

# Health and Safety Plan

ASARCO – Encycle Facility

Asbestos Abatement, Waste Removal,  
and Demolition

December 17, 2010

Amended April 29, 2011





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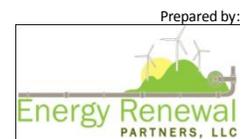
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## Health and Safety Plan

ASARCO – Encycle Facility  
Asbestos Abatement,  
Hazardous Waste Removal,  
and Demolition

Prepared for:  
ASARCO – Encycle Facility  
Asbestos Abatement, Waster  
Removal, and Demolition  
Project  
Corpus Christi, Texas

Project: ENC001



2705 Bee Caves Road, Suite 340  
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Date:  
December 17, 2010

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## 1. Introduction

All work on this project will be carried out in compliance with Energy Renewal Partners, LLC’s (Energy Renewal) Health and Safety Policies and the Occupational Safety and Health Administration’s Hazardous Waste Operations and Emergency Response regulation 29 CFR 1910.120. Specific safety information for the project is contained in this Health and Safety Plan (HASP). All personnel working on hazardous operations or in the area of hazardous operations shall read and be familiar with this HASP before doing any work. All project personnel shall sign the certification page acknowledging that they have read and understand this HASP.

Changes in the scope of the project or introduction of new hazards to the project shall require revision of the HASP and approval by the Project Manager. The HASP Addendum Form is included as Appendix A. Addendums are to be added to every copy of the HASP, and logged in the following table to verify that all copies of the HASP are current:

Addendum Number	Date of Addendum	Reason for Addendum	Person Completing Addendum
1	4-29-11	Incorporate additional metals to chemical hazard table	mhl
2	4-29-11	Incorporate hurricane preparation guidelines.	mhl
3			
4			
5			
6			
7			
8			
9			
10			



## **2. Project Description**

The following sections provide a brief summary of the project history, scope of work, and description of the work area.

### **2.1 Site Background**

The ASARCO - Encycle Facility is located at 5500 Up River Road in Corpus Christi, Texas (Site). The facility is a large hydrometallurgical complex, originally operated by the American Smelting and Refining Company (ASARCO). ASARCO operated the facility as a zinc smelter from 1942 through 1985. Encycle Texas Inc (Encycle) subsequently operated the facility as a metals recycling unit until operations ceased in 2003.

The role of Energy Renewal Partners, LLC (Energy Renewal) at the Site includes acting as the prime contractor for asbestos abatement, waste removal, and demolition activities that are associated with the project scope of work. Energy Renewal, in the capacity as prime contractor will be required to monitor, evaluate, and direct all phases of the work being performed by contractor/subcontractor personnel.

### **2.2 Project Tasks and Scope of Work**

The project scope primarily includes asbestos abatement, waste removal, and demolition. The project scope will be performed by Energy Renewal and select contractors/subcontractors. Energy Renewal, in its capacity as prime contractor will be responsible for conducting the following tasks:

- Quality Assurance/Quality Control (QA/QC) Activities;
- Contractor Oversight;
- Site Monitoring, and;
- Waste Operations Control and Monitoring.



### **2.3 Site Description**

The Site is comprised of 52 above grade buildings, a 315-foot smoke stack, a water tower, approximately 11 metal silos, cooling towers, numerous above ground storage tanks, and additional ancillary piping, conduit, and equipment.

The Site is adjacent to the south side of Nueces Bay which is an important coastal bend estuary within the Corpus Christi Bay system. To the south of the Site is the Dona Park residential neighborhood while industrial refining plants flank the Site to the east and west.

The perimeter of the Site consists of chain-link fence and a security guard will be present 24-hours a day for the project duration. Site ingress and egress will occur at the southwest portion of the property through gates that will be monitored by site security and project personnel.



### 3. Project Hazards

An effective safety and health program includes a variety of processes for recognizing and evaluating hazards in order to plan controls. Hazard identification and evaluation will be an ongoing process throughout the duration of the project.

This section includes a general hazard checklist and specific chemical hazards along with presentation of specific Job Hazard Analysis (JHA) associated with discrete project tasks.

#### 3.1 Project Hazard Checklist

The items below represent general hazards that may be encountered while on Site.

Physical Hazards Present:  <input type="checkbox"/> None	<input checked="" type="checkbox"/> Heat (Seasonal) <input checked="" type="checkbox"/> Cold (Seasonal) <input checked="" type="checkbox"/> Noise <input checked="" type="checkbox"/> Walking/working surfaces (includes slip/trip/fall & floor/wall openings) <input checked="" type="checkbox"/> Visible Dust <input type="checkbox"/> LASER <input type="checkbox"/> Other:	<input checked="" type="checkbox"/> Holes/Pits <input type="checkbox"/> Ionizing radiation <input type="checkbox"/> Non-ionizing radiation <input checked="" type="checkbox"/> Electricity <input checked="" type="checkbox"/> Severe Weather <input checked="" type="checkbox"/> Poor lighting <input checked="" type="checkbox"/> Overhead Hazards <input checked="" type="checkbox"/> Other: Construction Activities
Environmental/Equipment Hazards Present:  <input type="checkbox"/> None	<input checked="" type="checkbox"/> Heavy machinery <input type="checkbox"/> Trenching/excavation <input type="checkbox"/> Docks – marine operations <input type="checkbox"/> Docks – loading <input type="checkbox"/> Diving operations <input type="checkbox"/> Drilling <input checked="" type="checkbox"/> Forklifts <input type="checkbox"/> Water operations work <input checked="" type="checkbox"/> Elevated heights (includes fall protection) <input checked="" type="checkbox"/> Overhead/Underground utilities <input checked="" type="checkbox"/> Confined spaces <input checked="" type="checkbox"/> Power tools	<input checked="" type="checkbox"/> Cranes/Hoists/Rigging <input checked="" type="checkbox"/> Ladders <input checked="" type="checkbox"/> Scaffolding <input checked="" type="checkbox"/> Man lifts <input checked="" type="checkbox"/> Welding <input checked="" type="checkbox"/> Gas cylinders <input type="checkbox"/> Roadway work <input type="checkbox"/> Railroad work <input type="checkbox"/> Energized equipment (LO/TO) <input type="checkbox"/> Pressurized equipment (LO/TO) <input checked="" type="checkbox"/> Drums and containers <input checked="" type="checkbox"/> Other: Chemicals
Biological Hazards Present:  <input type="checkbox"/> None	<input type="checkbox"/> Animal/human fluids or blood <input type="checkbox"/> Animal/human tissue(s) <input checked="" type="checkbox"/> Poisonous/irritating plants <input type="checkbox"/> Other:	<input type="checkbox"/> Contaminated needles <input type="checkbox"/> Live bacterial cultures <input checked="" type="checkbox"/> Insects/rodents/snakes <input type="checkbox"/> Other:
Ergonomic Hazards Present:  <input type="checkbox"/> None	<input checked="" type="checkbox"/> Repetitive motion <input checked="" type="checkbox"/> Awkward position <input checked="" type="checkbox"/> Heavy lifting <input checked="" type="checkbox"/> Frequent lifting <input type="checkbox"/> Other:	<input type="checkbox"/> Limited movement <input checked="" type="checkbox"/> Forceful exertions <input checked="" type="checkbox"/> Vibration <input type="checkbox"/> Other: <input type="checkbox"/> Other:
Personal Safety/Security:  <input type="checkbox"/> None	<input type="checkbox"/> Personal safety <input type="checkbox"/> Security issue <input type="checkbox"/> Project site in isolated area <input type="checkbox"/> Employees working alone <input type="checkbox"/> Other:	<input checked="" type="checkbox"/> Employees working early/late <input type="checkbox"/> Potentially dangerous wildlife <input type="checkbox"/> Guard or stray dogs in area <input type="checkbox"/> No/limited cell phone service <input type="checkbox"/> Other:



Driving Safety <input type="checkbox"/> None	<input checked="" type="checkbox"/> Driving early/late <input type="checkbox"/> Driving long trip <input type="checkbox"/> Driving off-road	<input type="checkbox"/> City driving <input checked="" type="checkbox"/> Pulling trailer <input type="checkbox"/> Other:
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### 3.2 Chemical Hazards

