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April 12, 2022

Public Utility Commission of Texas
Attn: Central Records
1701 N. Congress Ave., 8-100
Austin, TX 78711-3326

COVER LETTER

Subject: Confidential Filing – Concho Valley Solar, LLC - Emergency Operations Plan Filing for PGC Registration #20660

Pursuant to PUC Substantive Rule 25.53, Concho Valley Solar, LLC is filing an emergency operations plan (EOP), executive summary, and affidavit under this section by April 18, 2022, as detailed below.

This initial filing includes:

- One (1) copy of *2022-04-12_Concho Valley_PUCT EOP Affidavit - signed*
- One (1) copy of *Concho Valley Solar – EOP Executive Summary – 04.2022*
- One (1) copy of *Concho Valley Solar, LLC – Emergency Operations Plan*
- One (1) copy of *Exhibit O – Concho Valley JSSP_FINAL*

KOMIPO

April 12, 2022

Public Utility Commission of Texas
Attn: Central Records
1701 N. Congress Ave., 8-100
Austin, TX 78711-3326

Subject: Confidential Filing – Concho Valley Solar, LLC
Emergency Operations Plan Filing for PGC Registration #20660 - Affidavit

Pursuant to PUCT Substantive Rule 25.53, Concho Valley Solar, LLC submits an affidavit executed by the entity's highest-ranking representative, official, or officer with binding authority over the entity affirming the below. Please note that Concho Valley Solar, LLC is being constructed for KOMIPO America, Inc., as the client/owner, with Primoris Renewable Energy, Inc. and Dashiell Corporation performing as the general contractors with an anticipated Commercial Operation Date and ERCOT Part III Commissioning Checklist Approval date in August 2022.

	Rule 25.53; Filing Requirements, Section 4(C)(i-vi)	**Explanation of Project Construction Status**
i	relevant operating personnel are familiar with and have received training on the applicable contents and execution of the EOP, and such personnel are instructed to follow the applicable portions of the EOP except to the extent deviations are appropriate as a result of specific circumstances during the course of an emergency;	The project is currently in construction and no operating personnel are currently present. During construction, the project utilizes Primoris Renewable Energy's *Job Site Safety Plan (JSSP)*. Primoris includes training standards in their JSSP.
ii	the EOP has been reviewed and approved by the appropriate executives;	The EOP has been reviewed and approved by appropriate executives, as seen in the Approvals section at the end of the Plan.
iii	drills have been conducted to the extent required by subsection (f) of this section;	Prior to Plan implementation and site operations, the EOP will be drilled by appropriate parties and training documentation will be kept as evidence.
iv	the EOP or an appropriate summary has been distributed to local jurisdictions as	Concho Valley Solar, LLC will conduct meetings and correspondence as needed

	needed;	with external agencies and facilitate any reasonable requests for information.
v	the entity maintains a business continuity plan that addresses returning to normal operations after disruptions caused by an incident; and	The EOP includes plans and procedures for restoration after an event or emergency.
vi	the entity's emergency management personnel who are designated to interact with local, state, and federal emergency management officials during emergency events have received the latest IS-100, IS-200, IS-700, and IS-800 National Incident Management System training	The project is currently in construction and no operational emergency management personnel have been designated to interact with emergency officials. The appropriate personnel will be identified and trained prior to and closer to commencing Commercial Operations.

Reviewed and affirmed by:

Hyun Ha Cho

By: Hyun Ha Cho (Apr 12, 2022 13:20 CDT)

Name: Jayden Cho
Title: Director, US Renewables
KOMIPO America

2022-04-15_Concho Valley_PUCT EOP Affadavit

Final Audit Report 2022-04-12

Created:	2022-04-12
By:	Ben Knowles (ben.knowles@radiangen.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAMY3Ka0eAp22_Zv7XHgZrpXZ39ab4bPtt

"2022-04-15_Concho Valley_PUCT EOP Affadavit" History

Document created by Ben Knowles (ben.knowles@radiangen.com)
2022-04-12 - 5:01:15 PM GMT

Document emailed to Hyun Ha Cho (jayden.cho@komipoamerica.com) for signature
2022-04-12 - 5:03:20 PM GMT

Email viewed by Hyun Ha Cho (jayden.cho@komipoamerica.com)
2022-04-12 - 5:03:24 PM GMT

Document e-signed by Hyun Ha Cho (jayden.cho@komipoamerica.com)
Signature Date: 2022-04-12 - 6:20:58 PM GMT - Time Source: server

Agreement completed.
2022-04-12 - 6:20:58 PM GMT

The following files are not convertible:

Concho Valley Solar - EOP Executive Summary - 04.2022.xlsx

Please see the ZIP file for this Filing on the PUC Interchange in order to access these files.

Contact centralrecords@puc.texas.gov if you have any questions.

CONCHO VALLEY SOLAR, LLC

POLICY NAME	Emergency Operations Plan
EFFECTIVE DATE	09/15/22
VERSION NO.	1.0

VERSION HISTORY				
VERSION	**APPROVED BY**	**REVISION DATE**	**DESCRIPTION OF CHANGE**	**AUTHOR**
1.0	K. Macpherson	09/15/22	New procedure	B. Knowles

CONCHO VALLEY EOP | TABLE OF CONTENTS

1.0 INTRODUCTION TO FACILITY

Facility Information

Concho Valley Solar, LLC is a 159.8 MWac (nameplate) solar facility located in San Angelo, TX. Facility commences commercial operations in September 2022 and is interconnected to ERCOT at the Maddux Station substation, located in TRE footprint. Concho Valley Solar, LLC (Concho Valley Solar) is the registered Generator Owner (GO) for the Facility. The registered Generator Operator (GOP) for the Facility is NovaSource Power Services (NCR 12096).

2.0 PURPOSE

2.1 ERCOT and Public Utilities Commission of Texas

This Plan provides guidance and direction to Concho Valley Solar regarding compliance with the emergency operations requirements for power generation companies (PGC) under Chapter 25 of the Public Utilities Commission of Texas (PUCT) Electric Substantive Rules and the emergency operations plan requirement under ERCOT Nodal Protocol Section 3.21.

This Plan does not manage nor address Emergency Preparedness and Operations (EOP) processes relating to NERC standard requirements (such as EOP-004 and EOP-005).

2.2 Occupational Safety and Health Administration

This Plan has been developed to ensure compliance with Occupational Safety and Health Administration (OSHA) 29 CFR 1910.38 (Emergency Action Plans). Concho Valley Solar acknowledges awareness that any significant changes in types or quantities of chemicals or other hazards on the site will necessitate review of this plan. Any such revisions to this plan will be communicated with appropriate agencies and organizations.

Beyond compliance with the rules noted above, Concho Valley Solar recognizes that proper planning for emergency operations is critical to provide a coordinated response that protects life, property, and the environment.

3.0 SCOPE

This Plan covers all in-scope Subchapter C Infrastructure and Reliability requirements as well as the EOP submission scope in ERCOT Nodal Protocol Section 3.21. Concho Valley Solar maintains separate Winter and Summer Weatherization Plans that help meet compliance with the severely hot and severely cold weather planning required by the PUCT. The current version of this Plan supersedes any previous versions, as of the date of last approval.

4.0 TRAINING

All personnel at the facility shall receive training on this Emergency Operations Plan whenever it is modified or on at least an annual basis. Personnel will also be trained when this plan is initially implemented. Contractors and visitors who enter operating areas of the facility will be trained on plant alarms, muster locations, and evacuation procedures before they enter the facility for the first time, and at least annually thereafter. A listing of contractors and visitors with current training on this plan will be maintained.

4.1 Annual Drill

The Facility Plant Manager will ensure that a drill of this plan occurs annually, unless a response to an actual event has occurred in the calendar year that activated this Plan. Upon completion of the drill, the Facility Plant Manager will provide evidence of completion. The Facility Plant Manager will notify PUCT staff at least 30 days before the drill with the date, time, and location of the drill.

4.2 Drill Requirements

The content of each drill will be based on current needs and will be determined by the Facility Plant Manager. The annual drill must include a documented evacuation of the O&M/Substation control building (if applicable). A roster of drill attendees and the date of drill was conducted will be filed with this plan. Any gaps or action items that are a result of the drill will be identified, resolved, fully documented, and filed.

5.0 CONTINUAL IMPROVEMENT

In addition to periodic training, this plan will be reviewed and revised to ensure constant improvement addressing regional and operational changes in conditions and lessons learned. A revision control summary is included on page 2 of this Plan.

5.1 Quarterly Compliance Review

Quarterly, the compliance staff will review the use of this procedure including an active testing of any element as needed. Lessons Learned and Industry Best Practices will be added to the procedure on a quarterly basis as identified.

5.2 Annual Compliance Review and Report

Annually, the compliance staff will perform a detailed review and confirmation that the facility personnel is following this procedure and identify areas for improvement. The compliance staff will also participate in the Annual Drill and provide improvement recommendations as needed.

5.3 Annual Improvement Plan

As part of the Annual Compliance Review, the compliance staff will develop an Annual Improvement Plan for the following year that will address any areas of concerns as well as integrate new Industry Best Practices to the procedure.

6.0 ROLES AND RESPONSIBILITIES

This plan describes the responsibilities and activities required of various parties in preparation for an emergency situation. Concho Valley Solar understands that corporate and facility management, with critical execution and support from the O&M Provider, will play an important role in maintaining an effective emergency operations plan at the Facility. It is the responsibility of all personnel to exercise good judgment in the performance of this plan.

6.1 CONCHO VALLEY PERSONNEL

6.1.1 Role – Concho Valley employees, which include the roles listed in this section.

6.1.2 Responsibilities

a. Participate in plan training.

b. Follow this plan and perform actions, as described in this plan.

6.2 CONCHO VALLEY COMPLIANCE MANAGER

6.2.1 Role – The Compliance Manager for the Facility.

6.2.2 Responsibilities:

c. Owner of this Plan.

d. Administers Generator Owner (GO) Compliance Program for the Facility.

6.3 O&M OPERATIONS CONTROL CENTER MANAGER

6.3.1 Role – The Operations Control Center (OCC) Manager for the Operations and Maintenance contractor, also the Generator Operator (GOP) of the Facility.

6.3.2 Responsibilities:

a. Responsible for Emergency response and essential operations to restore Operations Control Center functionality.

6.4 FACILITY LEAD TECHNICIAN

6.4.1 Role – The plant services personnel manager.

6.4.2 Responsibilities:

b. Participate in the development, administration, execution, and update of the plan.

c. Oversee the day-to-day operation of the Facility.

d. Serves as the summer and winter readiness coordinator.

e. Ensures the requirements and processes laid out in this plan are followed by all site Personnel.

f. Provide feedback to management on this plan and any lessons learned to improve the plan.

6.5 O&M FIELD TECHNICIANS

6.5.1 Role – Administers O&M responsibilities at Facility

6.5.2 Responsibilities:

g. Coordinate with the Facility Lead Technician to ensure that this plan is properly executed.

h. Participate in responses to emergency events at the Facility.

i. Conduct any plan readiness reviews and provide reports to management.

j. Ensures the requirements and processes laid out in this plan are followed by all site Personnel.

k. Provide feedback to Facility Lead Technician on this plan and any lessons learned to improve the plan.

7.0 CRITICAL FAILURE POINTS – PERSONNEL

Personnel during an event: The GOP will notify regional staff within a 2-hour dispatch to remain on call for response requirements as needed. This will include technicians assigned to the generator as well as other resources in the vicinity. Should conditions at the facility require manpower beyond the capabilities of the local staff, qualified third-party resources will be engaged as well as O&M personnel beyond the local employees.

8.0 SEVERE WEATHER PLANNING AND IDENTIFICATION

Severe weather can negatively impact the Facility. Events and disturbances that can occur in and around the facility include, but are not limited to, windstorms, severe thunderstorms, flooding, tornadoes, hurricanes, excessive heat or cold, snowstorms, and ice storms. These weather events can be detrimental to the employees and or equipment and structures at the facility.

Prior to any severe weather event, Personnel should utilize the plans and checklists contained in the weatherization plans to ensure the safety of both personnel and equipment. The information contained herein is supplemental and should be used in conjunction with those plans.

After a generating plant trip, de-rate, or failure to start due to severe winter weather, O&M personnel are to conduct an analysis of the events, develop lessons learned, and incorporate good industry practices during these events. This process should include a "feedback loop" to enhance current winter weather readiness programs, processes, procedures, checklists and training on continuous improvement.

8.1 Pre-season Planning

Ahead of each winter season, the Facility Lead Technician ensures that the winter weatherization plan is reviewed, and the pre-season preparedness checklists are completed, signed, and provided to the Compliance Manger and O&M Control Center Manager. Annual review of the checklists is documented and stored in a specified database or information repository. This activity coincides with the required ERCOT reporting, per the Nodal Protocols. Checklists specific to Winter Weatherization Plans are contained within those specific documents. For event response checklists for other scenarios, see the appropriate Appendix included in this plan

8.2 Seasonal Events

Warnings about developing weather emergencies are issued by local radio stations or tracked by onsite weather systems. These warnings should provide adequate information of the approach of weather-related emergency conditions. The Facility Lead Technician is responsible for keeping abreast of forecasted severe weather events and reporting potential issues that has several means to monitor these weather-related emergencies, including:

- NOAA (National Oceanic Atmospheric Administration) channel in the O&M OCC for weather events.
- The OCC operators notify regional field personnel of approaching weather systems.
- The regional field personnel monitor NOAA radio for localized information and increased situational awareness.
- Job site safety briefings are to be conducted prior to and following sever weather events.

- The Facility Lead Technician ensures weather event tasks are completed according to the Plan in advance of a severe weather event.
- During an event, O&M personnel are to periodically communicate areas of concern as conditions change, prioritizing safety and then equipment critical to production.
- O&M personnel will notify the QSE (via the O&M OCC) and appropriate authorities in the instance of weather conditions leading to a plant outage, shutdown, or curtailment.

When information is received that a severe weather event such as a tornado, severely cold weather, severely hot weather, or flood watch has been issued for the facility area, the following actions shall be taken:

1. The Facility Lead Technician or lead on-site plant services technician should notify the O&M OCC.
2. The O&M OCC shall make a determination about whether or not the plant should be shut down due to the potential weather event(s).

8.3 Personnel Safety

If shelter-in-place is necessary, on-site personnel should seek indoor shelter in the plant administrative building, or other reinforced structures. Personnel should remain indoors if the severe weather is affecting the immediate area of the facility and maintain communications with the O&M OCC.

9.0 RESTORATION RESPONSE TIME

In the event of a power outage, the site will not be able to generate solar power until an O&M representative performs a site assessment and closes breakers. The target response time for this scenario is two (2) hours after weather or safety conditions permit.

