serve as a potential release conduit if deterioration in the associated drain system has occurred over time. This drain was also noted as a potential point of release in the CERCLA PA/SI. No reports of spills or releases within this room were reported during the SV. Recommendations to permanently plug (or temporarily plug during product transfer operations) this drain have been recommended by Entech. Further discussion of this issue is presented in Section 15 of this Report.

Exterior applications of pesticides to plant root balls and potted soil mixtures presently and historically occur/occurred in and around the grounds of Building 11. This activity was further investigated during the CERCLA PA and was determined not to be a threat to deep aquifers. It is unclear whether any potential hazards are posed to the "surface aquifer". All pesticides used in this research are designed for ground applications and are reportedly applied at rates/concentrations consistent with their labels. All pesticides used by SIPS are commercial chemical products.

Emergency Generators

Diesel fuel stored in the generators and the adjacent supply tank are situated on concrete pads that are surrounded by bare soil. Each of the generators has secondary containment as does the adjacent 2,000-gallon diesel supply tank. If a release were to occur, a failure of the existing secondary containment structures would also be required. Assuming a catastrophic breach were to occur – applicable to the supply tank only – some fuel would be absorbed by the soil; however most of the free-flowing fuel would soon spill onto the adjacent paved roadway and parking surfaces and move toward storm drains. All storm drains flow into the City's general stormwater collection system, which, in turn, is reportedly connected to a wastewater treatment plant(s). A larger threat would be posed to the treatment system (and surface water) rather than groundwater resources under this scenario.

Building 7

This building, prior to its removal in the early 2000s, was used for vehicle and equipment maintenance activities. The site was identified in the 2002 APHIS Audit as an area requiring further investigation (APHIS, 2002). Further investigation and site characterization activities at this structure were conducted during the CERCLA PA/SI. Evidence of possible hydraulic fluid releases from a hydraulic lift prompted further investigation of this site. Sampling confirmed petroleum contamination in the soil, which led to the removal of the lift and a partial excavation of soils in the immediate surrounds. Petroleum contamination was still present in soils upon completion of the removal. Contamination was reported to be at levels exceeding restricted MDEQ Tier I concentration values. No requirement to fully remediate this condition was recommended. It is presumed that this petroleum contamination will naturally attenuate with time; however, the presence of this material in the soil could potentially pose a minor threat to the uppermost groundwater aquifer.

The CERCLA PA/SI investigation process ultimately led to the development of six monitoring wells (three in 2004 and three more in 2006) within the grounds of the Laboratory. These wells were placed in the uppermost aquifer to determine what contaminants might be present in groundwater media and to determine the overall flow direction (gradient) of groundwater beneath the site.

Results obtained from these wells have shown low levels of a pesticide identified as dieldrin in a select number of wells over several sampling events. Similarly, various metabolites of lindane, an organochlorine pesticide, were also detected in some sampling rounds. These same pesticide residues were also observed in nearby soil samples (DDT was also identified, but was exclusively found in soils). The latest reports regarding these soil and groundwater investigations suggest that additional sampling is necessary to further characterize pesticides in both media; however, other contaminants (e.g., SVOCs, PCBs, and inorganics) need no longer be evaluated (TetraTech NUS, 2007).

Conclusions and Recommendations

The operation and mission of the Gulfport Laboratory does not appear to pose any significant threat to near-surface groundwater resources. Groundwater monitoring has been initiated under a CERCLA investigation program that is now mature and has provided a detailed assessment of groundwater quality beneath the site. That data indicates that pesticides residues, the only contaminants of concern identified to date, have been detected in a small number of monitoring wells. Pesticide residue concentrations appear very low and are unlikely to migrate significantly beyond the facility's boundaries. Furthermore, the source of this contamination is uncertain. The Laboratory has indicated to the consultant conducting these investigations that it is not responsible for the presence of the contaminants that have been observed. On what basis this determination has been made is unclear; no documentation was provided to support this supposition. Additionally, suggestions that the contaminants may have originated form a site west of the Laboratory known as the "Crab Shack" were proffered during Entech's SV. Once again, this reference to the possible off-site release and its validity as a candidate source area could not be supported or confirmed in documents or other referenced materials.