Chemical	Hazards	TLV/PEL * 8-hr TWA	Ionizati on Potentia l	Symptoms of Overexposure	Special Precautions
Gasoline	Flammable, Toxic	300 ppm	Unknown	Eye, skin, mucous membrane irritation; dermatitis; nausea; irregular heartbeat; headache, fatigue, memory loss, blurred vision, dizziness, slurred speech, loss of coordination (staggering gait), confusion, unconsciousness, seizures; death from respiratory failure	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
Arsenic	Toxic	0.01 mg/m <sup>3</sup>	N/A	irritation to skin, possible dermatitis; resp distress; diarrhea; kidney damage; muscle tremor, convulsions; possible gastrointestinal tract, reproductive effects; possible liver damage	Prevent eye and skin contact; respiratory protection
Antimony	Toxic, moderate explosion hazard (dust)	0.5 mg/m <sup>3</sup>	N/A	irritation eyes, skin, nose, throat, mouth; cough; dizziness; headache; nausea, vomiting, diarrhea; stomach cramps; insomnia; anorexia; unable to smell properly	Prevent eye and skin contact; respiratory protection
Cadmium	Toxic	0.005 mg/m <sup>3</sup>	N/A	pulmonary edema, dyspnea (breathing difficulty), cough, chest tightness, substernal (occurring beneath the sternum) pain; headache; chills, muscle aches; nausea, vomiting, diarrhea; anosmia (loss of the	Respiratory protection required, proper decontamination procedures



				sense of smell), emphysema, proteinuria, mild anemia; [potential occupational carcinogen]	
Lead	Toxic	0.05 mg/m3	N/A	Loss of appetite, nausea, vomiting, stomach cramps, constipation, difficulty in sleeping, fatigue, moodiness, headache, joint or muscle aches, anemia, and decreased sexual drive. Acute health poisoning from uncontrolled occupational exposures has resulted in fatalities. Long term (chronic) overexposure to lead may result in severe damage to the blood-forming, nervous, urinary, and reproductive systems	Respiratory protection required, proper decontamination procedures
Manganese	Toxic (long term), combustion	1 mg/m3	N/A	Manganism; asthenia, insomnia, mental confusion; metal fume fever: dry throat, cough, chest tightness, dyspnea (breathing difficulty), rales, flu-like fever; low-back pain; vomiting; malaise (vague feeling of discomfort); lassitude (weakness, exhaustion); kidney damage	Use exhaust or respiratory protection, gloves and goggles
Silver	Toxic	0.01 mg/m3	N/A	Blue-gray eyes, nasal septum, throat, skin; irritation, ulceration skin; gastrointestinal disturbance	Use respiratory protection, gloves and goggles
Zinc (oxide)	Toxic	5	N/A	Metal fume fever: chills, muscle ache,	Use respiratory



		mg/m3		nausea, fever, dry throat, cough; lassitude (weakness, exhaustion); metallic taste; headache; blurred vision; low back pain; vomiting; malaise (vague feeling of discomfort); chest tightness; dyspnea (breathing difficulty), rales, decreased pulmonary function	protection
Asbestos Containing Material	Toxic (long term)	0.1 fibers/cc	N/A	No short term effects. Long term may cause scarring of the lungs and lung surfaces, lung cancer, and mesothelioma	Respiratory protection required, proper decontamination procedures
Silica Dust	Respiratory Hazard	0.05 mg/m3	N/A	Cough, dyspnea (breathing difficulty), wheezing; decreased pulmonary function, progressive resp symptoms (silicosis); irritation eyes; [potential occupational carcinogen]	Ventilation/dust control, Respiratory Protection

\*The TLV (Threshold Limit Value) from the American Conference of Governmental Industrial Hygienists is listed unless the PEL (Permissible Exposure Limit), designated by OSHA, is lower.

### 3.3 Job Hazard Analysis

Personnel that will be working on the Site will be exposed to various hazards depending on the type of task being performed. In order to provide a reference for employees working on different tasks during the course of the project, specific Job Hazard Analysis (JHA) forms have been developed. Each JHA includes the common hazards associated with a specific job along with measures that should be taken to mitigate those hazards. These forms will be reviewed and signed by each employee to be performing these tasks in order to document that they have been made aware of job hazards as well as appropriate precautions.

The JHAs are intended to provide a list of common hazards associated with each task, but cannot feasibly include every hazard that may be encountered. As such, personnel should always maintain awareness of potential unexpected hazards at all times while on Site.



The various JHAs for Site work are summarized below.

- General Site Work
- Confined space
- ACM
- Unsafe buildings
- Site surveys
- Active work areas
- Small hand tools
- Heavy equipment
- Hot Work

In general, each JHA includes administrative and engineering controls for each hazard. Personal protective equipment (PPE) that is required to protect employees from the hazard is indicated. JHAs associated with each type of work will be posted each day in the work area(s).



#### **4. Personnel Communication, Training, and Monitoring**

This section provides information regarding procedures and requirements for communication of hazards and health and safety requirements to all on Site personnel. In addition, select personal monitoring protocols are included.

##### **4.1 Site Information**

The HASP, in its entirety, is located in a separate labeled notebook in the field office. The document is available for review by employees or subcontractors at any time during the normal work shift. Energy Renewal will be responsible for maintaining a copy of the HASP on Site.

###### **4.1.1 Subcontractor Plans**

Subcontractors will be responsible for keeping an individual copy of their respective programs.

##### **4.2 Training**

The items below include Site-specific training required for the project as well as activities to be conducted on a daily basis.

###### **4.2.1 Site Orientation**

Prior to starting work, each employee will attend a health and safety orientation and will receive information and training which shall include, at a minimum, the following:

- Hazardous chemicals at the project site;
- The location and availability of the written HASP;
- Discussion of the HASP information;
- Physical and health effects of on Site hazardous chemicals;
- Methods of preventing or eliminating chemical exposure;
- Emergency procedures to follow if exposed;
- Location of first aid kits and fire extinguishers;
- Site security, and;
- Subcontractor coordination.

The Site orientation will be documented with a tailgate form (Appendix C) and the HASP signature page. In addition, the personnel receiving orientation will also review and sign JSAs specific to the type of work they will be performing while on Site. The Project Manager and/or designated alternate will hold Site orientation meetings and document completion. Subsequent orientations are to be held as new employees or subcontractors come on Site.



#### 4.2.2 Tailgate Meetings

Daily safety meetings (“tailgate meetings”) are to be performed at the beginning of each work day and/or as tasks/hazards change and will be attended by all personnel conducting work on Site. These meetings, performed by the SSO and/or Supervisor, shall include the following:

- A review of the work activities to be performed that day.
- Anticipated work zones and potential hazards. Hazards and/or potential hazards of any new work activities to be performed.
- Review of previous day’s work safety concerns, including areas of improvement, success, or lessons learned.
- A refresher of health and safety information as appropriate.
- Questions and/or concerns of any personnel.

In addition to the listed discussion points, the SSO may included any information that they deem necessary to ensure safe completion of the project. The SSO will record and maintain a log of each tailgate meeting and have all personnel sign the log. A tailgate meeting form is included in Appendix B.

#### 4.2.3 Personnel Training

All personnel working at the site must have the necessary training based on the hazards present. The following training is required for all site workers:

<p>Training Required:</p> <p><input type="checkbox"/> None</p>	<p><input checked="" type="checkbox"/> 40-hour HAZWOPER</p> <p><input type="checkbox"/> 24-hour HAZWOPER</p> <p><input type="checkbox"/> HAZWOPER site supervisor</p> <p><input type="checkbox"/> OSHA 30-hour Construction</p> <p><input type="checkbox"/> OSHA 10-hour Construction</p> <p><input checked="" type="checkbox"/> PPE</p> <p><input type="checkbox"/> Respiratory protection</p> <p><input type="checkbox"/> Chemical hygiene</p> <p><input checked="" type="checkbox"/> Hazard communication</p> <p><input type="checkbox"/> Hazardous waste</p> <p><input type="checkbox"/> First-aid/CPR/Bloodborne pathogens</p> <p><input type="checkbox"/> DOT/IATA hazmat transportation</p> <p><input type="checkbox"/> Diving</p> <p><input type="checkbox"/> Boating safety</p>	<p><input type="checkbox"/> Confined space</p> <p><input type="checkbox"/> Lockout/tagout</p> <p><input type="checkbox"/> Electricity</p> <p><input type="checkbox"/> Fire extinguishers</p> <p><input type="checkbox"/> Fall protection</p> <p><input type="checkbox"/> Noise exposure</p> <p><input type="checkbox"/> Forklifts</p> <p><input checked="" type="checkbox"/> Asbestos</p> <p><input checked="" type="checkbox"/> Lead</p> <p><input checked="" type="checkbox"/> Cadmium</p> <p><input type="checkbox"/> Radiation safety</p> <p><input type="checkbox"/> Client specific –</p> <p><input checked="" type="checkbox"/> Arsenic</p>
<p>Medical Screening</p>	<p><input checked="" type="checkbox"/> Medical Surveillance Exam (HAZWOPER)</p> <p><input type="checkbox"/> Client required drug and/or alcohol Testing</p>	<p><input type="checkbox"/> Blood and/or urine screening for other hazardous substances</p>



Additional training will also be required for personnel performing specific activities. The specific types of training that will be required as related to various activities are listed below:

- Hazardous Waste Site Operations and Emergency Response (HAZWOPER) 40-Hour OSHA Training (29 CFR 1910.120);
- 8-hour annual HAZWOPER refresher training (29 CFR 1910.120);
- Elevated work/fall protection training (29 CFR 1910.25, 1910.7, and 1926.502);
- Energy control /power lockout (29 CFR 1910.147 and 1926.417);
- Machine guarding (29 CFR 1910.212);
- Confined space training (29 CFR 1910.146);
- Powered Industrial Trucks (forklift) (29 CFR 1910.178);
- Hazardous Materials Communications (29 CFR 1910.1200);
- DOT Safe HazMat Transportation Training, HM-126F, and;
- Personal Protective Equipment (29 CFR 1910.132-135).