10.0 REQUIRED EMERGENCY OPERATIONS PLAN DRILL

10.1 Annual Drill

The Compliance Manager will ensure that a drill of this plan occurs annually, if a response to an actual event has not occurred within the preceding calendar year.

10.2 Drill Requirements

10.2.1 The content of each drill will be based on current needs and will be determined by the Compliance Manager.

10.2.1.1 The annual drill must include a documented evacuation of the substation control building (if applicable).

10.2.2 A roster of drill attendees and the date of drill was conducted will be filed with this plan and retained in the Facility document repository.

10.2.3 Any gaps or action items that are a result of the drill will be identified, resolved, fully documented, and filed with the Facility documents.

APPENDIX 1: DESIGNATION OF EMERGENCY COORDINATORS

The Concho Valley Emergency Coordinator is responsible for specific actions detailed in this plan (as noted). Alternate personnel may serve as the Facility Emergency Coordinator when necessary.

Emergency Coordinators	
Primary Emergency Coordinator	Michael Wong

APPENDIX 2: O&M & CONCHO VALLEY CONTACT LIST

In the event of a fire emergency, medical emergency, police emergency or weather-related emergency, ensure that the following roles are notified after emergency responders are contacted.

Title	Name	Phone Number
Facility Lead Technician	Michael Wong	480-549-0731
NovaSource Control Room	NSCR	877-375-7662
KOMIPO America	Jayden Cho	737-285-5652
Compliance Manager	Ben Knowles	510-804-3687

APPENDIX 3: CONCHO VALLEY GENERAL EMERGENCY PROCEDURE

Facility Location for Outside Emergency Responders

Facility is located at:	8767 S. US Highway 277 San Angelo, TX 76904

General Emergency Procedures

This emergency plan was developed for the following plausible contingencies that could transpire at the facility:

1. Personnel injuries and serious health conditions
2. Fires
3. Chemical releases
4. Weather-related causes
5. Threats to the facility that warn of danger to personnel
6. Pandemics and Epidemics
7. Sabotage Reporting
8. Other unanticipated events

It will be the responsibility of the Facility Lead Technician to assess a developing emergency situation and initiate the appropriate actions in this plan to protect personnel, the surrounding environment, and plant equipment from adverse damages. In the event of an emergency, the following actions will be immediately performed:

If the event is a fire, medical, or police emergency, contact 911 immediately.

General Emergency Protocols

1. Any work-related permits in affect shall be immediately voided, and personnel involved in such work shall cease all activities onsite.
2. All sources of ignition, including hot work, burning cigarettes, portable tools and motor vehicles shall be immediately secured.
3. Based upon the type and extent of the emergency, the Facility Lead technician should assess whether an evacuation should be initiated. The following criteria should be considered in rendering a decision to conduct an evacuation of the facility:
    a. The affected parts of the facility and severity of the emergency.
    b. Restrictions in egress routes caused by the emergency.
    c. Wind direction (if the emergency involves gases/vapors)
    d. People currently located at the facility (employees, visitors/contractors, etc.)
4. If the Facility Lead Technician determines that a facility evacuation is necessary, he/she must determine which type of evacuation to direct. The following sections describe the types of evacuations that can be performed:
    a. Immediate Site Evacuation

This type of evacuation would be used only in the event of an emergency grave enough to warrant immediate evacuation of all personnel. In this type of evacuation, operating area personnel should evacuate without regard for shutdown of plant systems or for placing plant systems in the safest mode possible. This type of evacuation should only be utilized if the safety of personnel in operating areas is in immediate and severe danger, such that any delay in evacuating could result in deaths or injuries to personnel.

b. Delayed Site Evacuation

This type of evacuation would be used in a serious emergency situation where non-essential personnel (those not involved in plant operations or emergency coordination) are immediately evacuated as a precaution, and essential personnel remain in operating areas to perform a controlled shutdown of the facility prior to evacuating. It is anticipated that this would be the primary type of evacuation used in response to serious emergencies at the facility. The Facility Lead Technician and/or Facility Emergency Coordinator must assess whether the prevailing circumstances warrant keeping essential personnel in plant operating areas to perform a controlled shutdown of the facility. **If personnel will not be exposed to unnecessary danger to perform facility shutdown and/or place the facility into a safe condition, then this is the preferred type of evacuation, as opposed to an Immediate Site Evacuation.**

*NOTE: Although the Facility Lead Technician (or Facility Emergency Coordinator)may initially designate an evacuation to be a Delayed Site Evacuation, he/she should always keep in mind that conditions may change rapidly, and result in the need to call for an Immediate Site Evacuation.

5. The Facility Lead Technician or lead technician onsite will determine if an evacuation is necessary.
6. Evacuation will be coordinated via the company cell phone. Teams will be alerted is an evacuation has been directed. If an evacuation has been directed, the Facility Lead Technician shall ensure that instructions for evacuation are communicated to personnel over the plant radio system or hand-held radios. These instructions should include the following items at a minimum:
    a. The type of evacuation to be performed
    b. Immediate Site Evacuation
    c. Delayed Site Evacuation
    d. The nature of the emergency
    e. The location(s) of the emergency
    f. Any egress routes that should not be used by evacuating personnel (if known and applicable)
7. If an evacuation has been ordered, personnel shall follow either the Immediate Site Evacuation Procedures or Delayed Site Evacuation Procedures contained in Appendix 4, as appropriate, and based upon the direction of the Facility Lead Technician and/or Facility Emergency Coordinator.

APPENDIX 4: EVACUATION PROCEDURES

Immediate Site Evacuation Procedure

1. Personnel present on-site at the O&M Building shall immediately take the following actions:
    a. Locate and obtain the visitor/contractor sign-in sheet.
    b. Locate and obtain all immediately accessible hand-held radios.
    c. Gather at the front entrance gate at facility, and determine the safest muster area to proceed to, depending upon the known circumstances of the emergency (as indicated on Appendix 3).

        *NOTE: The primary muster area must be a predetermined location, with any alternate muster areas selected only when egress routes to the primary muster area are unsafe to proceed along.

    d. Pass the following information over the plant radio system:
        i. The muster area the employees will be proceeding to.
        ii. Visitors/contractors known to be in the operating areas (as indicated by the visitor/contractor sign-in sheet).
    e. Once emergency personnel have completed the preceding steps, they shall immediately proceed to their designated muster area. Personnel on-site should not delay in evacuating or wait on other personnel that they anticipate may arrive.
    f. Upon arriving at the designated muster area, the group shall designate a Person- in-Charge and take a head count of all personnel who are at the muster area, including contractors and visitors.
    g. After a roll call of all personnel present at the muster area is taken, the Person-in-Charge shall identify which operating area personnel are not accounted for. The Person-in-Charge will then query by radio for personnel who are unaccounted for. The Person-in-Charge shall then establish radio communication with the Emergency Coordinator (if applicable) and relay information on personnel who are not accounted for.
    h. All personnel at the muster location shall remain at the muster location until an "ALL CLEAR" signal is sounded, or if directed by the Emergency Coordinator (if applicable) to leave the muster location. The "ALL CLEAR" signal will be communicated by radio or cellular telephone.
    i. The Person-in-Charge shall continuously monitor the plant radio system when at the muster location.

2. Personnel present in the field/substation area (other than the O&M Building) shall immediately perform the following actions:
    a. If not monitoring the plant radio system, immediately turn on hand-held radios.
    b. Proceed to the designated muster area, unless the egress route to the muster area is not safe for travel. In such a case, proceed to an alternate muster area.
    c. Instruct any personnel (including visitors and contractors) who are seen along the way to proceed to the designated muster area.
    d. Upon reaching the appropriate muster area, report to the Person-in-Charge and continue to monitor the plant radio system. If no other personnel are present at the muster area upon arrival, communicate to the Facility Lead Technician that no other personnel are present in the area.
3. Personnel not in the operating areas of the plant (to include the O&M building and parking areas) shall immediately perform the following actions:
    a. Locate and obtain all immediately accessible hand-held radios.
    b. Proceed to the designated muster area.
    c. A Person-in-Charge shall be designated for the muster area. In many cases, this will be the Emergency Coordinator. The Person-in-Charge shall establish radio communications with operating area personnel and compare roll call lists to determine if any personnel are unaccounted for in the facility.
    d. If the Emergency Coordinator is not present at the muster area, the Person-in-Charge at the muster area will coordinate outside responding agency activities until the Emergency Coordinator arrives. In the event that the Emergency Coordinator is in plant operating areas or has proceeded to the alternate muster area, he/she may elect to designate the muster area Person-in-Charge to act in the capacity of Emergency Coordinator during the emergency

Delayed Site Evacuation Procedures

1. Personnel present on-site at the O&M building shall immediately take the following actions:
    a. Take necessary operating actions to place the facility in the most stable condition, based upon the type of emergency.
    b. Locate and obtain the visitor/contractor sign-in sheet
    c. Communicate names of visitors/contractors currently in the operating areas to outside operating personnel. Instruct outside operating personnel to locate and direct all visitors/contractors to proceed to the Administrative Building for egress instructions.
    d. When all visitors, contractors and non-essential operating personnel have been accounted for and are present in the O&M building, the Facility Lead Technician or Emergency Coordinator, as appropriate shall designate a trained person to escort all non-essential personnel to the designated muster area along the safest egress route.
    e. Notify the Emergency Coordinator of the current facility status, and evacuation details.

f. Perform a controlled shutdown in accordance with appropriate procedures and directions from the Emergency Coordinator.

g. Once the shutdown has been completed, all essential personnel shall gather in the O&M and take roll call. When all essential operating personnel are present and accounted for, evacuation to the designated muster area shall be performed, unless the egress route is not safe for travel. In such a case, proceed to the alternate muster area.

2. Personnel present in the field/substation area (other than the O&M building) shall immediately perform the following actions:

   a. Continuously monitor the radio system for information and instructions.

   b. Perform immediate response actions, as appropriate, to place the facility in the most stable condition, based upon the type of emergency.

   c. Locate and direct non-essential personnel to proceed to the O&M building immediately.

   d. Perform facility shutdown instructions as directed by the Facility Lead Technician/Lead technician.

   e. Upon completion of shutdown, or upon direction by the Emergency Coordinator, proceed to the muster point for instructions.

3. Personnel not in the operating areas of the facility (to include the O&M building and parking areas) shall immediately perform the following actions:

   a. Locate and obtain all immediately accessible hand-held radios. (b) Proceed to the designated muster area (see Site Map).

   b. A Person-in-Charge shall be designated for the muster area. The Person-in- Charge shall establish radio communications with operating area personnel and compare roll call lists to determine if any personnel are unaccounted for in the facility.

   c. The Person-in-Charge at the designated muster area will coordinate outside responding agency activities and provide assistance (to include personnel, resources, and administrative functions) to the O&M building as directed by the Emergency Coordinator and/or Facility Lead Technician/Lead technician.

4. The Emergency Coordinator shall immediately perform the following actions:

   a. Proceed to the O&M building or to the location on the facility most appropriate for directing response actions for the emergency.

   b. Coordinate actions related to the emergency and provide directions to muster area.

5. Persons-in-Charge

   a. In the event that the emergency escalates in severity or immediate danger to personnel, direct immediate evacuation of all essential operating personnel involved in plant shutdown activities.

Designated Egress Routes and Muster Areas for Evacuations

- The Designated Muster Area is the primary gathering point for personnel and should be used during evacuations unless the emergency has rendered egress routes to the Muster Area unsafe for travel.
- The Alternate Muster Area is the alternate gathering point for such circumstances.
- Alternate muster location will be communicated at the time of evacuation and will take into consideration the event occurring that is causing the evacuation

Primary Muster Area	O&M Building
Alternate Muster Area	Alternative muster location will be determined at the time of the event

APPENDIX 5: PERSONNEL INJURIES OR SERIOUS HEALTH CONDITIONS

The following sections provide basic guidelines for response actions to be taken in the event of emergencies related to personnel health. Although facility personnel should take the most aggressive response actions that are prudent in an emergency, the first and foremost action will be to call 911 to initiate the response of trained outside medical responders. To prepare facility personnel for such contingencies, it will be the facility policy that all operating personnel and as many other personnel as possible should be trained in CPR (Cardiopulmonary Resuscitation) and in the use of an AED (Automated External Defibrillator) if one is available. If present on site, the AED will be maintained at the facility at the designated location in the O&M building.

Note: Severe weather condition-related injuries are covered in the appropriate Plan.

Basic First Response Actions

- Check for unresponsiveness. Unresponsiveness is when the person is unconscious and does not respond when you call their name or touch them.
- If the person is unresponsive, immediately call 911 for outside medical assistance and ask other personnel to bring the AED to the scene. Other personnel should assist with 911 notifications and expediting the delivery of the AED to the scene.
- Next check to see if the victim is breathing normally. If no signs of breathing are observed, the responder should initiate two rescue breaths into the victim. After the rescue breaths, a pulse should be checked for on neck. If a pulse is present, continue with recovery breathing, but do not initiate chest compressions.
- If no pulse is observed, complete CPR, with assisted breathing and chest compressions should be commenced.
- If CPR is being performed and the AED arrives to the scene, direct an assistant to begin setting up the AED for operation on the victim. CPR should be continued during the time that the AED is being set up.
- If the AED is placed into operation, remain near the victim and follow all AED instructions to ensure safety and proper victim monitoring. Maintain the victim with AED monitoring until trained medical responders arrive at the scene.
- If the victim is responsive but shows signs of shock or has an obvious severe injury, call 911 immediately and take additional actions as described in the sections below.
- If the victim has obvious broken bones or is bleeding profusely or may have neck or spine injuries, do not attempt to move the victim. Make the victim as comfortable as possible and apply pressure to mitigate areas of profuse bleeding until trained medical personnel arrive at the scene.
- Immobilize all injured parts of the victim.
- Prepare victim for transportation, if the victim can be safely moved

Physical Shock

Symptoms

- Pallid face.
- Cool and moist skin.
- Shallow and irregular breathing.
- Perspiration appearing on the victim's upper lip and forehead.
- Increased, but faint pulse rate.
- Nausea.
- Detached semi-conscious attitude towards what is occurring around him/her.

Treatment

- Request professional medical aid immediately.
- Remain with and attempt to calm the victim.

Electric Shock

Symptoms

- Pale bluish skin that is clammy and mottled in appearance.
- Unconsciousness. No indications that the victim is breathing.

Treatment

- Turn off electricity if possible.
- Call for professional medical assistance and an ambulance immediately.
- Remove electric contact from victim with non-conducting material.
- Perform CPR and call for an AED, if required.

Burns

Symptoms

- Deep red color; or
- Blisters; or
- Exposed flesh.