An overall Positive Finding is awarded to the Laboratory for the Groundwater Protection Protocol. With the exception of the drain in Building 11, all significant release conduits at the Laboratory have been adequately addressed. It is strongly recommended that the Headhouse drain be address (i.e., a permanent or removable plug). Additionally, APHIS and Laboratory representatives have remained engaged with the CERCLA groundwater monitoring program. They have worked in concert with investigators to evaluate site conditions even though they express reservations regarding the likelihood that pesticide residues would actually be present in water samples. Investigations, however, must be concluded at some point. It is Entech's understanding that a determination by APHIS Headquarters to cease monitoring activity may be forthcoming. It is almost certain that continued rounds of sampling will yield data showing low-level pesticide detections; however, it is unlikely this data will provide the information necessary to identify a source or plume of contamination that could potentially be remediated.

17. ENVIRONMENTAL RADIATION PROGRAM

17.1 Intent of Protocol

The Environmental Radiation Program Protocol (Protocol) addresses Federal facilities that use, possess, store, and/or dispose of radioactive materials. The Protocol targets activities associated with research and development laboratories and the management of those materials in accordance with USDA's Nuclear Regulatory Commission licenses and USDA's Radiation Safety Staff's (RSS) site-specific facility permits that it issues to individual research personnel. Naturally occurring radioactive materials (NORM) such as those found in soil and groundwater are not addressed specifically in the protocol checklists but are discussed in the findings section below.

17.2 Key Regulatory Requirements

The following regulations provide the basis for the requirements found in this protocol.

The Atomic Energy Act of 1954, As Amended:
This Act established the NRC and empowered it to regulate the use, possession, storage, and disposal of source material, byproduct material, and special nuclear material. Additionally, under the authority of the Atomic Energy Act of 1954, the NRC promulgated regulations regarding the packaging of radioactive material for transport.

The Low-Level Radioactive Waste Policy Amendments Act of 1985:
This Act requires states to establish their own capacity for the disposal of low-level radioactive waste generated within their borders.

The Radon Program Development Act of 1987:
This Act required studies to be conducted to determine the extent of radon contamination in buildings owned by the Department of the Interior, the Department of Agriculture, the General Services Administration, and the Veterans' Administration.

The Safe Drinking Water Act:
This Act established requirements for the sampling drinking water sources for radioactivity.

In Mississippi, radiation issues are addressed by the Mississippi State Department of Health, Radiological Health Division. No State licensing or reporting is necessary for Federal Facilities if they are covered by a NRC license and the instrumentation is not removed from the premises for use in publically controlled

(non Federal) areas. The master licenses and Use Permits held and issued by USDA RSS satisfy all State reporting requirements (MSDH, 2008).

17.3 Environmental Radiation Program Protocol Observations and Data Collection Findings

Radioactive Materials and Devices

Radioactive materials within the Laboratory are limited to a small number of detection devices that are associated with the AC Section's laboratory instrumentation. No radioisotope tracers, scintillation fluids, or other radioactive elemental solutions are used or stored on the premises to support mission requirements. The devises mentioned above are Electron Capture Detectors (ECDs) that are either mounted within analytical laboratory equipment or are held in storage. These items are also generically identified as "sealed sources". Radioactive elements are located inside shielded, structural housings (sealed sources) that do not permit contact with the source material unless they are purposely opened. Integrity testing of ECDs does not require that they be opened for any purpose. Insertion and removal of the sealed source are occasionally conducted at the Laboratory; however, this action requires nothing more than the manipulation of the housings themselves.

Management responsibility for these ECDs has been assigned to Ms. Lisa Mosser, who is a chemist in the Laboratory's AC Section. Ms. Mosser, by title, is the Laboratory's Radiological Protection Officer (RPO), and has been issued a Use Permit (Permit No. 2679) by USDA-RSS. RSS controls the two radioactive materials licenses that have been issued to USDA by the NRC. Use Permits are issued by RSS to USDA personnel that require access to radiological materials for research initiatives or those who are responsible for radiological materials control. Ms. Mosser's Use Permit, which expires on April 30, 2010, identifies her as a:

> "…a Responsible User of "radiation sources" which may be in the form of unsealed radioactive material, contained or sealed radioactive sources, or X-ray producing equipment, with subsequent approval to acquire and maintain "radiation sources", in locations and for purposes described and agreed upon elsewhere in this permit" (RSS, 2005).