All 40-hour HAZWOPER trained personnel who are working at HAZWOPER project sites are required to participate in the Energy Renewal medical surveillance program.

#### 4.2.4 Subcontractors

A copy of this HASP is to be provided to all subcontractors prior to the start of work so that the subcontractor is informed of the hazards at the Site. While the Energy Renewal HASP will be the minimum H&S requirements for the work completed by Energy Renewal and its subcontractors, each subcontractor, in coordination with Energy Renewal H&S personnel, is expected to perform its operations in accordance with its own HASP, policies and procedures unique to the subcontractor's work to ensure that hazards associated with the performance of the work activities are properly controlled. Copies of any required safety documentation for a subcontractor's work activities will be provided to Energy Renewal for review prior to the start of on Site activities.

In the event that the subcontractor's procedures/requirements conflict with requirements specified in this HASP, the more stringent guidance will be adopted after discussion and agreement between the subcontractor and Energy Renewal project H&S personnel. Hazards not listed in this HASP, but known to the subcontractor or known to be associated with the subcontractor's services, must be identified and addressed to the Energy Renewal Project Manager and SSO prior to beginning work operations.

Subcontractors are responsible for the H&S of their employees at all times, and have the authority to halt work if unsafe conditions arise.

The Client, Project Manager, and SSO (or authorized representative) has the authority to halt the subcontractor's operations and to remove the subcontractor or subcontractor's employee(s) from the Site for failure to comply with established health and safety procedures or for operating in an



unsafe manner.

#### 4.2.5 Confined Space Entry Permit Procedures

Due to the nature of work to be performed at the Site, confined space entry will be required. Confined spaces are defined as either “Confined Space” or “Permit Required Confined Space” by OSHA as follows:

##### Confined Space:

- Is large enough for an employee to enter fully and perform assigned work;
- Is not designed for continuous occupancy by the employee, and;
- Has a limited or restricted means of entry or exit. These spaces may include underground vaults, tanks, storage bins, pits and diked areas, vessels, silos, and other similar areas.

##### Permit Required Confined Space:

Exhibits one or more of the following characteristics:

- Contains or has the potential to contain a hazardous atmosphere;
- Contains a material with potential to engulf someone who enters the space;
- Has an internal configuration that might cause an entrant to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section, and/or;
- Contains any other recognized serious safety or health hazards.

The procedure for authorization of permit required confined space entry at the Site is provided below:

- Comply with OSHA standards for confined spaces (29 CFR 1910.146). The OSHA document #3138-01R titled “Permit Required Confined Spaces” is included as Appendix D.
- Contractors are required to include a Confined Space Entry Permit in their specific Health and Safety Plan. The permit form should include (at a minimum) the following:
  - Verification that pre-entry preparations outlined in the OSHA standard have been completed;
  - Name of permit space to be entered, authorized entrant(s), eligible attendants, and individuals authorized to be entry supervisors;
  - Test Results;
  - Tester’s initials or signature;
  - Name and signature of supervisor who authorizes entry;
  - Purpose of entry and know space hazards;
  - Measures to be taken to isolate permit spaces and to eliminate or control space hazards;



- Name and telephone numbers of rescue and emergency services and means to be used to contact them;
- Date and authorized duration of entry;
- Acceptable entry conditions;
- Communication procedures and equipment to maintain contact during entry;
- Additional permits, such as for hot work, that have been issued authorizing work in the permit space;
- Special equipment and procedures, including personal protective equipment and alarm system, and;
- Any other information needed to ensure employee safety.
- Completed entry permits must be provided to Energy Renewal for documentation each day following any permit required entry activities.
- Compliance with confined space entry requirements are the primary responsibility of the contractor/subcontractor performing confined space work activities.

### 4.3 Site Monitoring

Various monitoring activities will be performed at the Site based on project specifications as well as supplemental activities aimed at ensuring worker health. These activities are described below along with frequency of performance and documentation methods.

#### 4.3.1 Site Wind Monitoring

Wind monitoring is a key component of work at the Site. Due to the presence of a residential neighborhood **nearby** (South) of the Site, project specifications include limitations on active Site work based on wind speed and direction **as well as particulate, ACM, and metals concentrations in ambient air measured at perimeter of the property**. For this reason, continuous wind monitoring will be required at all times while Site operations (asbestos abatement, **hazardous** waste removal, and demolition) are on going.

#### 4.3.2 Site Air Monitoring

Air monitoring will be an important component of ensuring that particulate matter emanating from the Site is within established **Site specific** limits. Specific monitoring methods are **briefly summarized below**. **Detailed information regarding air monitoring, dust suppression and project action levels can be found in the Wind Monitoring and Dust Suppression Plan, the Asbestos Abatement Project Design, Air Monitoring Program, and Demolition Plan.**

#### Visual Dust Monitoring:

The general work process employed to control dust generation during Site activities will include spraying/misting with water with the goal of maintaining zero visible dust emissions. Personnel conducting these work activities are responsible for monitoring the visible generation of dust. If



visible dust is generated, immediate actions should be taken to reduce the dust through modifications of the spraying activities or modification of the demolition process.

#### Air Monitoring:

Air monitoring will be performed at the Site to assess the air quality emanating from the Site. Ambient monitoring, prior to project initiation will be conducted to assist with characterization of background particulate matter for comparison to levels observed during work activities. The location, type, and frequency of monitoring, and active collection period for Site air monitoring is can be found in the *Air Monitoring Program* letter developed by Arcadis.

If air monitoring levels reach and/or approach the action levels, work should be suspended and the project and task managers contacted to determine necessary modifications of work procedures and/or amended PPE requirements. All monitoring equipment will be maintained and calibrated in accordance with manufacturer recommendations. All pertinent monitoring data will be recorded and logged and maintained on Site for the duration of project activities.

#### Asbestos Abatement Air Monitoring:

Air monitoring that will be performed during asbestos abatement activities has been designed and detailed in the Asbestos Abatement Project Design.

#### 4.3.3 Site Noise Monitoring

Noise created during Site activities will be monitored in order to ensure that noise is maintained as safe and tolerable limits as set forth in the demolition plan. Noise shall not be a nuisance to nearby residents or businesses.

Prior to initiating Site work, background levels of noise will be evaluated to identify typical sound levels generated by traffic, surrounding industrial activities, etc. During active Site work, noise level meters will be maintained on Site and periodic noise monitoring will be performed to ensure that levels remain below limits established in the demolition plan.

### **4.4 Personal Monitoring**

#### 4.4.1 Personal Air Monitoring

Personal monitoring may be conducted as deemed necessary by the SSO or Project Manager. Air monitoring for specific personnel may be initiated based on one or more of the following; specific work activities may required monitoring of the personal breathing zone, or; general verification of fixed air monitoring activities at the Site.



#### **4.5 Compliance**

Failure to follow the rules and procedures prescribed in this document potentially jeopardizes the working environment of all employees. For this reason, Energy Renewal is prepared to enforce disciplinary procedures for those who fail to follow the established policies and procedures for this project.

#### **4.6 Client-Specific Health and Safety Requirements**

This section is reserved for health and safety requirements that may be stipulated by the Client. Provisions in this section will be added pending Client input at any time during the course of the project.



## 5. Industrial Hygiene Program Controls

This section describes the programs in place to control safety and health hazards on Site. Section 4.1 details Site specific controls for non-hazardous zones and Section 5.2 details Site specific controls for hazardous zones.

Hazardous work areas will be encountered during this project although control of hazardous work zones will primarily be managed by contractor personnel performing the work. A description of common hazardous work zone procedures (based on HAZWOPER guidelines) is included to provide a personnel reference to these procedures.