Treatment

- Cooled immediately if possible, and
- Free of any jewelry or metal if it is safe to remove it.
- Do not pull away clothing from burned skin tissue.
- Do not apply any ointment to burn area.
- Seek professional medical assistance as soon as possible.

APPENDIX 6: FIRE RESPONSE PLAN

The Facility has a Fire Response Plan that describes measures taken at the facility to prevent, minimize the severity of, and proactively prepare for the event of a fire emergency. However, if a fire should occur at the facility, this Fire Response Plan describes the actions that should be taken by plant personnel. Safe and expedient response actions are essential to protect the health and safety of plant personnel and minimize damages to plant equipment and the surrounding environment.

O&M Field Operations and Safety Personnel schedule an on-site coordination meeting with local Fire and First Responders to establish expectations, cross train on safety concerns and establish expectations in preparation for a fire. They are to discuss access points, personnel points of contact and contact information including O&M OCC. Electrical safety, equipment voltages, currents and arc flash information, safe working distances, electrical isolation with zones of protection as appropriate are to be covered with first responders to ensure safety and develop clear expectation prior to an event.

1. Any person who discovers a fire in the facility should immediately make radio/phone contact with the Facility Lead Technician, and provide the following information:
    a. That a fire has been discovered.
    b. The location and source of the fire.
    c. Any injuries that have occurred
    d. The cause of the fire (if known)
    e. Actions he/she will be taking to extinguish the fire (if appropriate, in accordance with step 2 of this procedure).

    NOTE: Notifying others of the emergency and getting trained responders on the way is the most important step in minimizing injuries to personnel and damage to equipment. However, if the person discovering a fire would be significantly delayed in attempting to extinguish it in its incipient stage by first getting to a radio to report it, the priority would be to extinguish the fire in the incipient stage. Example: A fire commences in the immediate vicinity of a person who does not have immediate access to a plant radio. If the person can quickly extinguish the fire, he/she should do so first, then get to a radio to report the fire as soon as possible thereafter. If a fire progresses to or is discovered in a state beyond the incipient stage, the immediate action is to notify others over the radio and get help.
2. Any person discovering a fire in its incipient stage should act as quickly as possible to extinguish the fire. In general, a fire should be considered to be in its incipient stage if it meets two primary criteria:
    a. The fire can be extinguished or controlled with a single portable fire extinguisher; and
    b. The person discovering the fire perceives an adequate level of safety in attempting to extinguish the fire.
3. As long as the fire is in its incipient stage, as defined above, the person discovering the fire should utilize all appropriate and readily available fire extinguishing equipment to extinguish the fire. Fire-fighting efforts beyond the incipient stage will be performed by trained outside responders only. (Note: All plant personnel will be provided with initial and periodic refresher training on the types and locations of fire-fighting equipment at the facility.

4. In response to the fire, the Facility Lead Technician/Lead Technician will need to make the following determinations:
    a. The equipment or activities that need to be shut down and/or ceased.
    b. If any automatic fire suppression systems (if applicable) were activated as a result of the fire, when to secure such systems.

APPENDIX 7: CHEMICAL OR OIL SPILLS AND RELEASES

The spill or release of any chemical is a potentially serious event, and appropriate response actions must be taken to minimize health hazards to personnel, as well as potential impacts to the environment. It is the policy of the facility that plant personnel will not respond to spills/releases but will instead call for trained outside responders to perform this function. For the purpose of clarification to plant personnel, the term "respond" in this context refers to actions taken to perform cleanup operations of spilled substances, and in some cases may even take the meaning of actually stopping the source of a spill. Taking basic response actions to a spill such as setting up barricades, placing containment media and stopping spills in situations such as the step 1 example below should not be construed to be acting in the role of a "responder", as it is defined in OSHA HAZWOPER regulations.

The basic actions to be taken in response to a chemical spill or release are the following:

1. If the spill or release is the direct result of an operational action performed on the system from which the release has originated, the person who performed the action should attempt to stop the release (if possible) **if it can be stopped without incurring additional personal exposure to the substance.** An example of this might be the following:

   Example: A person opens the drain valve on a line that results in an unexpected release. If the person can immediately stop the release by closing the valve, this action should be taken if no additional exposure to the chemical will occur by doing so.

2. The person discovering a spill/release should immediately move to a location that is a safe distance from the affected area, but still allows for observation of the affected area (if remaining within observation distance is safe under prevailing conditions; if in doubt, do not risk exposure – leave the area.).

3. The person discovering the spill should look for other personnel in the area and warn them by any means available of the event that has occurred. The Facility Lead Technician/Lead technician should be notified immediately over the radio. Information provided should include all of the following that are known:

   a. What type of chemical has been spilled/released?

   b. The location(s) of the spill/release.

   c. If the source of the spill/release has been stopped

   d. If any injuries or chemical exposure has occurred to personnel.

   e. Boundaries describing the area of the spill.

   f. Whether or not the spill is contained.

   g. Quantity released.

   h. Environmental Impacts (water bodies, streams, ground, roadways).

4. Based upon the report from the person discovering the spill, the Facility Lead Technician/Lead Technician shall evaluate whether the circumstances pose a threat to the surrounding community or the environment. **If a threat is imposed to the community or environment, 911 should be notified immediately.**

5. The Facility Lead Technician/Lead Technician shall make a determination as to whether the spill/release is of a quantity that must be reported to agencies, and if so, which agencies to notify. To perform this step, the Facility Lead Technician/Lead Technician shall use the Spill

Prevention Control and Countermeasure Plan (SPCC). The Facility Lead Technician shall ensure that all required notifications are made.

6. While remaining at a safe distance from the spill/release, the person discovering the spill should locate and place temporary containment around the outer boundaries of the spill, and place absorbent mats over any plant drains that are near the location of the spill. **This should be performed only if it is safe to do so without risking chemical exposure.**
7. The person discovering the spill should attempt to barricade, restrict access or otherwise mark off safe boundaries around the spill to avert others from inadvertently approaching the spill area. **This should be performed only if it is safe to do so without risking chemical exposure.**
8. The person discovering the spill should remain at a safe distance from the source of the spill/release until additional assistance or instructions are received.
9. Unless the person discovering the spill has reported unsafe conditions for approach of the area, the Facility Lead Technician shall immediately proceed to the spill area to evaluate the severity of the incident. **NOTE: IF ANY PERSONNEL ARE DISCOVERED TO BE UNCONSCIOUS OR OTHERWISE INCAPACITATED UPON APPROACH TO THE SPILL SCENE, ALL PERSONNEL MUST IMMEDIATELY BACK AWAY TO A SAFE DISTANCE FROM THE UNKNOWN THREAT.**
10. The Facility Lead Technician/Lead Technician shall evaluate the adequacy of containment, barricades, and any other efforts that have been taken to prevent the spill from migrating to any additional areas or systems, and direct additional actions to be performed (unless it is deemed that any additional actions are unsafe to perform). The adequacy or need for PPE should also be assessed. Upon completing this assessment, the Facility Lead Technician/Lead Technician shall notify/inform the Facility Emergency Coordinator of the status of the emergency.
11. Once the Facility Lead Technician/Lead Technician has determined that adequate containment and barricading of the spill area exists, he/she shall ensure that an adequately trained observer remains positioned a safe distance from the scene to observe the status of the spill. This observer shall perform radio status checks a minimum of once every three minutes until outside responders arrive for cleanup/mitigation actions.

APPENDIX 8: THREATS TO THE FACILITY

In the event that the site receives threatening correspondence either by phone or by other means of communications, the following actions should be performed immediately:

Actions by the person receiving the threat:

1. Gather as much information as possible from the person making the threat. If the threat is via written correspondence, place the correspondence in a location in which it will not be touched or otherwise disturbed until police can be contacted. If the threat is being made verbally (phone, or other), communicate and obtain information from the individual making the threat for as long as possible.
2. Inform the Facility Lead Technician/Lead Technician of the situation.

The Facility Lead Technician/Lead Technician may consider any or all of the following actions to take in response to the threat situation, depending upon the circumstances of the threat:

1. Order an evacuation of the facility.
2. Call 911 for Police or Fire Assistance.
3. Arrange for additional security personnel for the facility.
4. Direct plant personnel to commence a controlled shutdown of the facility.
5. Direct searches to be performed on vehicles entering the facility.

DISTRIBUTION LIST

Entity	Title
KOMIPO America	Director, US Renewables
Radian Generation	VP, Compliance and Risk Management
Radian Generation	Compliance and Risk Manager
NovaSource	Sr. Compliance Analyst
NovaSource	Site Manager

APPROVALS

Entity	Title	Date Approved
KOMIPO America	Director, US Renewables	08/29/22

Concho Valley Solar Project

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2. Sub-Contractor List
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5. Alcohol & Other Drugs Policy

Primoris
Renewable Energy

Project General Information

Developed for:	Concho Valley Solar Project	**Date:**	03/15/2021	
Location:		**City:**	San Angelo	**State:** TX
Job ID:	Concho Valley Solar Project Job #			
	Job Description: Turn Key Contstruction of a Solar Power Plant			

	Name	Email Address	Telephone	Cell Phone
Client Project Manager	**TBD**			
Client Safety Manager	**TBD**			
PRE Project Manager	**Chris Stanley**	**cstanley@prim.com**		**720-605-6584**
PRE Project Executive	**Willie De-Souza**	wdesouza@prim.com		720-665-5085
PRE Project Engineer	**Robert Scanlon**	rscanlon@prim.com		
PRE Safety Director	**Bryan Dardeau**	bdardeau@prim.com		225-279-1136
PRE Safety Manager	**Jordan Rodriguez**	jordan.rodriguez@prim.com		432-269-1999
PRE Site Manager	**Andrew Shetter**	ashetter@prim.com		720-665-5085
Subcontractors	**TBD**			
Crane & Rigging	**TBD**			

Primoris Renewable Energy Health and Safety Policy Statement

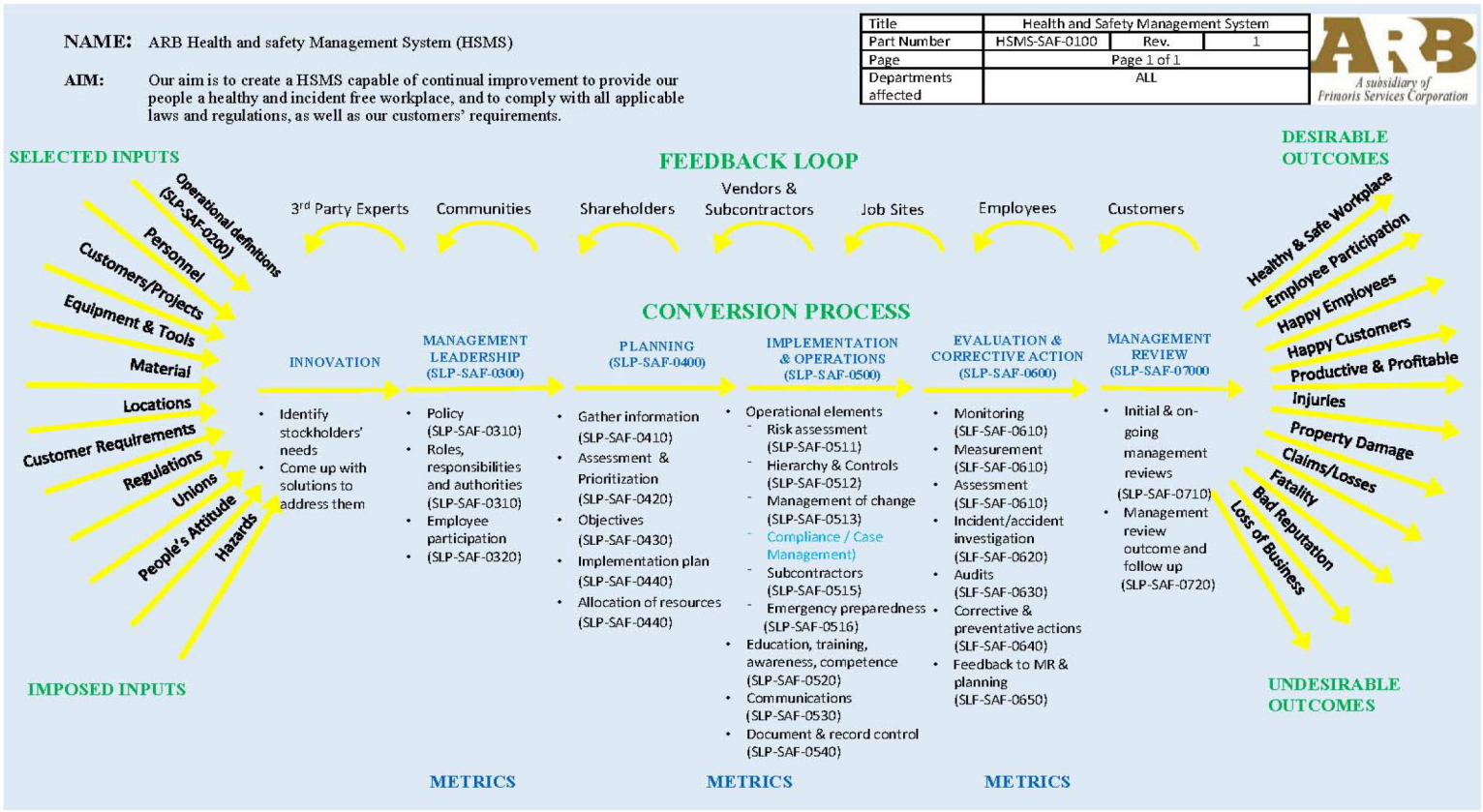
The health and safety of PRE employees is a core business value; where this value applies everywhere, to everyone, in every activity and decision, at all times. All incidents and injuries are preventable and we are committed to provide all necessary resources to achieve an incident free workplace.

We recognize that it is a leadership responsibility to implement actions necessary to achieve a healthy and injury-free workplace. We are committed to continual improvement of our company's health and safety management system, and recognize the importance of employee participation.

The organization will conduct operations in compliance with applicable laws and regulations, as well as in conformance with both our own and our customers health and safety standard.

"No business objective is so important that it will be pursued at the sacrifice of safety."

1.0 PRE HSE



PRO-SAF-0100

Selected Inputs:

1. Customer and Project Scope
    a. Customer Expectations – Merit SI
    b. Detailed Project Scope - Engineer-Procurement-Construction-Commissioning
2. Tools and Equipment
    a. Equipment is everything that we are contracted to install.
    b. Tools are what we install the equipment with.
3. Material
    a. Everything that is needed in order to complete the project.
4. Personnel
    a. All human resources needed to execute the project.