Entech interviewed Ms. Mosser at length to better understand the nature of the ECD devices under her control and the reporting requirements associated with her Use Permit. One program management issue that was quickly identified during this meeting was a difference in the number of devices specifically identified in her Use Permit and those that are actually under her control. This disparity was caused by a senior research associate in the AC Section who acquired, without authorization, two pieces of scientific equipment that contained ECDs. The researcher, who recently retired, obtained the units outside the normal procurement channels and did not report them to the RPO upon their receipt. The devices, which

were never used, were only “uncovered” during a recent demobilization of the researcher’s laboratory space. The disparity in the units managed at the Laboratory was brought to the attention of RSS in July 2007 when the devices were found. No modifications to the Use Permit have been received since that time. At the time the SV was conducted, Ms. Mosser’s Use Permit cited seven detectors as being on the official inventory of sealed sources. The two unauthorized instruments raise this number to nine.

Each of the ECD devices present at the Gulfport Laboratory is a Beta radiation emitter that contains either nickel (Ni^{63}) or tritium (H^3) source materials. At present, five of the sealed sources are tritium detectors. These detectors are stored in a locked cabinet in Building 2. These detectors have been in storage since at least 1990. The remaining 4 ECDs are nickel sources, two of which are located in a gas chromatograph in Building 2 and one each are present in the two unauthorized instruments purchased by the now-retired research chemist. The unauthorized units will also be stored for the time being in Building 2.

Each of the nickel ECDs are integrity tested twice a year (typically January and July) using individually registered wipe test kits that are prepared and provided by RSS. The wipe tests are conducted using a specific procedure outlined in RSS document RSS-28 – Permit Conditions for ECDs. No wipe tests are necessary for tritium detectors. Once the tests are completed, the wipes are returned to RSS for analysis. A report regarding their status is issued once the results are available. Records of all wipe tests conducted on ECDs are kept on file in Ms. Mosser’s office. These records, which need only be retained for 3 years, date back to 1997 when Ms. Mosser identified as the Laboratory’s RPO. Records generated prior to Ms. Mosser’s tenure as RPO are kept in the document archive room in Building 1.

No leaking units have been detected since 1999. Test conducted in February 1999 detected leaks among 7 ECDs that were being held in storage at that time (GL, 1999). These particular units were removed by a RSS contractor and were properly disposed. All lab personnel were informed of the wipe test findings once results were obtained. Prior to this 1999 event, ECDs that were identified for disposal were sent to a radiological burial site in Barnwell, South Carolina. Since that time, ECDs that are no longer serviceable are returned to their manufactures in accordance with stringent packing and shipping specifications provided by those firms. The shipment of ECDs is closely tracked by the RPO and is documented in her active radiation program files. Detector disposal events were reported to have occurred in 1999, 2000, and 2005.

The Laboratory has been subject to periodic audits by RSS in the past ten years. RSS reportedly conducted one audit in 1998 and two in 2000. Findings reports for these audits were placed on file in Ms. Mosser’s office. The most recent audit was conducted shortly after Hurricane Katrina (2005); however no summary or findings report was generated and sent to the Laboratory for review and consideration. As such, no recent assessment of the Laboratory’s radiological program is available for evaluation. Ms.

Mosser did indicate however, that no significant violations of management protocols associated with the facility's sealed sources were verbally identified during any of the on-site audits to which she has been a party.

The process of tracking or registering sealed sources was discussed at length during the assessment. Securing these devices is a general concern to Homeland Security personnel due to their potential for misuse. Ms. Mosser indicated that each ECD is registered with RSS upon delivery to the Gulfport Laboratory. When a new instrument containing an ECD is required, the purchase of the desired unit is postponed until acquisition approval is received by RSS. Instruments containing sealed sources are typically delivered via FedEx (or similar freight services). Upon being opened, they are assigned a registration number for RSS tracking purposes. Typically, the instrument and source(s) are identified in an updated Use Permit, but the timeliness of the permit update system and the circumvention of the acquisition control process (e.g., the unauthorized instruments noted above) can make the Use Permit inaccurate at any given time. As such, a strict interpretation of the conditions outlined in the Use Permit as compared with the conditions on-site would suggest that the facility is in violation of its operating terms. These problems have been brought to the attention of RSS.