### 5.1 Non-Hazardous Work Zones

<b>Table 2 Standard PPE</b>					
<b>Activity</b>	<b>Head/ Face</b>	<b>Foot</b>	<b>Hands</b>	<b>Respirator</b>	<b>Clothing</b>
General Site labor	Hard hat Safety glasses	Steel toed boots	Leather/Nitrile gloves as needed.	None <sup>1</sup>	Shirt w/sleeves Long pants High visibility vest
Supervision of work	Hard hat Safety glasses	Steel toed boots	Leather/Nitrile gloves as needed	None <sup>1</sup>	Shirt w/sleeves Long pants High visibility vest
Site Visitors	Hard hat Safety glasses	Steel toed boots	None	None <sup>1</sup>	Shirt w/sleeves Long pants High visibility vest
<p>Note: Voluntary use of respirators is authorized for nuisance dusts and exposures known to be below PEL levels. For nuisance dust use disposable N, R or P 95 or better (dispose of N or R types daily and P type weekly). For odors use half mask with OV or OV/P95 or better (change at start of week).</p>					

#### 5.1.1 PPE Rules

All personnel are required to use the personal protection specified for their work. This may include,



but is not limited to cartridge respirator, protective suit, gloves, boots, hardhat, hearing protection, and safety glasses. Supplies of required PPE, excluding steel-toe boots, will be available on Site.

#### 5.1.2 Safety Boots/Shoes

Safety steel-toed boots/shoes that meet the requirements and specifications of ANSI Z41.1 shall be worn while working in field locations. Boots/shoes must be in good repair and laced or fastened. Sandals and tennis-style shoes of any type shall not be worn while working.

#### 5.1.3 Safety / Hard Hats

Approved safety hats that meet requirements and specifications established in ANSI Z89.1 shall be worn at all times in the field or construction zone/yard removal locations. Safety hats are not required to be worn in vehicles (passenger cars or trucks), offices, or in construction equipment with enclosed cabs. Safety hats must be worn in all construction equipment (loaders, bobcats, excavators, dump trucks, backhoes, etc.) that do not have roll over protection

#### 5.1.4 Eye Protection

As a minimum, ANSI-approved safety glasses with side shields will be worn at all times when working on this Site. Proper eye and face protection (Goggles, Face Shields, etc.) must be worn when performing work with a recognized hazard of flying debris such as wire brushing, chipping, grinding, welding, cutting wire rope, working on rust, dirty chains, cables, or handling chemicals. Special goggles must be worn while helping or working within close range of welders and torch cutting. Goggles or transparent full-face shields must always be worn when grinding.

#### 5.1.5 Hearing Protection

Approved earplugs or earmuffs must be worn in areas of high noise levels. High noise level is defined as areas where noise levels exceed, or may exceed, 90 decibels.

#### 5.1.6 Clothing

Tank tops will not be allowed. Pants shall cover the work boot top. Loose or ragged clothing shall not be worn. High visibility vests are for use in work areas within 25 feet of vehicular or equipment traffic. Drivers entering contaminated areas shall be prepared to put on the applicable personal protective clothing worn in that area in the event of an emergency exit.

All personnel are responsible to clean and maintain the protective equipment issued to them. Any noted defects in the equipment shall immediately be reported to the Project Manager or the Site superintendent, as appropriate.

#### 5.1.7 Voluntary use respirators

Voluntary use of disposable paper masks for nuisance dusts does not require a fit test nor does it require medical evaluation. Voluntary use of any other respiratory protection (e.g., disposable, tight-fitting, negative pressure half mask APRs) requires normal fit testing and medical evaluations.



Fit testing will be done in accordance with the OSHA-accepted QLFT and QNFT protocols and procedures are contained in Appendix A of 29 CFR 1910.134.

## 5.2 Hazardous Work Zones

Work Sites designated as Hazardous Waste Sites must restrict access to the work area to only authorized personnel and conform to general work practices expected at hazardous waste Sites, as required by the OSHA Standard for Hazardous Waste Operations, 29 CFR 1910.120. The following concepts will be incorporated into the design and implementation of those zones designated as hazardous.

### 5.2.1 Access Control

Controlled access to hazardous waste work areas is required to protect personnel working on the Site as well as to limit the potential for transporting contaminants off Site. Depending on the size of the work Site, hazards and contaminants present, and complexity of the work, access control may vary. Some general work practices for access control are noted below:

- Set up physical barriers and hire security personnel to prevent non-authorized persons from entering the work Site.
- Keep the number of personnel and equipment on Site to the minimum required to do the project effectively and safely.
- Establish work zones within the Site (see the next section- work zones).
- Establish controlled access points to be used by authorized personnel.
- Track the entry and exit of personnel through a check-in, checkout system.
- Establish a formal decontamination corridor from exclusion zones.

### 5.2.2 Work Zones

Field project managers, working under health and safety plans for hazardous waste operations are required to establish work zones to prevent or reduce the spread of Site contaminants to non-contaminated areas on or off Site. Movement between zones should be restricted to those that need access to a specific area, and entry and exit between zones should be through designated access control points. A description of the three work-zone system for hazardous wastes is provided below.

**Exclusion Zone** – The exclusion zone should include any area where contamination is known or suspected. Areas of air, water, or soil that are contaminated with hazardous materials (biohazards, radioactive materials, chemicals) should be included in the exclusion zone. The zone should be well known to Site workers and defined with caution tape, traffic cones or in some instances, fencing and barriers. The need will be job specific and the method should be identified by the Site SSO. Some work practices that should be followed in the exclusion zone include:

- Employees in the exclusion zone must wear the PPE designated in this Site health and safety plan for tasks executed within the zone.



- No eating, drinking, chewing gum or tobacco, smoking, application of cosmetics, including application of lip balm, sunscreen, or insect repellent is allowed in the exclusion zone.
- If any PPE becomes defective, the employee should leave the work area via the designated egress area, decontaminate as needed, and replace the defective PPE before returning to work in the exclusion zone.
- Prescription drugs should not be used within the exclusion zone unless approved by the SSO. The use of illegal drugs or consumption of alcohol is prohibited.
- When leaving the exclusion zone, employees should exit via the designated access/egress point(s) and follow decontamination procedures as described by the SSO and this HASP.

**Contaminant Reduction Zone (CRZ)** – A CRZ is established to provide a transition between the exclusion zone and the support zone. The CRZ is set up at the access control points of the exclusion zone and will vary in size depending on the complexity of activities that need to occur within the zone. For small Site investigations, the CRZ may simply be a designated area near containers set up to collect used disposable PPE and some soap and water. For larger projects, the CRZ may include specific decontamination points and be staffed by personnel specifically designated to participate in the decontamination of personnel and equipment exiting the exclusion zone. Depending on the Site contaminants, level of contamination, and decontamination procedures, personnel in the CRZ may be required to wear protective clothing, gloves, or respirators. The specific requirements will be outlined by the SSO. The CRZ should be placed in an area that is not contaminated at the boundary of the exclusion zone.

**Support Zone** – The support zone is established near the entrance to the Site and is far enough from the exclusion zone and CRZ that specialized protective clothing or respirators are not used. The use of normal field PPE such as hard hats, safety glasses, and safety work boots is expected except for areas such as office trailers, break and lunch areas, or other areas designated as having no known or anticipated hazards. Operational support activities and equipment storage and maintenance areas are located in the support zone. No equipment or personnel should go from the exclusion zone to the support zone without passing through the CRZ and being decontaminated in accordance with the requirement set forth by the SSO.

**Mobile Work Zone** – For those projects that involve brief periods of work or a small area, a specific area may be designated as the exclusion zone for the duration of the work performed in that area. The exclusion zone can be terminated (provided there are no ongoing hazards or potential exposures to contaminants) and moved to the next area of work.

### 5.2.3 Considerations When Establishing Work Zones

Work zones should be large enough to perform tasks within the zone safely, with no exposure to hazards to personnel outside the zone, but they should also be small enough to be able to secure and control access. Some considerations in establishing work zones include:



- Physical and topographical features of the Site.
- Dimensions of the contaminated area.
- Weather.
- Physical, chemical, and toxicological characteristics of contaminants and chemicals used in the zone.
- Potential for exposure to Site contaminants.
- Known and estimated concentrations of contaminants.
- Air dispersion of contaminants.
- Fire and explosion potential.
- Planned operations and space needed to perform the work safely.
- Surrounding areas.
- Decontamination procedures.
- History of job Site.

#### 5.2.4 General Hazardous Waste Site Work Practices

**Buddy System** -Work should be scheduled so that no person works unobserved within the exclusion zone at any time. Each worker within the exclusion zone should maintain visual contact with at least one other worker on the Site. All Site personnel should remain aware of each other and monitor each other's condition.

Other general work practices include:

- Eating, drinking, chewing gum or tobacco is prohibited within the contaminant reduction and exclusion zones.
- Sitting or kneeling should be avoided in areas of known or suspected areas of contamination.
- Hands and face should be thoroughly washed when leaving the work area.
- Defective PPE should be repaired or replaced immediately.