Imposed Inputs:

1. Locations
    a. Risk associated with geographical uniqueness and challenges with the location of the project.
2. Customer Requirements
    a. All customer requirements in regards to a safe workplace.
3. Regulations
    a. All associated government regulatory agencies (CEC, OSHA,EPA, etc)
4. Unions
    a. All associated unions, labor laws, and relations.

5. People's Attitude (management of people)
    a. Employee relations
    b. Community relations
    c. Customer
6. Hazards
    a. All hazards associated with project scope

2.0 Project Principles

Project Principles:

- ✓ Do it safely or not at all.
- ✓ There is always time to do it right.
- ✓ When in doubt, find out.

Stop Work Authority
Every employee and contractor for PRE is **responsible and authorized** to stop any work that does not comply safe operations. There will be no repercussions for exercising Stop Work Authority; it is a right and a responsibility.

3.0 Management Leadership and Employee Participation

3.1 Roles, Responsibility and Authority (PRO-SAF-0313)

Introduction:
For the HSE to work effectively, PRE Project Management shall define roles, assigned responsibilities, established accountability, and has delegated authority to implement an effective Health and Safety Management System (HSE).

Aim:
To ensure each person within the PRE project clearly understands his/her role and responsibilities as it relates to implementation and continual improvement of HSE.

Requirements:
PRE Project Management shall provide leadership and assume overall responsibility for implementing, maintaining, and monitoring performance of the HSE; including:

A. Providing appropriate financial, human and, organizational resources to plan, implement, operate, check, correct and, review the HSE;
B. Defining roles, assigning responsibilities, establishing accountability, and delegating authority to implement an effective HSE for continual improvement;
C. Integrating the HSE into the PRE project's daily activities and processes and assuring the PRE's performance review, compensation, rewards and recognition systems are aligned with the HSE policy and performance objectives.

Employees shall assume responsibility for aspects of health and safety over which they have control, including adherence to the organization's health and safety rules and requirements.

PRE employees' roles and responsibilities:

All Employees, Subcontractors and/or Visitors:

1. In Addition to the Job Site Safety Plan, All personnel shall comply with all PRE safety policies and procedures.
2. Be familiar with and abide by the:
   - Safety policy and tenet principles;
   - posted safety regulations in the workplace;
   - written and oral company instructions to perform their jobs safely;
3. Comply with all applicable rules, regulations, codes, covenants, restrictions, etc. (e.g. country, federal, state, and local regulations).
4. Develop and review S.T.A.R. and Merit SI work permits prior to beginning work and visually post them at each work location.
5. Take all reasonable precautions to protect the health and safety of all personnel.

Project Manager

1. Ensure individuals under their supervision including but not limited to supervisors, foreman, staff, craft employees, subcontractors, and other affected personnel to obtain any required HSE related training.
2. Ensure the development and implementation of a Job Specific Safety Plan (JSSP) that addresses project specific environment, health, and safety issues, customer concerns and/or requirements. The plan shall, as a minimum, incorporate by reference applicable PRE HSE requirements, or their equivalent, to cover such requirements.
3. Ensuring that sufficient funds are budgeted to provide appropriate resources, training, equipment, supplies, audits, and compliance with PRE HSE, customer, contractual, and regulatory requirements.
4. Ensure implementation of PRE HSE to identify hazards, perform risk assessments and to deploy control measures to reduce risk to acceptable levels.
5. Ensure HSE requirements are implemented and roles and responsibilities are effectively communicated to each employee and subcontractors.
6. Include HS performance and qualifications when evaluating and hiring employees.
7. Include HS performance when evaluating and selecting suppliers and subcontractors, and provide feedback to appropriate departments.
8. Conduct periodic health and safety audits (hazards, risks, and management systems) of work areas and/or facilities.
9. Participate in Root Cause Analysis (RCA) when applicable and follow up for corrections.
10. Participate in incident and near-miss investigations and reporting.
11. Participate in weekly site HSE field safety assessments or designate a project management team member.
12. Implement and participate in corrective and preventive action process.
13. Implement disciplinary actions when appropriate.
14. Ensure implementation of emergency action plans that provide clear roles and responsibilities for all personnel, in order to ensure familiarity and coordination between jobsite and facility personnel and emergency responders.
15. Implement an incentive program designed to promote compliance with the JSSP and HSE that involves both staff and field personnel. .
16. Set a personal example when visiting sites by wearing appropriate PPE, and following applicable rules.
17. Be an active and visible leader of the project's HSE.

18. Attend all project safety meetings.

Site Manager:

1. Periodically review S.T.A.R cards to ensure that they are adequate and specific to work being completed.
2. Participate in weekly HSE field safety assessments.
3. Ensure established safety policies are properly administered and enforced.
4. Ensure that field personnel are aware of PRE HSE policy and implement HSE and all associated processes, programs, procedures, and safe work practices established to safely control the work.
5. Prepare work instructions for the field operations and methods for carrying out the JSSP, to make each person aware of their responsibilities, and the means by which they will carry them out.
6. Know the appropriate statutory requirements affecting field operations for work that is being carried out.
7. Ensure that all personnel have appropriate training associated with their task according to the Site Specific Training Matrix (MATRIX-SAF-0521-PRE) prior to performing required duties. Training will include PRE new hire and site orientation.
8. Institute incident reporting and investigation process to eliminate hazards and implement appropriate corrective actions, utilizing lessons learned to avoid recurrence. Promote analysis of investigations to discover trends and weaknesses in the system of controls.
9. Discipline, re-educate/train, (or combination thereof) or replace any member of staff failing to satisfactorily carryout responsibilities to HSE.
10. Set a personal example when visiting sites by wearing appropriate PPE, and following applicable rules.
11. Arrange for regular reports to be reviewed to analyze safety performance, incident statistics, losses, and training standards. Metrics tracked and analyzed in reporting should include both leading and lagging indicators according to HSE requirements.
12. Conduct regular job site inspections according to the Jobsite Inspection Procedure (PRO-SAF-0612-PRE) to validate effectiveness of JSSP implementation.
13. Identify trends as they develop and modify plans and procedures accordingly.
14. Schedule adequate work time for each task to ensure that the work can be performed safely. There is always time to do it right.
15. Arrange for regular reports to be reviewed to analyze safety performance, incident statistics, losses, and training standards. Metrics tracked and analyzed in reporting should include both leading and lagging indicators.

Superintendents:

1. Periodically review S.T.A.R. cards to ensure that they are adequate and specific to work being completed.
2. Maintain overall control for safety.
3. Ensure established safety policies are properly administered and enforced.
4. Ensure that field operations personnel are aware of and implement policy and associated processes, programs, procedures, and safe work practices established to safely control the work.
5. Prepare instructions for the organization and methods for carrying out the contractor policy, to make each person aware of their responsibilities, and the means by which they will carry them out.
6. Know the appropriate statutory requirements affecting the contractor's operations for whatever locale the work is being carried out.

7. Ensure that crew has received appropriate training prior to working on site. Training will include PRE code of safe practices and site orientation. All training requirements are illustrated in Addendum A of this plan.
8. Ensure that there is liaison on HS matters between the contractor and others working on the site.

9. Institute incident reporting and investigation process to eliminate hazards and implement appropriate corrective actions, utilizing lessons learned to avoid recurrence. Promote analysis of investigations to discover trends and weaknesses in the system of controls.
10. Discipline, re-educate/train, or replace any member of staff failing to satisfactorily discharge responsibilities for HS.
11. Set a personal example by wearing appropriate PPE, and following applicable rules.
12. Schedule adequate work time for each task to ensure that the work can be performed safely. There is always time to do it right.

General Foremen and Foremen

1. Implement the JSSP for work under their supervision.
2. Monitor all personnel under their supervision to ensure that they have completed required HSE, and client specific training.
3. Conduct and review the quality of S.T.A.R. cards developed by crew members on a day to day basis.
4. Monitor all personnel under their supervision to ensure they are participating in the Behavior Based Safety Program as required. Ensure cards are turned in to HSE for tabulation on a weekly basis.
5. Collect, recommend, and implement HSE improvements.
6. Conduct and provide leadership with BBS observation process
7. Ensure all craft employees under their control are in compliance with PRE JSSP.
8. Ensure all craft employees under their control have, are properly wearing their PPE and their equipment is in good condition prior to the start of any work processes.
9. Ensure crew participation in S.T.A.R card development process.
10. Participate in incident and near-miss reporting and investigations.
11. Conduct corrective and preventive action process.
12. Conduct disciplinary actions when appropriate.
13. Carryout all health and safety needs for work area.
14. Encourage suggestions and feedback from craft employees on identifying hazards and improving work practices.

Craft Employees

1. Understand and comply with the PRE JSSP relative to their role.
2. Complete required HS training.
3. Follow all PRE HS instructions, training, and communicated requirements.
4. Wear personal protective equipment (PPE) as required and maintain the equipment in good condition.
5. Participate in the S.T.A.R card development process including reviewing tasks prior to beginning work; obtaining an adequate understanding of the hazard(s) and control measures associated with the task, and following all applicable safe work practices as described in the S.T.A.R. card and signing the S.T.A.R. card prior to beginning work.
6. Participate in the Behavior Based Safety Program as required.
7. Report all injuries, incidents and/or near misses immediately.
8. Attend and participate in all required health and safety meetings.
9. Report unsafe conditions and problems; and suggest improvements to foreman/ supervisor.
10. Use the correct tools and equipment for the job and report any defect noted in tools and equipment.
11. Work in a safe manner at all times. Wear suitable footwear and protective clothing. When required, use, safety equipment such as welding goggles, hearing protection, respirators, safety goggles, etc.
12. Suggest to Supervision ways of improving safety and eliminating hazards.
13. Mentor new employees (Short Service Employees) and warn them of known hazards and safe work practices.
14. Report any incident or damage, however minor, to Supervision immediately.

Health and Safety Manager

1. Communicate and train management and employees on their roles and responsibilities regarding HSE.
2. Develop a process that prepares guidelines and documentation for programs to ensure compliance with relevant health and safety laws, regulations, policies, and guidelines and customer requirements.
3. Recommend programs and actions for compliance and use of best practices.
4. Provide guidance and technical assistance to Project Management Team in identifying, evaluating, and correcting health and safety hazards.
5. Participate or lead the Site Manager in weekly site safety assessments. Ensure closure of corrective actions.
6. Provide safety and health training and material assistance to support safe operations.
7. Will maintain the Site Specific Training Matrix (MATRIX-SAF-0521-PRE)
8. Lead analysis of near misses, incidents and injuries, and report to appropriate individuals.
9. Track, monitor, measure and report incident, injury and illness data.
10. Track, monitor, and report all leading indicator data (observation process, near misses, site participation, HSE implementation, training compliance, etc.) to Project Management Team.
11. Monitor the compliance and implementation of HSE including regulations and organizational health and safety policies, procedures, training, S.T.A.R. card, programs, and guidelines.
12. Document and communicate instances of noncompliance, and recommend improvements of the HSE program to the Management Review Board.
13. Arrange for medical treatment as required, in the case of injury or illness including transportation to a doctor or hospital as detailed in this JSSP.

Employee Training

1. All employees will be trained on the H&S Policy Statement and shall be made aware of their roles and responsibilities per **TNG-SAF-0313-PRE**

3.2 Employee Participation (PRO-SAF-0320-PRE)

Aim:
To establish a process to ensure effective participation in HSE by all employees at all levels of organization, including craft employees because they are the closest to the hazard.

Scope:
Project Manager shall encourage employees to have meaningful involvement in the planning, operation, and pursuit of the objectives of HSE; and to identify tasks, hazards, assess risks, and deploy possible control measures; and participate in planning, evaluation, and implementation of control measures to reduce risk.

Process and Procedure:

3.2.1 Project Manager assumes the responsibility to provide employees at all levels of the project the mechanisms, time, and resources necessary to participate in, at a minimum, the processes of:

1. Planning
2. Implementation
3. Evaluation, corrective and preventive action
4. Identifying and removing obstacles or barriers to participation

3.2.2 All HS information will be communicated to employees in a timely manner to help promote employee participation. Methods to communicate the information include:

1. Safety bulletins

2. Lessons learned emails

3. Communication of overall project HS performance (leading and lagging indicator data). – *Data will be communicated by posting data on bulletin boards and project emails.*

3.2.3 An employee HS participation strategy shall be created for the PRE project and tailored for the projects specific HS needs and goals. The participation should include sufficient direction, authority, resources, and training to effectively support employee participation activities.

3.2.4 Different Employee participation methods should include but are not limited to:

1. Health and safety committees and sub-committees
2. Establishing joint labor-management committees
3. Work groups and teams
4. Utilizing safety representatives to facilitate employee participation in the HSE.
5. Craft jobsite inspections/ audits
6. Safety slogan contests
7. Behavior based observation programs
8. Safety recognition and incentive programs

3.2.5 Employee participation shall be promoted by Project Manager and each employees should understand the role they play in employee participation and why it is important.

3.2.6 Project Manager should demonstrate willingness to commit needed resources for effective employee participation.

3.2.7 Project Manager should demonstrate willingness to alter processes and procedures if a more effective method is communicated through any of the employee participation programs.

3.2.8 Safety responsibilities and employee participation shall be recognized as a part of each job description and at every level of organization.

3.2.9 Project Manager should encourage employee participation in the design, implementation, and ongoing operation of the site's HSE program. Examples of possible participation includes, but not limited to:

1. Participation in hazard reviews and S.T.A.R card development.
2. Participation in the Behavior Based Safety Program.
3. Participation in incident and near miss investigations.
4. Participation in health and safety committees.
5. Participation in the development of training programs and procedures and in the safety training of other workers.
6. Participation in teams conducting site risk assessments, inspections and audits.
7. Employee participation in the review and selection of PPE; with explanation of when it is required, why it is required, how to use it, what its limitations are, and how to maintain it.
8. Employee recognition for their involvement in safety programs and groups.
9. Employee involvement in defining safe operating procedures and work practices for a task or job. This would be an extension of the risk assessment process.
10. Employees communicating with or training other employees, often referred to as "peer level" training.
11. Employees reporting unsafe conditions, tools or equipment, and practices.

12. Mentoring of new employees and apprentices through the project's Short Service Employee SSE program (PRO-SAF-0024).
13. Stop Work Authority (SWA) communications (PRO-SAF-0044).
14. Providing safety feedback, using defined mechanisms to all project personnel. (PRO-SAF-4113)
15. Helping identify and control jobsite hazards using the hierarchy of controls (PRO-SAF-0512).

3.2.10 Training shall be provided to allow employees to participate more meaningfully in the process. Examples of HSE types of trainings include but are not limited to:

1. Safety committee operations, duties, and responsibilities.
2. Hazard identification and hierarchy of control.
3. Accident, incident, or near-miss investigation procedures / process.