Several layers of security insure the safety of all sealed sources within the Gulfport Laboratory. The perimeter of the facility is fenced and guarded by a 24-hour security service. Each of the Analytical Section labs is also secured by electric card access locks to prevent unauthorized entry. Only chemists and technicians working in the lab having these devices have access to this building. Additionally, all ECDs are located inside the housing of the instruments themselves and are not readily retrievable without appropriate knowledge of their position within the instrument and hand tools to remove them. No detectors have ever been reported missing or inappropriately removed from the premises.

Radon

No known radon gas surveys have been conducted at the facility. A search of EPA's website yielded a detailed map of the State showing predicted average indoor radon screening level in each county within Mississippi. Zone 3 screening levels of less than 2 pCi/L were identified for Harrison County, home to the Gulfport Laboratory. This screening level was characterized as being indicative of a low potential for inhalation health hazards posed by this naturally occurring contaminant. The fact that the site is located in a low potential area suggests that a survey has not been considered necessary in the past.

Potable Water Quality

Potable water quality at the Gulfport Laboratory has reportedly been evaluated by APHIS' Industrial Hygienist (IH) in the past. The most recent survey reportedly occurred shortly after Hurricane Katrina in

August 2005. No reports on the findings of these surveys were available for review during the SV. It is unclear whether radioactivity is considered as a possible water quality monitoring parameter by the IH.

Annual Drinking Water Quality Reports issued by the City of Gulfport do not evaluate radioactivity as a monitoring parameter. The City provides all of the water used by the Laboratory for its potable and non-potable needs. The most annual recent report available for review reports to its customers that the City routinely monitors potential contaminants in their drinking water in accordance with Federal and State laws. The report further states "As water travels over land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances." Although radioactive elements could be present in drinking water source waters, it is unlikely they are conveyed to users in the community from the City's treatment facilities.

Conclusions and Recommendations

The overall management of the radiological items controlled by the Gulfport Laboratory appeared orderly and generally well organized. Management (Permit) conditions as outlined in RSS guidelines are closely followed and respected (RSS, 2006). Entech considers this condition to be an overall Positive Finding for the Laboratory and the Radiological Management Program specifically. All records were kept in a central location and were readily retrievable by Ms. Mosser. Additionally, Ms. Mosser was well informed and knowledgeable about all aspects of the RSS surveillance and reporting program and was at the time of the SV, preparing to conduct the semi-annual wipe test of the four nickel ECDs.

Among these positive administration elements, however, were also a very small number of deficiencies. These deficiencies are described in the balance of this Section.

Security controls on all ECDs appeared to be good; however, one of the two unauthorized units had been misplaced at the time of the SV. A search of the AC Section laboratories soon led to the discovery of the "missing" unit in the research space of the chemist who had originally obtained the unit. An erroneous marking on the container holding the unit had caused a technician to place the devise in the wrong laboratory space. This issue was resolved during the SV of the labs and the two unauthorized units were placed in their appropriate storage locations. Although this situation was remedied within a short time of being discovered, it is categorized for purposes of this assessment as a Class I Finding. The misplacement of this instrument, even though unintentional and unlikely to occur again, would likely be viewed as a loss of control of a radiological item by State or Federal auditor and would be noted as a NOV. It is highly recommended that these two instruments be excessed to other USDA or Federal Departments in the near term. Since the Laboratory reportedly anticipates no future use or need of these instruments, releasing them to other bona fide users would remove the current burden they are placing on the facility and the RPO.

Disposal of the five tritium sealed sources stored in a cabinet in Building 2 needs to be resolved and is considered here as a Class III Finding. At present, the units are being stored in a safe and appropriate manner. Ms. Mosser reported that questions regarding the age of the units (and presumably their energetic level) seem to be the root cause of their inability to remove the units for the facility. Since the actual age of the units can apparently never be determined with accuracy by the Laboratory, they could potentially remain in storage for many years to come. In order to move this issue forward, Entech suggests that the following line of inquiry be opened with potential recipients of these ECDs. If permissible, could the 5 tritium sealed sources be considered fully energized and given a "birth date" of 2008 so that they can be process in the near term for disposal or refurbishment? By adopting this worst case scenario (and communicating/documenting it in the official record and for the approved recipient), the items can be removed and managed in a manner that is sufficiently protective and will relieve the Laboratory and the RPO of the administrative burden their retention causes.