### 5.3 Site-specific Respiratory Protection

This health and safety plan procedure serves as the site-specific procedure for the use of respirators on this project.

#### 5.3.1 Continuing respirator effectiveness

The site safety officer is responsible for conducting daily site inspections, including special inspections described in the inspections section of this procedure. Daily site inspections shall include surveillance of work place conditions. In particular the following conditions shall be assessed:

1. Potential changes in contaminant concentration;
2. Changes in employee exposure or stress; and,



### 3. Respirator effectiveness.

#### 5.3.2 Training

Employees may be trained in a recent 40-hour or Emergency Response training course (within the last year), or a recent 8-hour refresher-training course, which covers the use of respiratory protection (within the last year).

Respirator wearers may also be trained by certified training using a lesson plan covering the new (1998) revised respiratory protection program standard.

#### 5.3.3 Voluntary use of respirators

The voluntary use of respirators by employees (e.g., for control of odors or nuisance dusts) must be qualified. Voluntary use of respirators is only allowed in areas characterized as not requiring respiratory protection. The Health and Safety officer must approve the specific type of respirator and conditions of use. Voluntary use of respirators must otherwise be in accordance with this procedure.

Employees voluntarily using respirators must be trained in the information provided in Appendix D to Sec. 1910.134 "Information for Employees Using Respirators When Not Required Under the Standard." Voluntary use of disposable nuisance dust masks does not require medical evaluation. Voluntary use of these masks does not require a fit test.

#### 5.3.4 Fit Testing

Before an employee uses any respirator with a negative or positive pressure tight-fitting facepiece, the employee must be fit tested with the same make, model, style, and size of respirator that will be used. Positive pressure (i.e., pressure-demand mode) supplied air respirators (SAR) or self-contained breathing apparatus (SCBA) with tight-fitting facepieces are included in this requirement. Unless noted otherwise, fit test shall be administered using an OSHA-accepted Quantitative (QNFT) protocol.

Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.

Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual facepiece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator facepiece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator facepiece.

Quantitative fit testing of these respirators shall be accomplished by modifying the facepiece to allow sampling inside the facepiece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate facepiece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the facepiece.



Any modifications to the respirator facepiece for fit testing shall be completely removed, and the facepiece restored to NIOSH-approved configuration, before that facepiece can be used in the workplace.

#### 5.3.5 Voluntary use respirators

Voluntary use of disposable paper masks for nuisance dusts does not require a fit test, nor does it require medical evaluation. Voluntary use of any other respiratory protection (e.g., disposable, tight-fitting, negative pressure half mask APRs) requires normal fit testing and medical evaluations. Fit testing will be done in accordance with the OSHA-accepted QLFT and QNFT protocols and procedures are contained in Appendix A of 29 CFR 1910.134.

#### 5.3.6 Fit testing period.

Fit test results are good for a period of one year. If an employee using a tight-fitting facepiece respirator will be assigned a different respirator facepiece (size, style, model or make) the fit testing must be repeated. Fit test results are voided whenever the employee, a supervisor, a safety officer, or program administrator makes visual observations of, changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to:

- Facial scarring;
- Dental changes;
- Cosmetic surgery, and;
- Facial Hair.

#### 5.3.7 Use of Respirators

Employees are not allowed to use respirators with tight-fitting facepieces under following circumstances:

- Facial hair comes between the sealing surface of the facepieces and the face, or;
- Any condition that interferes with the face to facepieces seal or valve function.

If an employee wears corrective glasses, obtain the appropriate spectacle kit and have it fitted with prescription lenses. Employees are required to perform a fit check when donning all tight-fitting respirators.

#### 5.3.8 General Inspection and Repairs

Respirators used in routine situations shall be inspected before each use and during cleaning. Respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use. Emergency escape-only respirators shall be inspected before being carried into the workplace for use. Self-contained breathing apparatus (SCBA) shall be inspected



monthly.

Respirators that fail an inspection or are otherwise found to be defective are removed from service, and are discarded or repaired or adjusted in accordance with these procedures: Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations. Employees shall inspect their respirator carefully and ensure that all filters, cartridges and canisters used are labeled and color-coded with the NIOSH approval label and that the label is not removed and remains legible.

#### 5.3.9 Respirator cartridges changes

Respirator cartridges shall be changed in accordance with manufacturer's recommendations and as prescribed by this HASP or Activity Hazard Analysis (AHA). Cartridges shall also be changed:

- If the wearer detects vapor or gas breakthrough;
- If the wearer detects changes in breathing resistance, or;
- If the wearer detects leakage of the facepiece.

#### 5.3.10 Cleaning and Disinfecting

Whenever respirators are doffed, employees shall wash their faces and respirator face pieces in order to prevent eye or skin irritation. Cleaning shall be accomplished by using soap and water or equivalent cleaning solutions. Respirators issued to more than one employee shall be cleaned and disinfected before being worn by different individuals. Respirators used by a single individual shall be disinfected at least weekly.

#### 5.3.11 Storage

All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals. Emergency respirators shall be:

- Kept accessible to the work area;
- Stored in compartments or in covers that are clearly marked as containing emergency respirators, and;
- Stored in accordance with any applicable manufacturer instructions.

#### 5.3.12 IDLH atmospheres

The project manager must approve use of respirators in IDLH atmospheres. The project manager will approve the entry by reviewing and signing off on a JHA for the entry.

A specific JHA shall be written for each IDLH entry. The JHA will include:

- The type of respirators to be used;
- Area monitoring requirements;
- Escape provisions, and;



- Rescue provisions.

At least one employee will serve as an attendant. Attendants will remain outside the IDLH atmosphere. The attendant shall maintain visual, voice, or signal line communication with the employee(s) in the IDLH atmosphere. Attendants and rescue personnel will be trained in the approved AHA for the entry. Attendants shall not attempt a rescue until provisions have been made for someone else to assume responsibilities as attendant.

#### 5.3.13 Site Inspections

The site health and safety officer is responsible for conducting site inspections on a routine basis as outlined below.

Daily site inspections shall include surveillance of work place conditions. In particular the following conditions shall be assessed:

- Potential changes in contaminant concentration,
- Changes in employee exposure or stress; and
- Respirator effectiveness.



## **6. Incident and Emergency Procedures**

This section documents procedures to be followed in the event of incidents and certain emergencies. Where possible these have been formatted to individual sheets for response training and ready reference when needed.

### **6.1 General Emergency Procedures**

This subsection describes procedures, which are common to a variety of incidents.

#### **6.1.1 Responsibilities**

The Site management including project managers and superintendents are responsible for the overall execution of emergency procedures. This includes maintaining an orderly succession of supervision; making necessary reports to all concerned parties; ensuring that the causes of accidents are identified and corrected; and ensuring that injured personnel (with or without life threatening injuries) are escorted to medical treatment by the SSO or other supervisory personnel.

The SSO has the responsibility for ensuring that the provisions of this HASP are adequate and implemented in the field. Changing field conditions may require decisions to be made concerning adequate protection procedures. The SSO is also responsible for conducting Site inspections on a regular basis to ensure emergency preparedness. The SSO shall be notified of any on Site emergencies and shall be responsible for ensuring that the appropriate procedures are followed.

#### **6.1.2 Evacuation Procedures**

The SSO shall select and maintain appropriate assembly points for evacuations and inform employees of their locations. When an evacuation is called for, employees shall proceed in an orderly fashion to the primary or secondary evacuation assembly points.

Turn off equipment whenever possible. Avoid leaving hazardous conditions in the process of evacuating. Evacuate in the safest direction indicated by wind, smoke, fire, or other hazards. Take a head count and report to the supervisor. Do not leave the assembly area without reporting to the supervisor.

#### **6.1.3 Reporting and Investigating Incidents**

All incidents at the Site shall be reported. In addition, it is essential that all near misses be reported to learn from them and avoid the more serious accidents. An incident is defined as follows:

- A work-related injury or illness or fatality;
- An exposure to a hazardous substance above the allowable exposure limit;
- Property/vehicle/equipment damage;
- An uncontrolled fire or explosion;
- An unplanned spill or release (including air releases) to the environment, and;
- Any unexpected contact or damage to aboveground or belowground utilities.



A “near miss” is an unplanned event that has a reasonable probability in resulting in one of the outcomes described above had the circumstances been different and for which modifications to management programs will reduce the probability of occurrence or the severity of the outcome. While all accidents should be reported using an Accident/Illness Report Form, some accidents may be of such a severity or have the potential to cause severe consequences, that a formal accident investigation is warranted. The need to conduct a formal accident investigation will be determined by Project Director, Project Manager, or SSO. Investigations will be conducted by the appropriate SSO or someone designated by them.