3.2.11 Other issues to consider for effective employee participation:

3.2.11.1 Goals and Incentives

Project goals and performance targets should include financial and non-financial incentives that employees view as operational priorities. Employee participation should help identify HSE incentives. (Poorly designed incentives can cause adverse behavior, such as a reluctance to report injuries.)

3.2.11.2 Time and Resources

1. All employees, including managers and supervisors should balance time for safety activities with time devoted to other business demands. All of HSE responsibilities require attention, but not at the expense of the others.
2. Adequate time and resources will be made available to all employees to perform their responsibilities under the HSE program.
3. Employees who are part of safety committees need sufficient time to perform their duties. Arrangements will need to be made to allow supervisors to plan for employees to participate in HS committees and avoid being shorthanded.

3.2.12.3 Communications (PRO-SAF-0530-PRE)

1. Employee communications shall reflect a balance of business messages, including frequent emphasis on safety.
2. All forms of communications should be consistent with the spirit and the intent of PRE policy and HSE.
3. Some employees may be assertive in reporting problems or expressing safety concerns. Management will resist implementing transfers, demotions, discipline, or other action rather than addressing the issue.
4. Communicate activities and successes to employees in a timely and meaningful way.
5. Communication should be designed to reach all employees, including those who are illiterate or do not speak English.
6. Management should facilitate communication between different functions such as estimating, purchasing, engineering, construction, quality, and human resources, etc.

7. Encourage employees to report injuries and problems, and to respond to them promptly. Every report shall receive an immediate receipt confirmation that will have an estimated date for a follow up communication.

8. Employees should be encouraged to report hazards to their immediate supervisors.
9. Mechanisms for communication between employers on the same jobsite, including the owner, and subcontractors should be clear to all.

3.2.13 Remove barriers to participation:

Effectively engaging workers to actively participate in health and safety requires thoughtful planning and implementation of processes/policies that will build an atmosphere of trust. Some factors that may act as a barrier to employee participation include:

1. Disregarding the fact that all injuries and illnesses result from exposure to hazards.
2. Perception by employees that management is primarily interested in disciplining “unsafe” acts without adequately addressing hazards and root causes.
3. Personnel actions such as promotions, compensation, demotions, disciplines, and reassignments that are administered in such a way to reduce or undermine the commitment to safety (ie inconsistent disciplinary action such as two separate employees getting disciplined differently for the safe offense)
4. Treating worker behavior as though it is a root or underlying cause rather than identifying hazards or system/process-related causes.
5. Not implementing hazard recognition and control measures and/or ignoring the hierarchy of controls.
6. Blaming employees and disciplining in lieu of system changes
7. Uneven accountability- focusing only on the craft workers and not addressing “behavior” of supervisors or senior management.
8. Employee perception that production takes precedent over safety and health.

Training: (Employee Participation TNG-SAF-0320)

1. Project management and supervision employees shall be trained on this procedure to make sure they understand the intent and the requirements of HS Policy Statement, their roles and responsibilities relative to HS, the importance of employee participation, and are competent in communicating it to their employees, subcontractors and visitors in a manner that is consistent with PRE operations and culture.

2. All PRE employees shall be trained on this procedure to make sure they understand his/her roles and responsibilities as it relates to implementation and continual improvement of Health and Safety Management System (HSE).

3. All PRE employees shall be trained on this procedure to make sure they understand the importance of employee participation in an effective HSE program.

Reporting and record keeping:

1. This procedure will be a controlled document and accessible to all PRE employees.
2. This procedure will be reviewed periodically for effectiveness and to ensure it meets the project’s needs and health and safety requirements.
3. Training records shall be kept on file and updated periodically

4.0 Job Scope Overview and Safety Risk Assessment

Aim:

The aim of the planning process is to identify and prioritize HSE issues defined as hazards, risks, management system deficiencies and opportunities for improvement; and to establish objectives which offer the greatest opportunities for HSE improvements and risk reduction consistent with PRE policy.

Scope:

The planning establishes the HSE program and implements processes to periodically:

1. Review relevant information to identify HSE issues related to health and safety performance. (section 4.1)
2. Prioritize HSE issues identified during the review (section 4.2)
3. Develop objectives for the system improvements and for risk control, based on prioritized HSE issues (section 4.3)
4. Formulate implementation plans to accomplish the prioritized objectives (section 4.4)

Describe the major elements or phases of the project or job.

Phase	Activity	Sub-Contractors
1	Mobilization	PRE
2	Grade Site, Roads, and Parking	PIM
3	Clear Grub, Demo	PIM
4	Install Site Fencing and Gates	
5	DC & MV Underground Electrical	PRE
6	Inverter Skids – Pad Prep and Set	PRE
7	Install Piles	PRE
8	Install Tracker System	PRE
9	Install Modules	PRE
10	DC Collector Cabing (CAB)	PRE
11	Sub Station Tie In	
12	Back feed Utility Power to Solar Field	PRE
13	Inverter Commisioning	
14	Tracker Commissioning	
15	Site Restoration	
16	Demobilization	PRE

The following table is a general list of risks/ hazards and suggested control measures associated with the different phases of the project.

All PRE jobs shall have S.T.A.R. cards developed by Foremen and the crew responsible for performing the work prior to beginning the work. (Also see PRO-SAF-1511 S.T.A.R Card Procedure)

4.0.1 ***Mobilization and Demobilization*** Risk Assessment and Hazard I.D. (LOW RISK ROUTINE/NON-ROUTINE or MEDIUM RISK, ROUTINE TASKS)

Task #: 1

Potential Hazards

☒ **Gravity**
- ☐ Overhead work
- ☐ Falling object
- ☐ Excavation
- ☐ Collapsing roof/equipment
- ☒ Elevated/Uneven work surface
- ☐ Open holes
- ☐ Other __________

☒ **Motion**
- ☒ Vehicle/Equipment movement
- ☐ Limited mobility (confined space)
- ☒ Material movement
- ☒ Water/Wind movement
- ☒ Body positioning/Ergonomics
- ☒ Manual Lifting
- ☒ Crush/Pinch points
- ☐ Containment
- ☐ Other __________

☒ **Mechanical**
- ☐ Rotating equipment
- ☐ Compressed springs
- ☐ Drive belts and conveyors
- ☐ Motors
- ☒ Power/Hand tools
- ☐ Other __________

☒ **Electrical**
- ☒ Power lines (above)
- ☐ Energized equipment
- ☐ Static charges
- ☒ Wiring
- ☐ Batteries
- ☐ Other __________

☐ **Pressure**
- ☐ Piping
- ☐ Cylinders
- ☐ Vessels/Tanks
- ☐ Hoses
- ☐ Other __________

☒ **Temperature**
- ☐ Ignition source
- ☐ Hot/Cold surfaces, liquids, gases
- ☒ Hot/Cold weather conditions
- ☐ Additional protective clothing?
- ☐Lvl A ☐Lvl B ☐Lvl C ☐Lvl D
- ☐ Other __________

☐ **Chemical**
- ☐ Explosive/Flammable vapors
- ☐ Welding fumes
- ☐ Carcinogen Compound
- ☐ Toxic Compounds
- ☐ Corrosive Compound
- ☐ Reactive Compounds
- ☐ Pyro-phoric material
- ☐ Other __________

☒ **Biological**
- ☒ Animals/Insects
- ☐ Bacteria/Viruses
- ☐ Blood Borne Pathogens
- ☐ Contaminated food/water
- ☐ Other __________

☒ **Radiation**
- ☐ Lighting
- ☐ Welding arc/flash
- ☒ Sunlight
- ☐ X-rays
- ☐ NORM scale
- ☐ Other __________

☒ **Sound**
- ☒ Equipment noise
- ☐ Impact noise
- ☐ Venting noise
- ☐ Communication (SimOps)
- ☐ Communication (Language)
- ☐ Other __________

****NOTE** Red text indicates PPE analysis and certification required in section 6 and completion of a line for each hazard in table 4.2**

Mitigations

Hazard Controls (Engineering and Administrative)
- ☐ Work Permits
- ☒ PPE Program
- ☒ Warning signs
- ☐ Pipeline markers
- ☒ Spotters/Attendants
- ☒ Barricades
- ☒ Housekeeping
- ☐ Ignition source controls
- ☐ Gas monitoring
- ☒ Safety Data Sheets
- ☐ Scaffolding
- ☒ Parking Plans
- ☐ Equipment Staging Plans
- ☐ Essential personnel only
- ☐ Break Rotation
- ☐ Temporary Lighting
- ☐ Isolation of Hazardous Energy
- ☐ Equipment Inspections
- ☒ Other S.T.A.R Cards
- ☐ Other ___
- ☐Other

Safety Controls (Personal Protective Equipment)
- ☒ Hard hat
- ☒ Safety shoes
- ☒ Safety glasses
- ☐ Face shield
- ☐ Goggles
- ☒ Cotton gloves
- ☒ Leather gloves
- ☐ Chemical gloves
- ☐ Electrical rated gloves
- ☐ Chemical suit
- ☒ Work vest/Life vest
- ☒ Full body harness
- ☐ Specialty Clothing
- ☐ Hearing protection
- ☐ FRC
- ☒ Other Rain Suit
- ☐ Other __________
- ☐ Other __________

Safety Equipment
- ☒ Fire Extinguishers
- ☐ Fire retardant tarps
- ☐ Locks and tags
- ☐ Gas detectors
- ☐ Personal Monitors
- ☐ Tag line
- ☐ Safety cable
- ☐ Safety Barricade
- ☒ Caution tape
- ☐ Area Monitors
- ☐ Other _____
- ☐ Other __________
- ☐ Other __________
- ☐ Other __________

Emergency/Contingency Plans
- ☐ Spill Control
- ☐ Spill Contingency Plans
- ☒ Emergency Evacuation Plans
- ☒ Incident Reporting Procedure
- ☐ Early Injury Management
- ☐ Other __________

Environmental Equipment
- ☐ Absorbent pads
- ☐ Containment pans
- ☐ Other __________

Certification Requirements
- ☐ Certified Welder
- ☐ Qualified Crane Operator
- ☐ Qualified Rigger
- ☐ Qualified Signal Man
- ☒ Competent Person
- ☐ Scaffolding Inspector
- ☐ Qualified Gas tester
- ☐ Confined Space Attendant
- ☐ Fire Watch
- ☐ Equipment Operator
- ☐ Other CDL
- ☐ Other __Electrician________

Licensing Requirements
- ☐ Asbestos Abatement
- ☐ Lead Abatement
- ☐ Other __________
- ☐ Other __________

Applicable Safe Work Practices
- ☒ Safe Work
- ☐ Bypassing Critical Protection
- ☐ Confined Space
- ☐ Diving
- ☒ Electrical Safe Work
- ☐ Excavation
- ☒ Lifting and Rigging
- ☐ Hot Work
- ☐ Isolation of Hazardous Energy
- ☐ Simultaneous Operations
- ☒ Working at Heights
- ☐ Other __________

General
- ☐ Other __________
- ☐ Other __________

Major Equipment Required

Equipment:______________ **Make:** ______ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________________________
Action:______________________________

Equipment:______________ **Make:** ______ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________________________
Action:______________________________

Equipment:______________ **Make:** ______ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________________________
Action:______________________________

Equipment:______________ **Make:** ______ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________________________
Action:______________________________

Occupational Health Considerations (Characterization, monitoring plan, exposure controls)

None

Emergency Actions Planning / Emergency Response Capability Required

All hands have communications (cell, vehicles CB/radios).

Pre-requisite actions, SIMOPS and Communications Required

Radios, cell phones.

4.0 ***Mobilization and Demobilization*** Risk Assessment and Hazard I.D. (Medium / High RISK, NON-ROUTINE TASKS)

Medium or High Hazard Task(s) #	Additional High or Medium Hazard w/sub-task	Engineering Mitigation	Administrative Mitigation	PPE Mitigation	Stop Work Triggers	Required Actions at Stop Work
1. Overhead power lines.	Hazard: Electrocution Potential Severity: H Potential Frequency: L	Proposed action: : **A**. Install overhead power line signs. **B**. Install goal post. Hazard Reduction: None	Proposed action: **A.** Mark locations, spotters, stow booms. **B.** Maintain minimum safe vertical and horizontal clearannces form overhead lines Hazard Reduction: VTL	PPE Required: Minimum project requirements Controls: Goal Posts Training Required to ensure proper use: None	1. Trigger: Boom not stowed or up when going under or within 15feet of lines. 2. Trigger: No spotter.	1. Stop vehicle. 2. Stow Boom 3. Get a spotter 4.
1. Traffic Control	Hazard: MVA Potential Severity: H Potential Frequency: L	Proposed action: : Hazard Reduction: None	Proposed action: Set up Traffic control signs. Hazard Reduction:	PPE Required: Minimum project requirements Controls: Traffic control signage Training Required to ensure proper use: None	1. Downed signage 2. Not wearing high viz vest	1. Stop task and restore signage 2. Stop work. Assure employees understand PPE requirements and comply.
1. Vehicular / Equipment Movement	Hazard: MVA / Man vs. Machine Potential Severity: H Potential Frequency: L		**A**. Be aware of potential for traffic **B**. Identify traveled ways and signs at each site **C**. Obey all site posted speed limits **D**. Seatbelt usage required at all times **E**. Implement 'first move forward' by backing into parking locations. **F**. Wear high-visibility safety vest (Class 2) at all times **G**. Stand out of traveled ways while moving equipment, reviewing plans, or resting **H**. Park personal vehicles in designated parking locations on the site **I**. Do not use cell phone while driving a vehicle on PSC property **J**. Use spotters when needed **K**. Drive defensively – follow Smith Driving System rules **L**. Ensure equipment (buckets, pumps, tools, etc.) is secured before moving vehicle. **M**. Perform 360 degree walk around before moving	PPE Required: Minimum project requirements Controls: Site speed limits Training Required to ensure proper use: Qualifications to operate equipment	1. Unauthorized personnel on site 2. Not wearing required PPE 3. No spotter when needed	1. Stop work and escort individual off site. 2. Stop work. Assure employees understand PPE requirements and comply. 3. Stop equipment until spotter is assigned when needed.