Signage and posting warning of the presence of radiological materials is needed to be enhanced to meet worker notification and warning requirements set forth in NRC regulations and Radiation Safety Handbook published by RSS. Both of these reference sources indicate that the following information must be posted in such a manner as to allow individuals to read the information on their way into or out of a restricted area. This information, tailored to the Gulfport Laboratory, includes:

- NRC Form 3 "Notice to Employees"
- Title 10 CFR Parts 19 and 20
- Section 206 of the Atomic Energy Act of 1974, as amended
- The USDA License and license application
- The results of NRC (and RSS) inspections and NOVs as well as USDA responses

During the SV, NRC Form 3 was found to be posted in both Building 2 and in the break room in Building 1. Ms. Mosser's name also appeared on the notices, an apparent reference for anyone wishing to contact the RPO for more information regarding the facility's radiological management program. Although posted, the forms were quite dated. New, updated forms downloaded from the NRC's Internet site were recommended as replacements. None of the other documents noted above were posted; however, because of the volume of material in question, the regulations allow the RPO to reference the documents and provide another, more appropriate location to review the details of this material. Unfortunately, a collection of these materials was not available for review and, as such, must be considered to be a regulatory discrepancy. For purposes of this assessment, the missing documentation requirements are considered a Class II Finding. It is recommended that Ms. Mosser collect the appropriate documentation and place it into a single binder and place it in her active files. Additionally, a supplemental posting place adjacent to the updated Form 3s can be used to inform personnel of the

requirement to make available these specific documents. The posting should further list the specific documents in question and should invite personnel to review the pertinent information in her office or any other appropriate location within the facility.

A related notification deficiency (considered part of the above mentioned Class II Finding) involves the posting of signage at the entry doors to Building 2. The regulations specify that a warning of the presence of radioactive materials be placed at all entryways to readily identify the presence of such items within the building(s) in question. No identifying signage was in place during the physical inspection of Building 2. This deficiency was corrected shortly after it was identified.

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18. REFERENCES

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EPA, 2008 — Correspondence between Mr. Lawrence Fitcher, U.S. EPA Region IV and Mr. Steve Baker, Entech, Inc. regarding applicability of EPCRA reporting under Sections 311, 312, and 313 to the emergency diesel fuel tank at CPHST-GL, March 25.

Gulfport, 2007 — 2006 Annual Drinking Water Report – City of Gulfport, PWS 240003. 240008. 240033, and 240064, June.

Haynes, 1996 — Cover Letter and Analytical Date for the Pole-mounted Transformer once located on the CPHST-GL grounds, June 6.

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MSDH, 2008 — Telephone contact between Mr. Steve Baker, Entech, Inc. and a Mississippi State Department of Health, Radiation Health Section representative. March 11.

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RSS, 2005 — Memo: Mr. James Terry, Radiation Safety Staff Health Physicist to Ms. Lisa Mosser, Permit Number 2679 - Instructions for Renewed Radioactive Materials Use Permit, April 6.

RSS, 2006 Radiation Safety Staff Permit Conditions for Electron Capture Detectors, March 11.

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Tetra Tech NUS, 2007 Final Data Summary Letter Report – Event I and II, USDA/APHIS facility, Gulfport, Mississippi, January 19.

APPENDIX A

Photo Log

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PHOTO LOG

Photo A-1: A typical storage cabinet in an AC and/or SIPS laboratory. Chemicals stored in labs are intended for near term use.

Photo A-2: Typical solvent storage cabinet in Building 2. Each lab also contained a collection of MSDS documentation for all chemicals found in that particular work space.

PHOTO LOG

Photo A-3: One of two Satellite Accumulation Areas (SAAs) present within the AC Section. The SAAs are used to contain spent solvents and solutions. Different containers are used for different waste streams. In Building 5 (above), only "A" and "C" waste streams are generated.