#### 6.1.4 Purpose and Guidelines of Investigations

The purpose of an accident investigation is to objectively determine factors that contributed to or caused the incident in order to identify corrective actions to be taken to prevent re-occurrence. It is not intended to find fault with individuals or companies. Guidelines for conducting investigations are provided below:

- Initiate the investigation as soon as possible. While first priority should be given to ensure injured employees receive proper first aid and medical care, the passage of time delays corrective actions and allows facts to become distorted, forgotten, or lost.
- Where possible, the accident scene should remain undisturbed until the investigation is conducted. Some changes and alterations may need to be done to prevent further injury or damage.
- If possible, take photographs of the scene. Take pictures from multiple angles and the surrounding area.
- Prepare sketches/diagrams.
- Accurately measure distances, weights, and other factors associated with the accident.
- Identify and interview witnesses independently as soon as possible after the accident.
- Interview the injured employee/individual as soon as their condition allows. In many instances, the injured may be the only witness.
- The following information should be considered when interviewing witnesses and collecting observations:
  - Document weather conditions at time of accident
  - Document adjacent distractions
  - Document employee attitudes
  - Document training records
  - Investigate pre-job planning efforts
  - Investigate fatigue



Investigations by non-Energy Renewal personnel (federal, state, city, client, insurance) who are legally empowered to investigate accidents shall be allowed.

#### 6.1.5 Procedures for Reporting Incidents

Ensure the area is safe from any imminent hazards. Report to your immediate supervisor by radio or phone if at all possible. If you must leave the area to make a report, find someone to help secure the area if at all possible. Control imminent hazards as necessary. Ensure that injuries are being taken care of, and assign someone to escort injured employees leaving the Site for medical evaluation/treatment. Once the above steps have been completed following procedure shall be followed:

1. Visit the accident scene as soon as possible;
2. Interview injured workers and witnesses as soon as possible;
3. Report all incidents verbally to the client as soon as the area has been secured;
4. Follow up with a written report before the close of business, and;
5. Follow up with a written investigation report within 48 hours.

#### 6.1.6 Personnel Injury

The PM (or senior supervisor on Site) and/or SSO shall ensure necessary first aid or medical attention is obtained. Qualified first aid providers shall provide first aid. If personnel need medical evaluation, ensure that a safety officer or supervisor is assigned to escort the employee. Do not allow injured personnel to drive themselves unless a doctor determines they are fit to do so.

If the injury/illness resulted from exposure to a hazardous material, the SSO is to be notified immediately so that discussions with the occupational physician can occur to determine if additional biological monitoring should be prescribed. As soon as practical following the initial medical treatment, the injured employee is to be scheduled into the clinic that administers the annual examinations for the injured employee's office. This is necessary to ensure that the employee receives quality medical treatment during any type of recovery period. This does not apply to a subcontractor employee. If the incident involves a subcontractor employee, the subcontractor shall be notified in writing by the SSO of any knowledge Energy Renewal has available regarding the nature and extent of exposure.

#### 6.1.7 Hazard Assessment

The PM (or senior supervisor on Site) and/or SSO shall immediately investigate the nature and cause of injury in order to assess the hazard to ongoing Site work. This should include consideration of working short handed if the injured person cannot resume work right away. It is the senior supervisor's responsibility to stop work if necessary to make corrective changes.

## 6.2 Emergency Equipment

The following equipment will be maintained on Site by project personnel in readily accessible areas.



	Emergency shower	X	First-aid kit
X	Emergency eyewash	X	Cell phone/radio
X	Fire extinguisher	X	Spill kit
	Other:		Other:

All employees working on this project will be shown the location and proper use of all emergency equipment prior to beginning work on the project.

### 6.3 Hospital Location & Directions

Emergency Contact	Phone Numbers
Local Police	911
Local Ambulance	911
Local Fire Department	911
Local Hospital (Bay Area Medical Center ( miles from the site):	5 miles
National Response Center (all spills in reportable quantities)	800.424.8802
Texas General Land Office (releases to water)	800.832.8224
U.S. Coast Guard (spills to water)	800.441.3516
Project Director – Trisha Elizondo	303.434.2686
Project Manager – Robert Resuriz	713.562.6912
Site Safety Officer – Ed Ramirez	562.254.0647

If emergency attention is not needed but professional medical attention is necessary, the employee will be taken to:

Medical Facility: Christus Spohn Hospital  
Address: 2606 Hospital Blvd  
Phone Number: 361-902-4000

A map to the medical facility is included in Appendix C.



## **7. Site Security and Controls**

This section deals with Site access and general project rules, physical security of the project work areas and the controls related to waste management and access to contaminated areas to ensure qualifications of personnel.

### **7.1 Security**

The work areas associated with this project are within the confines of the Site. The Site has an established security plan, which will be followed by all member of this project in order to obtain access to the Site, to the Site work areas, or any other client facilities.

### **7.2 Security Officer**

The SSO is responsible for the security of the project Site. The security responsibilities include:

1. Ensuring that all personnel entering the Site are qualified to go into the areas where they are seeking access;
2. Ensuring that authorized personnel conduct themselves in accordance with the established security and safety requirements;
3. Ensuring that personnel sign in at the beginning of each shift;
4. Establishing and maintaining appropriate exclusion zone boundaries around contaminated areas;
5. Work areas and zones shall be adequately marked and posted along access routes to give warning of restrictions to visitors, and;
6. Ensuring that adequate barriers and warnings are used to prevent Site access by the general public or unqualified personnel.

### **7.3 Public Safety**

The work area shall be suitably delineated (i.e., as appropriate for a construction Site) in order to prevent unauthorized entry. Visitors shall be directed to the project manager's designated representative to seek authorization when appropriate.



#### **7.4 Project Rules**

The project rules have been developed to create a problem-free and rewarding work environment, one in which the employee understand what is expected of them on the project Site. An employee who fails to maintain at all times the proper standards of conduct or who violates any of the following rules and regulations may be subject to disciplinary action, including but not limited to, termination of employment or denial of access.

#### **7.5 Unacceptable Conduct**

Unacceptable employee conduct and/or violation of a project rule or requirement may be reason for disciplinary action up to, and including, suspension without pay, termination of employment, or denial of access to the work area or client facilities. Examples of unacceptable employee conduct and/or rule violations are as follows:

1. Possessing, when not authorized, project, or other person's property or services, or theft of the same;
2. Possessing or using alcoholic beverages, controlled substances, or weapons on any project;
3. Negligence resulting in an infraction of health and safety or project rules or requirements;
4. Smoking, using tobacco, or eating in prohibited areas, and;
5. Not reporting an accident or incident.

#### **7.6 Subcontractors**

Subcontractors shall also adhere to established policies and procedures applicable to this project Site. Subcontractors are responsible for disciplinary actions regarding their own employees and their lower tier subcontractors.

Failure of subcontractor employees to adhere to policies and procedures as described in this document will result in verbal or written warnings to the responsible subcontractor.

Energy Renewal reserves the right to permanently or temporarily remove and bar subcontractor employees from the project Site. Unacceptable conduct or failure to adhere to established policies and procedures willfully or repeatedly may result in such removal from the project Site



## 8. Project Team and Training

### 8.1 Personnel List

The following personnel comprise the primary management team for the project. Each individual along with their role and responsibilities is listed below:

Project Director – Trisha Elizondo (Energy Renewal): Oversees overall project activities and financial management. Acts as liaison with the Trustees as needed. The Project Director ensures that the provisions of the Site-specific HASP are enforced for the duration of the project and the necessary resources and materials are committed to the project.

Project Manager – Robert Resuriz (Energy Renewal): Manages project logistics, coordinates directly with the project waste manager, superintendent, and QA/QC officer on weekly activities and project schedule. Reviews project plans, submittals, and procurement activities. Coordinates with subcontractors and vendors and acts as primary liaison. The Project Manager will also work with the SSO on the following activities:

- Enforcing the provisions of this HASP;
- Preparing for new tasks in advance of field operations;
- Ensuring that a JHA has been completed before any new work commences;
- Briefing crew members before assigning them to the new task;
- Ensuring that employee safety suggestions are fairly and respectfully evaluated, and that employees are informed of the outcome of the evaluations;
- Monitoring the conduct of operations in the field to ensure safe delivery of a quality product for the client;
- Supervising subcontractors in accordance with this plan; and,
- Ensuring that injured personnel (with or without life threatening injuries) are escorted to medical treatment by the safety officer or other supervisory personnel.