1. Body Positioning / Lifting / Ergonomics	Hazard: Sprains / Strains Potential Severity: L Potential Frequency: H		**A**. Keeping the body in the right position while moving equipment and heavy objects **B**. Assigning the job to the person with proper physical condition, and rotate the task if weather conditions or fatigue become a factor **C**. Stretch the muscles and warm up the body before starting **D**. Awkward position and overexertion can cause muscle strain and back injuries (Motion). Lift heavy objects using leg and arm strength and proper posture. **E.** Do not twist and lift at the same time. **F.** Keep the load close to your body **G**. Obtain assistance when lifting heavy objects – maximum lifting weight per person is 50 lbs per PSC policy	PPE Required: Minimum project requirements Controls: **1.** Don't lift more than 50 lbs. without help **2.** Consider using mechanical means to move anything that weighs more than 50lbs. Training Required to ensure proper use: Qualifications to operate the machine being used.	**1**. Moving an awkward object alone **2**. Moving or lifting objects heavier than 50 lbs. alone **3.** Lifting or moving objects with poor body mechanics	**1.** Stop work and assist the employee or assign someone to help **2.** Stop work and assist the employee or assign someone to help or bring in a forklift **3.** Stop work. Adress proper body mechanics
1. Material Handling and Storage	Hazard: Dropped loads, pinch / smash points Potential Severity: H Potential Frequency: L		**A.** Discuss at safety meetings **B.** Inspect slings and lifting devices prior to use **C.** Never get under suspended loads **D.** Avoid pinch points **E.** Use proper hand protection	PPE Required: Minimum project requirements Controls: Tag lines Training Required to ensure proper use: Qualifications to operate the machine being used.	1. Using damaged or faulty equipment 2. Employees getting the line of fire	1. Stop work, remove and replace faulty equipment 2. Stop work, identify the line of fire hazard and resume task in a safe manner
1. Tripping, Slipping and falling	Hazard: Sprains, strains, broken bones Potential Severity: L Potential Frequency: H		**A.** Pay attention to ground conditions and watch where you are walking. Eyes on task, eyes on path **B.** Maintain good housekeeping within the work space to avoid slips, trips, and falls	PPE Required: Minimum project requirements Daily housekeeping assessments. Controls: Training Required to ensure proper use:	1. Personnel walking or working with inattention	1. Stop work, get employee focused, re-assign the task if needed
1. Heat and Cold Weather	Hazard: Heat illness Potential Severity: H Potential Frequency: L		**A.** Schedule appropriate breaks **B.** Drink plenty of water **C.** Discuss signs and symptoms of heat stress at safety meetings **D.** Shade must me up when the temperature is 80 degrees or higher **E.** High heat procedure must be implemented when the temperature reacHSE 95 degrees or higher **F.** Follow PSC and PRE Heat Stress Program **G.** As weather changes, adjust clothing to suit for cooler conditions	PPE Required: Minimum project requirements Controls: Training Required to ensure proper use:	1. Personnel showing signs or symptoms of heat illness	1. Stop work. **For heat stress** get the employee into the shade, remove outer garments and boots, give fluids to sip and PRE policy is to call CORE Medical. **For heat stroke** call 911, get employee into the shade, remove all outer garments and boots, put water (not cold ice water that will shock) on the employee, fan the employee to help cool down until paramedics arrive

1. Emergency – Fire / Earthquake/ Flood/High Winds	Hazard: Burning, electrocution, drowning Potential Severity: H Potential Frequency: L		**A.** 20 lb fire extinguishers must be on site to put out small fires in the insipient stage **B.** Throughout project assign fire watch duties for any hot work **B.** Have an evacuation plan **D.** Get out from under power lines during an earthquake **E.** Get out of and away from open trencHSE during earthquakes **F.** Review earthquake contingency as part of emergency action plan **G.** Be aware of flood potential from storm water channels during heavy rain events. **H**. Wind speeds over 20 MPH will require equipment movement restrictions.	PPE Required: Minimum project requirements Controls: Training Required to ensure proper use:	1. Fires 2. Earthquakes 3. Heavy rain events 4. High Wind Speeds	**1.** Stop work. Extinguish fires that are in the insipient stage. If a fire is fully involved call 911 and evacuate site and go to designated muster area. Have employee roster for the day to account for all employees at the designated muster area. **2.** Stop work. Refer to mitigations. Evacuate site and go to designated muster area. Have employee roster for the day to account for all employees at the designated muster area. **3.** Shut down operations for the day if needed. If flash flooding in storm water channel stop work. Refer to mitigations. Evacuate site and go to designated muster area. Have employee roster for the day to account for all employees at the designated muster area.
1. Human Factors – Fatigue / Illness	Hazard: Accidents / injuries Potential Severity: H Potential Frequency: L		**A.** Supervisor will monitor employees for signs of fatigue **B.** During S.T.A.R. card discuss the need for a full night's / day's sleep to keep employees alert on the job site **C.** Increase frequency of breaks if needed **D.** If an employee is working in an unsafe manner due to fatigue, that employee should be given some time off to rest **E.** A maximum of 16 hours working with 8 hours of rest between shifts should followed **F.** If an employee has an illness, that employee should not come to work **G.** Before night shift begins, give employees 2 days warning to get acclimated to working nights	PPE Required: Minimum project requirements Controls: Training Required to ensure proper use:	1. Anytime employees are showing signs of fatigue but especially during long shiftsand the following day.	1. Give that employee time off to get rest and return fresh, rested, alert and ready to work

4.0.2 Grade Site, Roads, and Parking Risk Assessment and Hazard I.D. (Low/Medium Risk, NON-ROUTINE TASKS)

Task #	Potential Hazards	Mitigations	Major Equipment Required
2	(see below)	(see below)	(see below)

Potential Hazards

☒ **Gravity**
- ☐ Overhead work
- ☐ Falling object
- ☐ Excavation
- ☐ Collapsing roof/equipment
- ☒ Elevated/Uneven work surface
- ☐ Open holes
- ☐ Other __________

☒ **Motion**
- ☒ Vehicle/Equipment movement
- ☐ Limited mobility (confined space)
- ☒ Material movement
- ☒ Water/Wind movement
- ☒ Body positioning/Ergonomics
- ☒ Manual Lifting
- ☒ Crush/Pinch points
- ☐ Containment
- ☐ Other __________

☒ **Mechanical**
- ☒ Rotating equipment
- ☐ Compressed springs
- ☐ Drive belts and conveyors
- ☐ Motors
- ☐ Power/Hand tools
- ☐ Other __________

☒ **Electrical**
- ☒ Power lines (above)
- ☐ Energized equipment
- ☐ Static charges
- ☐ Wiring
- ☐ Batteries
- ☐ Other __________

☒ **Pressure**
- ☐ Piping
- ☐ Cylinders
- ☐ Vessels/Tanks
- ☒ Hoses
- ☐ Other __________

☒ **Temperature**
- ☐ Ignition source
- ☐ Hot/Cold surfaces, liquids, gases
- ☒ Hot/Cold weather conditions
- ☐ Additional protective clothing?
- ☐ Lvl A ☐ Lvl B ☐ Lvl C ☐ Lvl D
- ☐ Other __________

☐ **Chemical**
- ☐ Explosive/Flammable vapors
- ☐ Welding fumes
- ☐ Carcinogen Compound
- ☐ Toxic Compounds
- ☐ Corrosive Compound
- ☐ Reactive Compounds
- ☐ Pyro-phoric material
- ☐ Other __________

☒ **Biological**
- ☒ Animals/Insects
- ☐ Bacteria/Viruses
- ☐ Blood Borne Pathogens
- ☐ Contaminated food/water
- ☐ Other __________

☒ **Radiation**
- ☐ Lighting
- ☐ Welding arc/flash
- ☒ Sunlight
- ☐ X-rays
- ☐ NORM scale
- ☐ Other __________

☒ **Sound**
- ☒ Equipment noise
- ☐ Impact noise
- ☐ Venting noise
- ☐ Communication (SimOps)
- ☐ Communication (Language)
- ☐ Other __________

****NOTE** Red text indicates PPE analysis and certification required in section 6 and completion of a line for each hazard in table 4.2**

Mitigations

Hazard Controls (Engineering and Administrative)
- ☐ Work Permits
- ☒ PPE Program
- ☒ Warning signs
- ☐ Pipeline markers
- ☒ Spotters/Attendants
- ☐ Barricades
- ☒ Housekeeping
- ☐ Ignition source controls
- ☐ Gas monitoring
- ☒ Material Safety Data Sheets
- ☐ Scaffolding
- ☒ Parking Plans
- ☐ Equipment Staging Plans
- ☒ Essential personnel only
- ☐ Break Rotation
- ☐ Temporary Lighting
- ☐ Isolation of Hazardous Energy
- ☒ Equipment Inspections
- ☒ Other __S.T.A.R. Card__
- ☐ Other ____
- ☐ Other ____

Safety Controls (Personal Protective Equipment)
- ☒ Hard hat
- ☒ Safety shoes
- ☒ Safety glasses
- ☐ Face shield
- ☐ Goggles
- ☒ Cotton gloves
- ☒ Leather gloves
- ☐ Chemical gloves
- ☐ Electrical rated gloves
- ☐ Chemical suit
- ☒ Work vest/Life vest
- ☐ Full body harness
- ☐ Specialty Clothing
- ☒ Hearing protection
- ☐ FRC
- ☐ Other Rain Suit__
- ☐ Other __________
- ☐ Other __________

Safety Equipment
- ☒ Fire Extinguishers
- ☐ Fire retardant tarps
- ☐ Locks and tags
- ☐ Gas detectors
- ☐ Personal Monitors
- ☐ Tag line
- ☐ Safety cable
- ☐ Safety Barricade
- ☐ Caution tape
- ☐ Area Monitors
- ☐ Other _____
- ☐ Other __________
- ☐ Other __________
- ☐ Other __________

Emergency/Contingency Plans
- ☒ Spill Control
- ☒ Spill Contingency Plans
- ☒ Emergency Evacuation Plans
- ☒ Incident Reporting Procedure
- ☐ Early Injury Management
- ☐ Other __________

Environmental Equipment
- ☐ Absorbent pads
- ☐ Containment pans
- ☐ Other __________

Certification Requirements
- ☐ Certified Welder
- ☐ Qualified Crane Operator
- ☐ Qualified Rigger
- ☐ Qualified Signal Man
- ☒ Competent Person
- ☐ Scaffolding Inspector
- ☐ Qualified Gas tester
- ☐ Confined Space Attendant
- ☐ Fire Watch
- ☒ Equipment Operator
- ☐ Other CDL
- ☐ Other __Electrician________

Licensing Requirements
- ☐ Asbestos Abatement
- ☐ Lead Abatement
- ☐ Other __________
- ☐ Other __________

Applicable Safe Work Practices
- ☒ Safe Work
- ☐ Bypassing Critical Protection
- ☐ Confined Space
- ☐ Diving
- ☐ Electrical Safe Work
- ☐ Excavation
- ☐ Lifting and Rigging
- ☐ Hot Work
- ☐ Isolation of Hazardous Energy
- ☐ Simultaneous Operations
- ☐ Working at Heights
- ☐ Other __________

General
- ☐ Other __________
- ☐ Other __________

Major Equipment Required

Equipment:______________ **Make:** ______ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action:____________________

Equipment:______________ **Make:** ______ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action:____________________

Equipment:______________ **Make:** ______ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action:____________________

Equipment:______________ **Make:** ______ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action:____________________

Occupational Health Considerations (Characterization, monitoring plan, exposure controls)

None

Emergency Actions Planning / Emergency Response Capability Required

All hands have communications (cell, vehicles CB/radios).

Pre-requisite actions, SIMOPS and Communications Required

Radios, cell phones.

Primoris Renewable Energy

4.0.3 **Clear Grub and Demo** Risk Assessment and Hazard I.D. (Low/Medium Risk, NON-ROUTINE TASKS)

Task #: 3

Potential Hazards

☒ **Gravity**
- ☐ Overhead work
- ☐ Falling object
- ☐ Excavation
- ☐ Collapsing roof/equipment
- ☒ Elevated/Uneven work surface
- ☐ Open holes
- ☐ Other __________

☒ **Motion**
- ☒ Vehicle/Equipment movement
- ☐ Limited mobility (confined space)
- ☒ Material movement
- ☒ Water/Wind movement
- ☒ Body positioning/Ergonomics
- ☒ Manual Lifting
- ☒ Crush/Pinch points
- ☐ Containment
- ☐ Other __________

☒ **Mechanical**
- ☐ Rotating equipment
- ☐ Compressed springs
- ☐ Drive belts and conveyors
- ☐ Motors
- ☒ Power/Hand tools
- ☐ Other __________

☐ **Electrical**
- ☒ Power lines (above)
- ☐ Energized equipment
- ☐ Static charges
- ☐ Wiring
- ☐ Batteries
- ☐ Other __________

☒ **Pressure**
- ☐ Piping
- ☐ Cylinders
- ☐ Vessels/Tanks
- ☒ Hoses
- ☐ Other __________

☒ **Temperature**
- ☐ Ignition source
- ☐ Hot/Cold surfaces, liquids, gases
- ☒ Hot/Cold weather conditions
- ☐ Additional protective clothing? ☐Lvl A ☐Lvl B ☐Lvl C ☐Lvl D
- ☐ Other __________

☐ **Chemical**
- ☐ Explosive/Flammable vapors
- ☐ Welding fumes
- ☐ Carcinogen Compound
- ☐ Toxic Compounds
- ☐ Corrosive Compound
- ☐ Reactive Compounds
- ☐ Pyro-phoric material
- ☐ Other __________

☒ **Biological**
- ☒ Animals/Insects
- ☐ Bacteria/Viruses
- ☐ Blood Borne Pathogens
- ☐ Contaminated food/water
- ☐ Other __________

☒ **Radiation**
- ☐ Lighting
- ☐ Welding arc/flash
- ☒ Sunlight
- ☐ X-rays
- ☐ NORM scale
- ☐ Other __________

☒ **Sound**
- ☒ Equipment noise
- ☐ Impact noise
- ☐ Venting noise
- ☐ Communication (SimOps)
- ☐ Communication (Language)
- ☐ Other __________

****NOTE** Red text indicates PPE analysis and certification required in section 6 and completion of a line for each hazard in table 4.2**

Mitigations

Hazard Controls (Engineering and Administrative)
- ☐ Work Permits
- ☒ PPE Program
- ☒ Warning signs
- ☐ Pipeline markers
- ☒ Spotters/Attendants
- ☒ Barricades
- ☒ Housekeeping
- ☐ Ignition source controls
- ☐ Gas monitoring
- ☒ Material Safety Data Sheets
- ☐ Scaffolding
- ☒ Parking Plans
- ☐ Equipment Staging Plans
- ☐ Essential personnel only
- ☐ Break Rotation
- ☐ Temporary Lighting
- ☐ Isolation of Hazardous Energy
- ☒ Equipment Inspections
- ☒ Other S.T.A.R. Cards
- ☐ Other ___
- ☐ Other ____