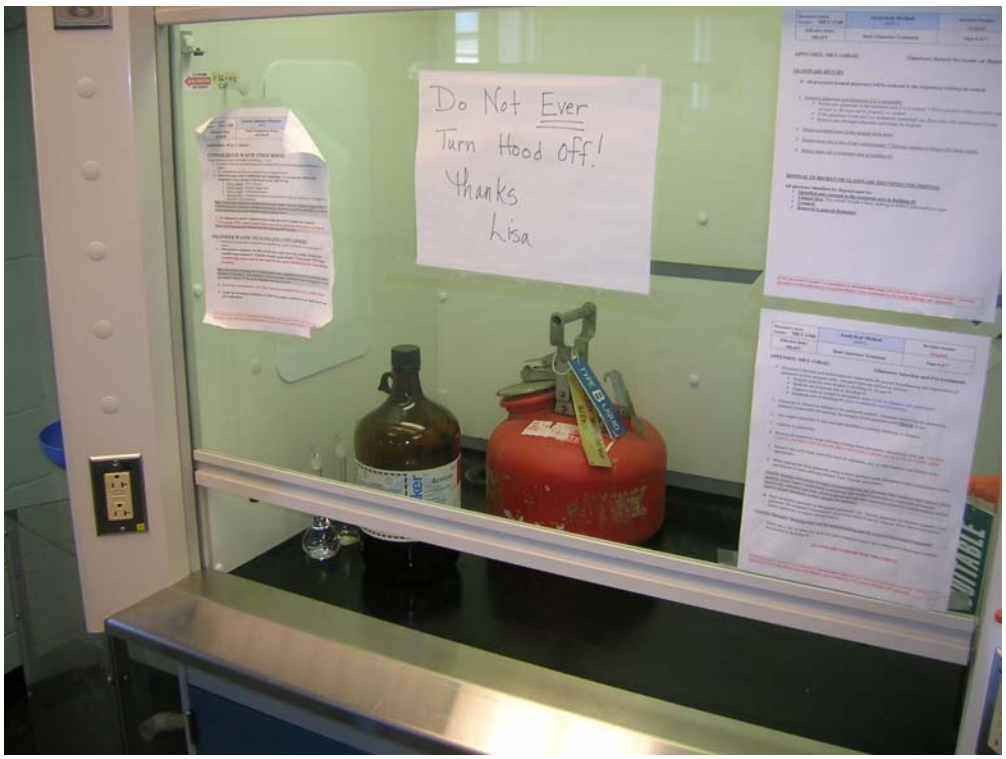

Photo A-4: Example of typical fume hood in the AC Section. Chemicals needed for immediate use are typically held in these locations. The red, capped container was being used to collect spent solvent (in this case "B" wastes) at the time assessment was conducted. This practice was discouraged by Entech as waste storage (>1 day) should not occur in these locations.

PHOTO LOG

Photo A-5: View to northwest of Building 10, the Laboratory's chemical waste and product storage facility. Shortly after the SV was conducted, the western section of the building was to be used exclusively for waste management activities; the eastern half for product chemical storage.

Photo A-6: View of plugged floor drain in Building 10. The building was originally designed with a drainage system. It is suspected that the drains may once have been connected to the catch basin behind (north of) the building.

PHOTO LOG

Photo A-7: Bulk solvent wastes staged in Building 10. These wastes originated from the AC Section SAAs in Buildings 2 and 5. The wastes are staged on secondary containment pallets and are appropriately labeled and dated. Transport and disposal of all accumulated wastes in Building 10 is arranged with a waste removal contractor. The next pick up was tentatively slated to occur in the Spring of 2008.

Photo A-8: Wastes were staged for “lab packing” in the eastern portion of Building 10 at the time of the SV. This material was generated by the clean-out of a retired chemist’s laboratory. Products that could not be used by other chemist were declared waste and taken to Building 10 for subsequent waste disposal preparation and management.

PHOTO LOG

Photo A-9: Chemical products are stored in Building 10 prior to introduction into AC Section labs. Storage continues to dwindle as "just in time" chemical delivery management is increasingiy being used by the facility. Any future long-term storage requirements will be limited and will be located in the eastern portion of Building 10 (materials above were present in western portion of the building during Entech's SV).

Photo A-10: Improperly stored fluorescent lamps (RCRA Universal Wastes) located in the eastern portion of Building 10. This situation was cited as a Class I Finding by Entech. Proper storage containers for the lamps were on order shortly after the Finding was identified.

PHOTO LOG

Photo A-10: View of the north side of Building 10 and its associated catch basin. This basin may have been linked to the floor drains that were formerly present in the building. The basin was filled with concrete several years ago to preclude any future use as potential waste receptacle and/or conduit to ground water.

Photo A-11: View to south of the emergency generator facility (screened fence area). A surface water collection culvert is seen in the foreground.

PHOTO LOG

Photo A-12: View of the two emergency generators (200 and 400 kW units) that draw diesel fuel from the 2,000 gallon aboveground storage tank (AST). Each generator also has it own, small "day tank" for fuel.