Site Safety Officer – Gaylen Gibson (SIS): Serves as the general Site competent person responsible for accident prevention in accordance with 29 CFR 1926.20. The competent person is responsible for, and authorized to act to ensure that personnel are not working under conditions that are unsanitary, hazardous, or dangerous to their health or safety. The competent person's accident prevention responsibilities include:

- Frequent and regular inspections of the jobsite,
- Enforcement of the Site-specific HASP;
- Inspections of materials on Site;
- Review of demolition plans, and;
- Inspection of equipment on Site.



Specialized Demolition Operations Manager – Craig Illuasky (SIS): Responsible for instructing crews associated with specialized operations including stack demolition and salvage operation. The Specialized Demolition Operations Manager monitors demolition progress, completion of daily activities, coordinates and plans with the Project Manager, and reports any change of conditions. Specialized Demolition Operations Manager will also direct subcontractor activities and enforce provisions in the Site specific HASP.

Regulatory/Waste Manager – Mike Lindstrom (Energy Renewal): Coordinates with subcontractors and vendors. Generates requests for information on technical issues and works to present possible solutions. Regulatory/Waste Manager will be responsible for implementation of waste management protocols and will establish, implement, and monitor the quality assurance program. Works closely with Project Manager and supervisors to plan, schedule, and implement waste management and handling related activities.

Demolition Manager – Isaac Camacho (Camacho): Responsible for instructing crews on daily tasks, monitoring demolition progress, completion of daily activities, coordination and planning with the Project Manager, and reporting change of conditions. Demolition Manager will also direct subcontractor activities and enforce provisions in the Site specific HASP.

EPA-Accredited Asbestos Project Manager – Julian Camacho (Camacho): Responsible for instructing crews on daily tasks, implementing tasks in accordance with applicable regulations, monitoring asbestos abatement progress, completing daily activities, coordination and planning with the project manager, and reporting changing conditions. The EPA-accredited Asbestos Project Manager will also direct subcontractor activities and enforce provisions in the Site-specific HASP.









Appendix A

HASP Addendum Pages

**Addendum Page**

This form should be used to document any changes required to this HASP. These changes may be a result of changes to the scope of services, changes in field conditions, new hazards identified on the Site, higher or lower hazards than anticipated, etc. Please complete this form prior to the next work day once the changes have been identified. Review the modifications with all Site staff, including subcontractors, during the daily tailgate briefing, and complete the tailgate briefing form as required. Attach a copy of the addendum to all copies of the HASP including the Site copy, and log in the Addendum Log in Section 1.0.

Addendum Number:	<u>1</u>	Project Number:	<u>ENC-ENC001</u>
Date of Changed Conditions:	<u>4-29-11</u>	Date of Addendum:	<u>4-29-11</u>

**Description of Change that Results in Modifications to HASP:**

Incorporation of hurricane preparedness guidelines and addition of metal constituents present in soils at Encycle.

Appendix B

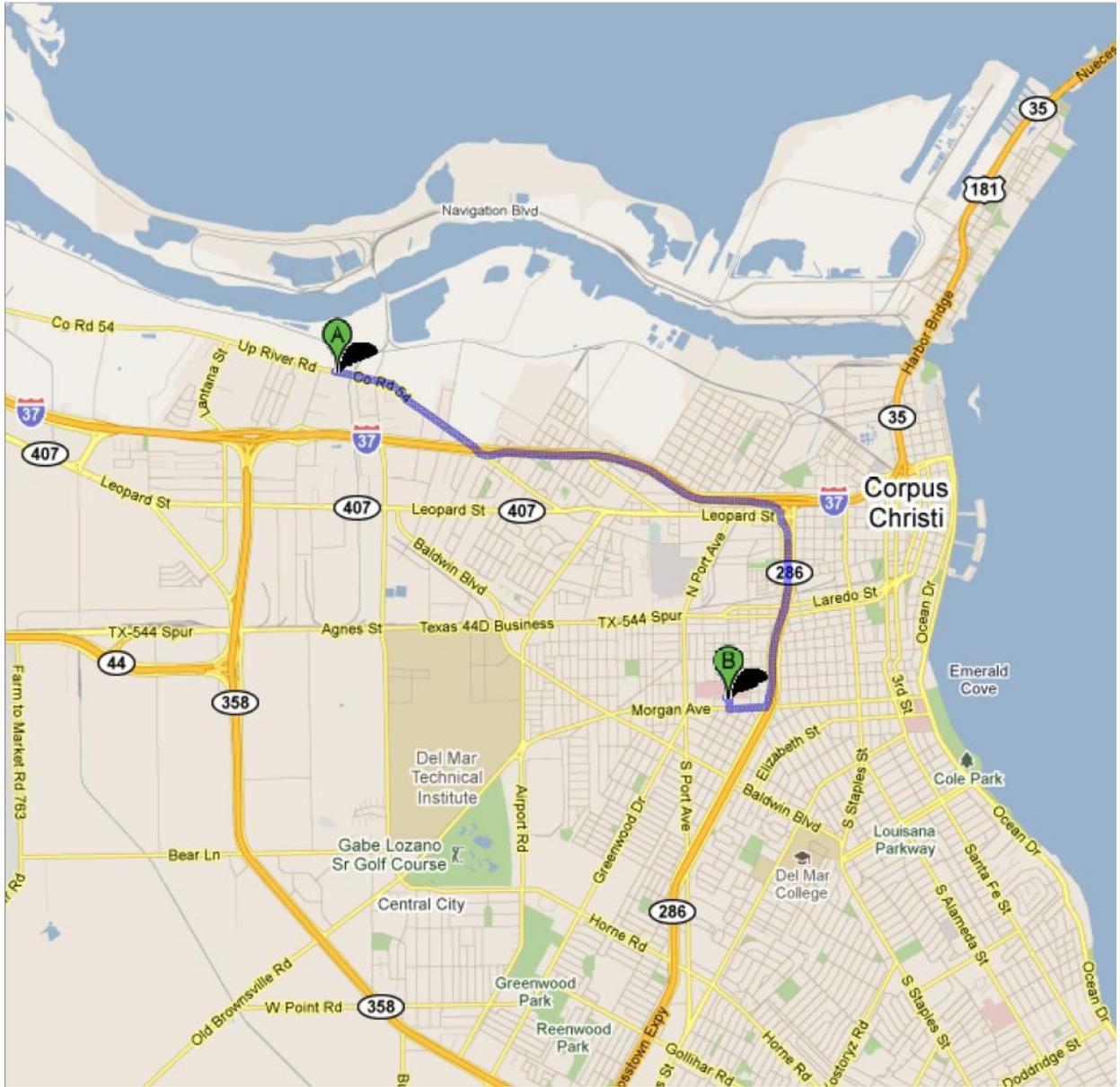
Tailgate Meeting Form

<b>Energy Renewal Partners, LLC</b>			
<b>Site Activities Tailgate Safety Briefing Sign-in Log</b>			
<b>Project Number:</b>		<b>Project Name:</b>	LEC Demolition and Abatement
<b>Date:</b>		<b>Time:</b>	
<b>Briefing Conducted by:</b>		<b>Signature:</b>	<b>Company:</b>
<p>This sign-in log documents the tailgate briefing conducted in accordance with the HASP. Personnel who perform work operations on Site are required to attend each briefing and to acknowledge receipt of each briefing, daily.</p>			
<b>TOPICS COVERED (check all those covered):</b>			
<input type="checkbox"/> General PPE Usage	<input type="checkbox"/> Confined Space	<input type="checkbox"/> Excavation Safety	
<input type="checkbox"/> Hearing Conservation	<input type="checkbox"/> Slips, Trips, Falls	<input type="checkbox"/> Confined Space	
<input type="checkbox"/> Respiratory Protection	<input type="checkbox"/> Heat Stress	<input type="checkbox"/> Traffic Safety	
<input type="checkbox"/> Personal Hygiene	<input type="checkbox"/> Thermal Stresses	<input type="checkbox"/> Changes to the HASP	
<input type="checkbox"/> Exposure Guidelines	<input type="checkbox"/> Site Control	<input type="checkbox"/> Initial Review of Hazard Evaluation	
<input type="checkbox"/> Decon Procedures	<input type="checkbox"/> Work Zones	<input type="checkbox"/> Other (specify):	
<input type="checkbox"/> Emergency Procedures (include route to hospital)	<input type="checkbox"/> Lockout/Tagout	<input type="checkbox"/> Other (specify):	
<b>Personnel Sign-in List</b>			
<b>Printed Name</b>	<b>Signature</b>	<b>Company Name</b>	