Safety Controls (Personal Protective Equipment)
- ☒ Hard hat
- ☒ Safety shoes
- ☒ Safety glasses
- ☐ Face shield
- ☐ Goggles
- ☐ Cotton gloves
- ☒ Leather gloves
- ☐ Chemical gloves
- ☐ Electrical rated gloves
- ☐ Chemical suit
- ☒ Work vest/Life vest
- ☐ Full body harness
- ☐ Specialty Clothing
- ☐ Hearing protection
- ☐ FRC
- ☐ Other Rain Suit
- ☐ Other __________
- ☐ Other __________

Safety Equipment
- ☒ Fire Extinguishers
- ☐ Fire retardant tarps
- ☐ Locks and tags
- ☐ Gas detectors
- ☐ Personal Monitors
- ☐ Tag line
- ☐ Safety cable
- ☒ Safety Barricade
- ☐ Caution tape
- ☐ Area Monitors
- ☐ Other _____
- ☐ Other __________
- ☐ Other __________
- ☐ Other __________

Emergency/Contingency Plans
- ☐ Spill Control
- ☒ Spill Contingency Plans
- ☒ Emergency Evacuation Plans
- ☒ Incident Reporting Procedure
- ☒ Early Injury Management
- ☐ Other __________

Environmental Equipment
- ☐ Absorbent pads
- ☐ Containment pans
- ☐ Other __________

Certification Requirements
- ☐ Certified Welder
- ☐ Qualified Crane Operator
- ☐ Qualified Rigger
- ☐ Qualified Signal Man
- ☒ Competent Person
- ☐ Scaffolding Inspector
- ☐ Qualified Gas tester
- ☐ Confined Space Attendant
- ☐ Fire Watch
- ☐ Equipment Operator
- ☐ Other CDL
- ☐ Other __Electrician________

Licensing Requirements
- ☐ Asbestos Abatement
- ☐ Lead Abatement
- ☐ Other __________
- ☐ Other __________

Applicable Safe Work Practices
- ☒ Safe Work
- ☐ Bypassing Critical Protection
- ☐ Confined Space
- ☐ Diving
- ☐ Electrical Safe Work
- ☐ Excavation
- ☐ Lifting and Rigging
- ☐ Hot Work
- ☐ Isolation of Hazardous Energy
- ☐ Simultaneous Operations
- ☐ Working at Heights
- ☐ Other __________

General
- ☐ Other __________
- ☐ Other __________

Major Equipment Required

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________
Action: ______________

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________
Action: ______________

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________
Action: ______________

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________
Action: ______________

Occupational Health Considerations (Characterization, monitoring plan, exposure controls)

None

Emergency Actions Planning / Emergency Response Capability Required

All hands have communications (cell, vehicles CB/radios).

Pre-requisite actions, SIMOPS and Communications Required

Radios, cell phones.

4.0.4 Install Fencing and Gates   Risk Assessment and Hazard I.D. (Low/Medium Risk, NON-ROUTINE TASKS)

Task #	Potential Hazards	Mitigations	Major Equipment Required
4			

Potential Hazards

☒ Gravity
- ☐ Overhead work
- ☐ Falling object
- ☐ Excavation
- ☐ Collapsing roof/equipment
- ☐ Elevated/Uneven work surface
- ☐ Open holes
- ☐ Other ________

☒ Motion
- ☒ Vehicle/Equipment movement
- ☐ Limited mobility (confined space)
- ☒ Material movement
- ☒ Water/Wind movement
- ☒ Body positioning/Ergonomics
- ☒ Manual Lifting
- ☐ Crush/Pinch points
- ☐ Containment
- ☐ Other ________

☒ Mechanical
- ☐ Rotating equipment
- ☐ Compressed springs
- ☐ Drive belts and conveyors
- ☐ Motors
- ☒ Power/Hand tools
- ☐ Other ________

☐ Electrical
- ☐ Power lines (above)
- ☐ Energized equipment
- ☐ Static charges
- ☐ Wiring
- ☐ Batteries
- ☐ Other ________

☐ Pressure
- ☐ Piping
- ☐ Cylinders
- ☐ Vessels/Tanks
- ☐ Hoses
- ☐ Other ________

☒ Temperature
- ☐ Ignition source
- ☐ Hot/Cold surfaces, liquids, gases
- ☒ Hot/Cold weather conditions
- ☐ Additional protective clothing?
- ☐Lvl A ☐Lvl B ☐Lvl C ☐Lvl D
- ☐ Other ________

☐ Chemical
- ☐ Explosive/Flammable vapors
- ☐ Welding fumes
- ☐ Carcinogen Compound
- ☐ Toxic Compounds
- ☐ Corrosive Compound
- ☐ Reactive Compounds
- ☐ Pyro-phoric material
- ☐ Other ________

☒ Biological
- ☒ Animals/Insects
- ☐ Bacteria/Viruses
- ☐ Blood Borne Pathogens
- ☐ Contaminated food/water
- ☐ Other ________

☐ Radiation
- ☐ Lighting
- ☐ Welding arc/flash
- ☒ Sunlight
- ☐ X-rays
- ☐ NORM scale
- ☐ Other ________

☒ Sound
- ☒ Equipment noise
- ☐ Impact noise
- ☐ Venting noise
- ☐ Communication (SimOps)
- ☐ Communication (Language)
- ☐ Other ________

****NOTE** Red text indicates PPE analysis and certification required in section 6 and completion of a line for each hazard in table 4.2**

Mitigations

Hazard Controls (Engineering and Administrative)
- ☐ Work Permits
- ☒ PPE Program
- ☒ Warning signs
- ☐ Pipeline markers
- ☐ Spotters/Attendants
- ☐ Barricades
- ☒ Housekeeping
- ☐ Ignition source controls
- ☐ Gas monitoring
- ☐ Material Safety Data Sheets
- ☐ Scaffolding
- ☐ Parking Plans
- ☐ Equipment Staging Plans
- ☐ Essential personnel only
- ☐ Break Rotation
- ☐ Temporary Lighting
- ☐ Isolation of Hazardous Energy
- ☐ Equipment Inspections
- ☒ Other __JSAs_______
- ☐ Other ___Pre Slung Equip__
- ☐ Other __Rig Insp___

Safety Controls (Personal Protective Equipment)
- ☒ Hard hat
- ☒ Safety shoes
- ☐ Safety glasses
- ☐ Face shield
- ☐ Goggles
- ☐ Cotton gloves
- ☒ Leather gloves
- ☐ Chemical gloves
- ☐ Electrical rated gloves
- ☐ Chemical suit
- ☐ Work vest/Life vest
- ☐ Full body harness
- ☐ Specialty Clothing
- ☐ Hearing protection
- ☐ FRC
- ☐ Other Rain Suit___
- ☐ Other ________
- ☐ Other ________

Safety Equipment
- ☒ Fire Extinguishers
- ☐ Fire retardant tarps
- ☐ Locks and tags
- ☐ Gas detectors
- ☐ Personal Monitors
- ☐ Tag line
- ☐ Safety cable
- ☒ Safety Barricade
- ☒ Caution tape
- ☐ Area Monitors
- ☐ Other _____
- ☐ Other ________
- ☐ Other ________
- ☐ Other ________

Emergency/Contingency Plans
- ☐ Spill Control
- ☐ Spill Contingency Plans
- ☒ Emergency Evacuation Plans
- ☒ Incident Reporting Procedure
- ☐ Early Injury Management
- ☐ Other ________

Environmental Equipment
- ☐ Absorbent pads
- ☐ Containment pans
- ☐ Other ________

Certification Requirements
- ☐ Certified Welder
- ☐ Qualified Crane Operator
- ☐ Qualified Rigger
- ☐ Qualified Signal Man
- ☐ Competent Person
- ☐ Scaffolding Inspector
- ☐ Qualified Gas tester
- ☐ Confined Space Attendant
- ☐ Fire Watch
- ☐ Equipment Operator
- ☐ Other CDL
- ☐ Other __Electrician_______

Licensing Requirements
- ☐ Asbestos Abatement
- ☐ Lead Abatement
- ☐ Other ________
- ☐ Other ________

Applicable Safe Work Practices
- ☒ Safe Work
- ☐ Bypassing Critical Protection
- ☐ Confined Space
- ☐ Diving
- ☐ Electrical Safe Work
- ☐ Excavation
- ☐ Lifting and Rigging
- ☐ Hot Work
- ☐ Isolation of Hazardous Energy
- ☐ Simultaneous Operations
- ☐ Working at Heights
- ☐ Other ________

General
- ☐ Other ________
- ☐ Other ________

Major Equipment Required

Equipment:__________ **Make:** _____ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________
Action: ____________

Equipment:__________ **Make:** _____ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________
Action: ____________

Equipment:__________ **Make:** _____ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________
Action: ____________

Equipment:__________ **Make:** _____ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________
Action: ____________

Occupational Health Considerations (Characterization, monitoring plan, exposure controls)

None

Emergency Actions Planning / Emergency Response Capability Required

All hands have communications (cell, vehicles CB/radios).

Pre-requisite actions, SIMOPS and Communications Required

Radios, cell phones.

4.0.5 DC & MV Underground Electrical Risk Assessment and Hazard I.D. (Low/Medium Risk, NON-ROUTINE TASKS)

Task #: 5

Potential Hazards

☒ **Gravity**
- ☐ Overhead work
- ☐ Falling object
- ☒ Excavation
- ☐ Collapsing roof/equipment
- ☒ Elevated/Uneven work surface
- ☒ Open holes
- ☐ Other __________

☒ **Motion**
- ☒ Vehicle/Equipment movement
- ☐ Limited mobility (confined space)
- ☒ Material movement
- ☒ Water/Wind movement
- ☒ Body positioning/Ergonomics
- ☒ Manual Lifting
- ☒ Crush/Pinch points
- ☐ Containment
- ☐ Other __________

☒ **Mechanical**
- ☐ Rotating equipment
- ☐ Compressed springs
- ☐ Drive belts and conveyors
- ☐ Motors
- ☒ Power/Hand tools
- ☐ Other __________

☒ **Electrical**
- ☐ Power lines (above)
- ☐ Energized equipment
- ☐ Static charges
- ☒ Wiring
- ☐ Batteries
- ☐ Other __________

☒ **Pressure**
- ☐ Piping
- ☐ Cylinders
- ☒ Vessels/Tanks
- ☐ Hoses
- ☐ Other __________

☒ **Temperature**
- ☐ Ignition source
- ☐ Hot/Cold surfaces, liquids, gases
- ☒ Hot/Cold weather conditions
- ☐ Additional protective clothing?
- ☐Lvl A ☐Lvl B ☐Lvl C ☐Lvl D
- ☐ Other __________

☐ **Chemical**
- ☐ Explosive/Flammable vapors
- ☐ Welding fumes
- ☐ Carcinogen Compound
- ☐ Toxic Compounds
- ☐ Corrosive Compound
- ☐ Reactive Compounds
- ☐ Pyro-phoric material
- ☐ Other __________

☒ **Biological**
- ☒ Animals/Insects
- ☐ Bacteria/Viruses
- ☐ Blood Borne Pathogens
- ☐ Contaminated food/water
- ☐ Other __________

☒ **Radiation**
- ☐ Lighting
- ☐ Welding arc/flash
- ☒ Sunlight
- ☐ X-rays
- ☐ NORM scale
- ☐ Other __________

☒ **Sound**
- ☒ Equipment noise
- ☐ Impact noise
- ☐ Venting noise
- ☐ Communication (SimOps)
- ☐ Communication (Language)
- ☐ Other __________

****NOTE** Red text indicates PPE analysis and certification required in section 6 and completion of a line for each hazard in table 4.2**

Mitigations

Hazard Controls (Engineering and Administrative)
- ☒ Work Permits
- ☒ PPE Program
- ☒ Warning signs
- ☐ Pipeline markers
- ☒ Spotters/Attendants
- ☒ Barricades
- ☒ Housekeeping
- ☐ Ignition source controls
- ☐ Gas monitoring
- ☒ Safety Data Sheets
- ☐ Scaffolding
- ☒ Parking Plans
- ☐ Equipment Staging Plans
- ☐ Essential personnel only
- ☐ Break Rotation
- ☐ Temporary Lighting
- ☐ Isolation of Hazardous Energy
- ☐ Equipment Inspections
- ☒ Other __S.T.A.R. Cards__
- ☐ Other _____
- ☐ Other _____

Safety Controls (Personal Protective Equipment)
- ☒ Hard hat
- ☒ Safety shoes
- ☒ Safety glasses
- ☐ Face shield
- ☐ Goggles
- ☒ Cotton gloves
- ☒ Leather gloves
- ☐ Chemical gloves
- ☐ Electrical rated gloves
- ☐ Chemical suit
- ☒ Work vest/Life vest
- ☐ Full body harness
- ☐ Specialty Clothing
- ☒ Hearing protection
- ☐ FRC
- ☐ Other Rain Suit
- ☐ Other __________
- ☐ Other __________

Safety Equipment
- ☒ Fire Extinguishers
- ☐ Fire retardant tarps
- ☐ Locks and tags
- ☐ Gas detectors
- ☐ Personal Monitors
- ☐ Tag line
- ☐ Safety cable
- ☒ Safety Barricade
- ☒ Caution tape
- ☐ Area Monitors
- ☐ Other _____
- ☐ Other __________
- ☐ Other __________
- ☐ Other __________

Emergency/Contingency Plans
- ☒ Spill Control
- ☒ Spill Contingency Plans
- ☒ Emergency Evacuation Plans
- ☒ Incident Reporting Procedure
- ☒ Early Injury Management
- ☐ Other __________

Environmental Equipment
- ☐ Absorbent pads
- ☐ Containment pans
- ☐ Other __________

Certification Requirements
- ☐ Certified Welder
- ☐ Qualified Crane Operator
- ☐ Qualified Rigger
- ☐ Qualified Signal Man
- ☒ Competent Person
- ☐ Scaffolding Inspector
- ☐ Qualified Gas tester
- ☐ Confined Space Attendant
- ☐ Fire Watch
- ☒ Equipment Operator
- ☐ Other CDL
- ☐ Other __Electrician________

Licensing Requirements
- ☐ Asbestos Abatement
- ☐ Lead Abatement
- ☐ Other __________
- ☐ Other __________

Applicable Safe Work Practices
- ☒ Safe Work
- ☐ Bypassing Critical Protection
- ☐ Confined Space
- ☐ Diving
- ☒ Electrical Safe Work
- ☐ Excavation
- ☐ Lifting and Rigging
- ☐ Hot Work
- ☐ Isolation of Hazardous Energy
- ☐ Simultaneous Operations
- ☐ Working at Heights
- ☐ Other __________

General
- ☐ Other __________
- ☐ Other __________

Major Equipment Required

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action: ____________________

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action: ____________________

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action: ____________________

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action: ____________________

Occupational Health Considerations (Characterization, monitoring plan, exposure controls)

None

Emergency Actions Planning / Emergency Response Capability Required

All hands have communications (cell, vehicles CB/radios).