Photo A-13: View of the northern end of the 2,000-gallon diesel AST. The tank is double-walled for secondary containment purposes. The spigot at the base of the tank is designed to drain the interstitial space between the tank walls. This space constitutes the tank's secondary containment protection.

PHOTO LOG

Photo A-14: View of the damaged fuel port housing at the top of the diesel AST. Light rust in/around various seams of the tank body were also visually pronounced.

Photo A-15: View of the inspection port on the east side of the storage tank. This port provides limited access to the primary tank body and interstitial space. The primary tank body was severely rusted, but more importantly, the tank's interstitial space was filled with water (presumably precipitation). This condition was cited as a Class I Finding. Similarly, failure to implement the SPCC Plan, which primarily addresses this AST, was also given a Class I citation.

PHOTO LOG

Photo A-16: View of the enclosure on the west side of Building 2 that is used to house compressed gasses. These gasses are used to support instrumentation found in the AC Section laboratory located in this building.

Photo A-17: Example of an analytical instrument in Building 2 that contains radioactive materials. These materials are present in the form of “sealed sources” within the instrument. This particular instrument contains 2 individual sealed sources.

PHOTO LOG

Photo A-18: Radiological storage locker in Building 2. This locker contains the "orphaned" tritium sealed sources discussed in Section 17 of the ECA Report. Disposal of these units should be made a priority by USDA-RSS.

Photo A-19: Storage cabinets in the Headhouse of Building 11. These cabinets are used to store all SIPS pesticides. All pesticides used by SIPS are commercial available products. Storage of these chemicals and tracking of the use appeared very organized and up-to-date.

PHOTO LOG

Photo A-20: Example of the type of signage found in the SIPS Headhouse. This sign reminds personnel to record new pesticides received and note pesticide stocks removed for use in field research operations.

Photo A-21: Example of root balls that are “drench-tested” with pesticide solutions to evaluate effects on resident fire ant populations. Drench testing is the only research pesticide application activity conducted within the 5-acre Laboratory.

PHOTO LOG

Photo A-22: View of a second “drench testing” area on the north side of Building 11. This area was investigated (sampled) during CERCLA PA/SI investigations in the early 2000s and was not found to be a source of chemical (pesticide) contamination.

Photo A-23: Example of the equipment used in off-site pesticide application research testing. All chemicals and equipment are transported to the test sites for use and application. No mixed pesticide solutions are returned to the Laboratory for waste management purposes. Only unused pesticide stocks are returned to Headhouse storage for future research use.

PHOTO LOG

Photo A-24: Example of a typical, flush-mount monitoring well installed within the grounds of the Laboratory. The wells, six in all, were installed as part of the larger CERCLA PA/SI investigations initiated at the Laboratory since 2003.

Photo A-25: Example of one of the two pad-mounted electrical transformers on the property. This transformer (T1) and the second unit (T3) were identified as having been filled with non-PCB oil at the time of manufacture. This information was located on small tags located inside the service port door of each unit.

PHOTO LOG

Photo A-26: View of the three pole-mounted transformers (T2) and fume hood ventilation systems atop Building 2. Markings clearly identifying the transformers as non-PCB containing units were not visible from the ground. Also, the ventilation systems at left reportedly no longer have filters. The appropriateness of non-filtered exhaust systems is unclear.

Photo A-27: Example of no entry markings observed on manway ports located within the grounds of the Laboratory.

PHOTO LOG

Photo A-28: Example of typical storm drain collector on the grounds of the facility. Nearly all precipitation collected from the Laboratory grounds is conveyed to a municipal drainage system connection on the northwest corner of the intersection of Route 49 and 34th Street. Note the proximity of the 2,000-gallon diesel storage tank (background) and the drain.

Photo A-29: Alternative energy systems and energy conservation initiatives have not been incorporated into the operation of the facility. The hot water system seen above has reportedly been inoperable for some time. Further discussion of energy issues is presented in Section 10 of this Report.

Photo A-30: This glass crusher is used to dispose of all Laboratory glassware that has been damaged or otherwise rendered useless. Fluorescent lamps are not discarded via this system. This waste stream is not added to the general waste dumpster that manages all of the facility's administrative trash (paper and food wastes). No organized recycling of any post-consumer materials currently occurs within the Laboratory.