## Appendix C

Map to Area Hospital



 5500 Up River Rd, Corpus Christi, TX 78407

- 
- |   |                           |
|---|---------------------------|
| 1. Head east on <b>Co Rd 54/Up River Rd</b> toward <b>Dunn Ln</b><br>Continue to follow Up River Rd<br>About 2 mins   | go 1.1 mi<br>total 1.1 mi |
|  2. Slight left at <b>I-37 Frontage Rd</b>   | go 0.1 mi<br>total 1.3 mi |
|  3. Take the ramp on the left onto <b>I-37 S</b><br>About 2 mins   | go 1.8 mi<br>total 3.0 mi |
|  4. Take exit <b>1C</b> to merge onto <b>TX-286 S/Crosstown Expy</b> toward <b>Crosstown Expy</b><br>About 1 min | go 1.3 mi<br>total 4.3 mi |
|  5. Take the exit toward <b>Morgan Ave/19th St</b>   | go 0.1 mi<br>total 4.5 mi |
| 6. Merge onto <b>17th St</b>  | go 410 ft<br>total 4.5 mi |
|  7. Turn right at <b>Morgan Ave</b>  | go 0.2 mi<br>total 4.8 mi |
|  8. Take the 3rd right onto <b>Kokernot St</b>   | go 361 ft<br>total 4.8 mi |
|  9. Turn left at <b>Hospital Blvd</b><br>Destination will be on the right  | go 131 ft<br>total 4.9 mi |

 2606 Hospital Blvd, Corpus Christi, TX 78405

## **Appendix D**

### **Hurricane Preparation Guidelines**

Due to the location of the Site in an area that is susceptible to hurricane activity, the following guidelines have been prepared in the event that hurricane landfall in the area is possible or imminent. Some of the preparatory guidelines used in this addendum were selected from the document “Emergency Management Guide for Business and Industry: A step-by-step approach to emergency planning, response, and recovery for companies of all sizes” (FEMA, 1993).

This document includes information regarding preliminary activities that should be performed to help plan and prepare for a potential hurricane. In addition, a generalized timeline of activities has been developed to outline procedures for evacuation of the site in the event of a hurricane.

The following sections are included below:

- **General:** Includes general hurricane information
- **Preparatory Activities:** Provides general preparatory guidelines related to site preparation, authority, team development, training, etc.
- **Evacuation Guidelines:** Includes the evacuation steps required in the event that a hurricane is approaching or imminent.

#### **General:**

A hurricane brings torrential rains and a storm surge of ocean water that crashes into land as the storm approaches. Hurricane advisories are issued by the National Weather Service as soon as a hurricane appears to be a threat. The hurricane season extends from June through November.

**Hurricane Watch** – An announcement that hurricane conditions (sustained winds of 74 mph or higher) are *possible* within the specified coastal area. Because hurricane preparedness activities become difficult once winds reach tropical storm force, the hurricane watch is issued 48 hours in advance of the anticipated onset of tropical-storm-force winds. An evacuation may be necessary.

**Hurricane Warning** – An announcement that hurricane conditions (sustained winds of 74 mph or higher) are *expected* somewhere within the specified coastal area. Because hurricane preparedness activities become difficult once winds reach tropical storm force, the hurricane warning is issued 36 hours in advance of the anticipated onset of tropical-storm-force winds. Take precautions at once. If advised, evacuate immediately.

#### **Preparatory Activities:**

The following groups of activities should be performed prior to a potential hurricane and maintained during the hurricane season. Following these guidelines will aid in the safety of site personnel, property, and the environment by reducing confusion and establishing a plan of action during evacuation.

##### *Establish Lines of Communication and Authority:*

- Identify a planning team;
- Define the duties of personnel with an assigned role during an evacuation. Establish procedures for each position and prepare checklists for all procedures;

- The assigned roles during an evacuation should include at a minimum:
  - Incident Command – Individual with authority to order evacuation, initiate/guide activities according to the plan.
  - Communication Lead – Individual to maintain communication and track all employees and functional groups during the evacuation. The communication lead will also be responsible for coordinating the evacuation location of all personnel and maintaining contact following the emergency.
- Determine lines of succession to ensure continuous leadership, authority, and responsibility in key positions;
- Determine equipment and supply needs for each response action, and;
- Provide Training.

#### Protecting Site Facilities:

Protecting the site facilities, equipment, and vital records is essential to restoring operations following an emergency. The following items should be performed prior to an evacuation event:

- Ensure that key site documents can be quickly compiled and transported, and;
- Obtain response equipment and supplies, for example:
  - Spare generator and fuel.
  - Emergency lighting (plugged and battery powered).
  - 5/8" marine plywood, pre-cut to size of trailer windows/entrance.
  - Fire Extinguishers.
  - Rain gear.
  - Trash pump and hose.

#### Evacuation Preparation:

- Determine the conditions under which an evacuation will be necessary (see below);
- Establish a clear chain of command. Identify personnel with authority to order an evacuation. Designate "evacuation wardens" to assist others in an evacuation and to account for personnel;
- Establish specific evacuation procedures. Establish a system for accounting for personnel. Consider employees' transportation needs for community-wide evacuations;
- Post evacuation procedures;
- Designate personnel to continue or shut-down critical operations while an evacuation is underway. They must be capable of recognizing when to abandon the operation and evacuate themselves;
- Coordinate plans with the local emergency management office, and;
- Designate primary and secondary evacuation routes/destinations.

#### Training and Information:

- Conduct training meetings or activities with personnel to ensure all employees are aware of hurricane precautions and procedures;
- Post the plan and contact lists;
- Assist employees with emergency preparedness for their families, and;

- Ensure access to important personal information for employees (home phone, next-of-kin, medical) in an emergency. (e.g.; storing information on CD or in sealed envelopes).

### **Evacuation Guidelines:**

The national weather service provides hurricane watch and warning notifications based on the criteria stated in the definitions above (including up to 48 hours notice). Various weather services also provide approximate landfall predictions in advance of the watch or warning determination. Due to the amount of time that will be required for site evacuation, the Incident Command will need to use both of these information sources as a determining factor in ordering an evacuation.

Due to the nature of site activities, it is necessary that extensive preparatory measures be taken if a hurricane threatens the area. As a result, the following guidelines are presented according to a two-stage approach. These stages include:

- **Evacuation Preparation** – Activities conducted in preparation of a storm based on initial weather service indications that the geographic area is in a “probability zone” for hurricane landfall.
- **Imminent Evacuation** – Preparation has already occurred and the national weather service has issued a watch/warning. Includes the final site security procedures and personnel evacuation.

Activities that will be performed during the respective response stages have are provided below.

### Evacuation Preparation Stage:

If the National Weather Service issues a Hurricane Watch or Advisory that includes the possibility of landfall in the Corpus Christi area, the following site preparation activities will be conducted at least five days prior to projected landfall, or immediately following issuance if the Hurricane Watch or Advisory is issued in less than five days from projected landfall. Prioritization of these activities is provided below, and will be updated at least daily by the Incident Command:

1. Cease active demolition activities. Complete any demolition items that need to be finished for safety purposes;
2. Notification to employees of the preliminary evacuation activities. Conduct an “all hands” meeting to inform personnel of authority, lines of communication, evacuation stages, and planned activities;
3. Immediate reduction of stockpiled wastes, including wastes staged in on-site containers, to the extent possible. Prioritization will first be given to any stockpiled/staged regulated asbestos wastes and hazardous wastes. The regulated asbestos and hazardous waste landfill(s) will be immediately contacted to schedule shipment of the wastes to the landfill to the extent possible;
4. Remove/secure debris that may pose a flying hazard, including stockpiled/staged galbestos sheeting. The landfill utilized for disposal of the galbestos sheeting will be immediately contacted to schedule shipment of the galbestos sheeting to the landfill to the extent possible.
5. Remove all loose trash/garbage to the extent possible;
6. Supplement tie-down provisions on equipment, containers, trailers, etc. as needed;
7. Additional labeling and securing of all wastes and containers that will remain on-site.

8. Verify availability of evacuation equipment and supplies;
9. Reserve accommodations for personnel;
10. Compile key electronic and paper documents and remove archives to alternate location. Maintain only essential documents and electronics on-site; and
11. Photograph and/or videotape the site.

*Imminent Evacuation Stage:*

These activities will be conducted approximately 1-2 days prior to the storm landfall following determination that an evacuation will be required. Prioritization of these activities will be determined by the Incident Command.

- Advise site personnel of communication protocols;
- Evacuate any personnel not required for this stage;
- Review site for potential flying debris and secure debris to the extent possible;
- Install plywood or shutters on site trailers;
- Remove documents and electronics;
- Final photos and/or video of the site;
- Notify local emergency response and TCEQ that site is evacuated, and;
- Secure the site gates.

**Reference**

(FEMA 1993). *Emergency Management Guide for Business and Industry: A step-by-step approach to emergency planning, response, and recovery for companies of all sizes*. Federal Emergency Management Association. 1993.