Pre-requisite actions, SIMOPS and Communications Required

Radios, cell phones.

4.0.6 Inverter Skids Pad Prep and Set Risk Assessment and Hazard I.D. (Low/Medium Risk, NON-ROUTINE TASKS)

Task #: 6

Potential Hazards

☒ **Gravity**
- ☒ Overhead work
- ☒ Falling object
- ☒ Excavation
- ☐ Collapsing roof/equipment
- ☒ Elevated/Uneven work surface
- ☐ Open holes
- ☐ Other _________

☒ **Motion**
- ☒ Vehicle/Equipment movement
- ☐ Limited mobility (confined space)
- ☒ Material movement
- ☒ Water/Wind movement
- ☒ Body positioning/Ergonomics
- ☐ Manual Lifting
- ☒ Crush/Pinch points
- ☐ Containment
- ☐ Other _________

☒ **Mechanical**
- ☐ Rotating equipment
- ☐ Compressed springs
- ☐ Drive belts and conveyors
- ☐ Motors
- ☒ Power/Hand tools
- ☐ Other _________

☒ **Electrical**
- ☒ Power lines (above)
- ☐ Energized equipment
- ☐ Static charges
- ☒ Wiring
- ☐ Batteries
- ☐ Other _________

☒ **Pressure**
- ☐ Piping
- ☐ Cylinders
- ☐ Vessels/Tanks
- ☒ Hoses
- ☐ Other _________

☒ **Temperature**
- ☐ Ignition source
- ☐ Hot/Cold surfaces, liquids, gases
- ☒ Hot/Cold weather conditions
- ☐ Additional protective clothing? ☐Lvl A ☐Lvl B ☐Lvl C ☐Lvl D
- ☐ Other _________

☐ **Chemical**
- ☐ Explosive/Flammable vapors
- ☐ Welding fumes
- ☐ Carcinogen Compound
- ☐ Toxic Compounds
- ☐ Corrosive Compound
- ☐ Reactive Compounds
- ☐ Pyro-phoric material
- ☐ Other _________

☒ **Biological**
- ☒ Animals/Insects
- ☐ Bacteria/Viruses
- ☐ Blood Borne Pathogens
- ☐ Contaminated food/water
- ☐ Other _________

☒ **Radiation**
- ☐ Lighting
- ☐ Welding arc/flash
- ☒ Sunlight
- ☐ X-rays
- ☐ NORM scale
- ☐ Other _________

☒ **Sound**
- ☒ Equipment noise
- ☐ Impact noise
- ☐ Venting noise
- ☐ Communication (SimOps)
- ☐ Communication (Language)
- ☐ Other _________

****NOTE** Red text indicates PPE analysis and certification required in section 6 and completion of a line for each hazard in table 4.2**

Mitigations

Hazard Controls (Engineering and Administrative)
- ☒ Work Permits
- ☒ PPE Program
- ☒ Warning signs
- ☐ Pipeline markers
- ☒ Spotters/Attendants
- ☒ Barricades
- ☒ Housekeeping
- ☐ Ignition source controls
- ☐ Gas monitoring
- ☒ Safety Data Sheets
- ☐ Scaffolding
- ☐ Parking Plans
- ☒ Equipment Staging Plans
- ☒ Essential personnel only
- ☐ Break Rotation
- ☐ Temporary Lighting
- ☐ Isolation of Hazardous Energy
- ☒ Equipment Inspections
- ☒ Other S.T.A.R. Cards
- ☐ Other ___
- ☐ Other _____

Safety Controls (Personal Protective Equipment)
- ☒ Hard hat
- ☒ Safety shoes
- ☒ Safety glasses
- ☐ Face shield
- ☐ Goggles
- ☐ Cotton gloves
- ☒ Leather gloves
- ☐ Chemical gloves
- ☐ Electrical rated gloves
- ☐ Chemical suit
- ☒ Work vest/Life vest
- ☒ Full body harness
- ☐ Specialty Clothing
- ☐ Hearing protection
- ☐ FRC
- ☐ Other Rain Suit
- ☐ Other _________
- ☐ Other _________

Safety Equipment
- ☒ Fire Extinguishers
- ☐ Fire retardant tarps
- ☐ Locks and tags
- ☐ Gas detectors
- ☐ Personal Monitors
- ☒ Tag line
- ☐ Safety cable
- ☒ Safety Barricade
- ☒ Caution tape
- ☐ Area Monitors
- ☐ Other _____
- ☐ Other _________
- ☐ Other _________
- ☐ Other _________

Emergency/Contingency Plans
- ☒ Spill Control
- ☒ Spill Contingency Plans
- ☒ Emergency Evacuation Plans
- ☒ Incident Reporting Procedure
- ☒ Early Injury Management
- ☐ Other _________

Environmental Equipment
- ☐ Absorbent pads
- ☐ Containment pans
- ☐ Other _________

Certification Requirements
- ☐ Certified Welder
- ☒ Qualified Crane Operator
- ☒ Qualified Rigger
- ☒ Qualified Signal Man
- ☐ Competent Person
- ☐ Scaffolding Inspector
- ☐ Qualified Gas tester
- ☐ Confined Space Attendant
- ☐ Fire Watch
- ☒ Equipment Operator
- ☐ Other CDL
- ☐ Other __Electrician________

Licensing Requirements
- ☐ Asbestos Abatement
- ☐ Lead Abatement
- ☐ Other _________
- ☐ Other _________

Applicable Safe Work Practices
- ☒ Safe Work
- ☐ Bypassing Critical Protection
- ☐ Confined Space
- ☐ Diving
- ☐ Electrical Safe Work
- ☐ Excavation
- ☒ Lifting and Rigging
- ☐ Hot Work
- ☐ Isolation of Hazardous Energy
- ☒ Simultaneous Operations
- ☒ Working at Heights
- ☐ Other _________

General
- ☐ Other _________
- ☐ Other _________

Major Equipment Required

Equipment	Make	Model	Capacity	Onsite	Offsite
____________	______	______	___--	__/__/____	__/__/____
____________	______	______	___--	__/__/____	__/__/____
____________	______	______	___--	__/__/____	__/__/____
____________	______	______	___--	__/__/____	__/__/____

(Each equipment entry: Stop Work Trigger: ________ Action: ________)

Occupational Health Considerations (Characterization, monitoring plan, exposure controls)

None

Emergency Actions Planning / Emergency Response Capability Required

All hands have communications (cell, vehicles CB/radios).

Pre-requisite actions, SIMOPS and Communications Required

Radios, cell phones.

4.0.7 Install Piles Risk Assessment and Hazard I.D. (Low/Medium Risk, NON-ROUTINE TASKS)

Task #: 7

Potential Hazards

☒ **Gravity**
- ☐ Overhead work
- ☒ Falling object
- ☐ Excavation
- ☐ Collapsing roof/equipment
- ☒ Elevated/Uneven work surface
- ☐ Open holes
- ☐ Other __________

☒ **Motion**
- ☒ Vehicle/Equipment movement
- ☐ Limited mobility (confined space)
- ☒ Material movement
- ☒ Water/Wind movement
- ☒ Body positioning/Ergonomics
- ☒ Manual Lifting
- ☒ Crush/Pinch points
- ☐ Containment
- ☐ Other __________

☒ **Mechanical**
- ☒ Rotating equipment
- ☐ Compressed springs
- ☐ Drive belts and conveyors
- ☐ Motors
- ☒ Power/Hand tools
- ☐ Other __________

☐ **Electrical**
- ☒ Power lines (above)
- ☐ Energized equipment
- ☐ Static charges
- ☐ Wiring
- ☐ Batteries
- ☐ Other __________

☒ **Pressure**
- ☐ Piping
- ☐ Cylinders
- ☐ Vessels/Tanks
- ☒ Hoses
- ☐ Other __________

☒ **Temperature**
- ☐ Ignition source
- ☐ Hot/Cold surfaces, liquids, gases
- ☒ Hot/Cold weather conditions
- ☐ Additional protective clothing? ☐Lvl A ☐Lvl B ☐Lvl C ☐Lvl D
- ☐ Other __________

☐ **Chemical**
- ☐ Explosive/Flammable vapors
- ☐ Welding fumes
- ☐ Carcinogen Compound
- ☐ Toxic Compounds
- ☐ Corrosive Compound
- ☐ Reactive Compounds
- ☐ Pyro-phoric material
- ☐ Other __________

☒ **Biological**
- ☒ Animals/Insects
- ☐ Bacteria/Viruses
- ☐ Blood Borne Pathogens
- ☐ Contaminated food/water
- ☐ Other __________

☒ **Radiation**
- ☐ Lighting
- ☐ Welding arc/flash
- ☒ Sunlight
- ☐ X-rays
- ☐ NORM scale
- ☐ Other __________

☒ **Sound**
- ☒ Equipment noise
- ☒ Impact noise
- ☐ Venting noise
- ☐ Communication (SimOps)
- ☐ Communication (Language)
- ☐ Other __________

****NOTE** Red text indicates PPE analysis and certification required in section 6 and completion of a line for each hazard in table 4.2**

Mitigations

Hazard Controls (Engineering and Administrative)
- ☐ Work Permits
- ☒ PPE Program
- ☐ Warning signs
- ☐ Pipeline markers
- ☒ Spotters/Attendants
- ☐ Barricades
- ☐ Housekeeping
- ☐ Ignition source controls
- ☐ Gas monitoring
- ☐ Material Safety Data Sheets
- ☐ Scaffolding
- ☒ Parking Plans
- ☒ Equipment Staging Plans
- ☒ Essential personnel only
- ☐ Break Rotation
- ☐ Temporary Lighting
- ☐ Isolation of Hazardous Energy
- ☒ Equipment Inspections
- ☒ Other S.T.A.R Cards
- ☐ Other ___ _
- ☐ Other ___

Safety Controls (Personal Protective Equipment)
- ☒ Hard hat
- ☒ Safety shoes
- ☒ Safety glasses
- ☐ Face shield
- ☐ Goggles
- ☐ Cotton gloves
- ☒ Leather gloves
- ☐ Chemical gloves
- ☐ Electrical rated gloves
- ☐ Chemical suit
- ☒ Work vest/Life vest
- ☐ Full body harness
- ☐ Specialty Clothing
- ☒ Hearing protection
- ☐ FRC
- ☐ Other Rain Suit
- ☐ Other __________
- ☐ Other __________

Safety Equipment
- ☒ Fire Extinguishers
- ☐ Fire retardant tarps
- ☐ Locks and tags
- ☐ Gas detectors
- ☐ Personal Monitors
- ☐ Tag line
- ☐ Safety cable
- ☐ Safety Barricade
- ☐ Caution tape
- ☐ Area Monitors
- ☐ Other _____
- ☐ Other __________
- ☐ Other __________
- ☐ Other __________

Emergency/Contingency Plans
- ☒ Spill Control
- ☒ Spill Contingency Plans
- ☒ Emergency Evacuation Plans
- ☐ Incident Reporting Procedure
- ☐ Early Injury Management
- ☐ Other __________

Environmental Equipment
- ☐ Absorbent pads
- ☐ Containment pans
- ☐ Other __________

Certification Requirements
- ☐ Certified Welder
- ☐ Qualified Crane Operator
- ☐ Qualified Rigger
- ☐ Qualified Signal Man
- ☒ Competent Person
- ☐ Scaffolding Inspector
- ☐ Qualified Gas tester
- ☐ Confined Space Attendant
- ☐ Fire Watch
- ☒ Equipment Operator
- ☐ Other CDL
- ☐ Other __Electrician________

Licensing Requirements
- ☐ Asbestos Abatement
- ☐ Lead Abatement
- ☐ Other __________
- ☐ Other __________

Applicable Safe Work Practices
- ☒ Safe Work
- ☐ Bypassing Critical Protection
- ☐ Confined Space
- ☐ Diving
- ☐ Electrical Safe Work
- ☐ Excavation
- ☒ Lifting and Rigging
- ☐ Hot Work
- ☐ Isolation of Hazardous Energy
- ☐ Simultaneous Operations
- ☐ Working at Heights
- ☐ Other __________

General
- ☐ Other __________
- ☐ Other __________

Major Equipment Required

Equipment:______________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________________________
Action: ______________________________

Equipment:______________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________________________
Action: ______________________________

Equipment:______________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________________________
Action: ______________________________

Equipment:______________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________________________
Action: ______________________________

Occupational Health Considerations (Characterization, monitoring plan, exposure controls)

None

Emergency Actions Planning / Emergency Response Capability Required

All hands have communications (cell, vehicles CB/radios).

Pre-requisite actions, SIMOPS and Communications Required

Radios, cell phones.

Primoris
Renewable Energy

4.0.8 Install Tracker Sytem Risk Assessment and Hazard I.D. (Low/Medium Risk, NON-ROUTINE TASKS)

Task #: 8

Potential Hazards

☒ **Gravity**
- ☐ Overhead work
- ☐ Falling object
- ☐ Excavation
- ☐ Collapsing roof/equipment
- ☒ Elevated/Uneven work surface
- ☐ Open holes
- ☐ Other __________

☒ **Motion**
- ☐ Vehicle/Equipment movement
- ☐ Limited mobility (confined space)
- ☒ Material movement
- ☐ Water/Wind movement
- ☒ Body positioning/Ergonomics
- ☒ Manual Lifting
- ☒ Crush/Pinch points
- ☐ Containment
- ☐ Other __________

☒ **Mechanical**
- ☐ Rotating equipment
- ☐ Compressed springs
- ☐ Drive belts and conveyors
- ☐ Motors
- ☒ Power/Hand tools
- ☐ Other __________

☒ **Electrical**
- ☐ Power lines (above)
- ☐ Energized equipment
- ☐ Static charges
- ☒ Wiring
- ☐ Batteries
- ☐ Other __________

☐ **Pressure**
- ☐ Piping
- ☐ Cylinders
- ☐ Vessels/Tanks
- ☐ Hoses
- ☐ Other __________

☒ **Temperature**
- ☐ Ignition source
- ☐ Hot/Cold surfaces, liquids, gases
- ☒ Hot/Cold weather conditions
- ☐ Additional protective clothing? ☐Lvl A ☐Lvl B ☐Lvl C ☐Lvl D
- ☐ Other __________

☐ **Chemical**
- ☐ Explosive/Flammable vapors
- ☐ Welding fumes
- ☐ Carcinogen Compound
- ☐ Toxic Compounds
- ☐ Corrosive Compound
- ☐ Reactive Compounds
- ☐ Pyro-phoric material
- ☐ Other __________

☒ **Biological**
- ☒ Animals/Insects
- ☐ Bacteria/Viruses
- ☐ Blood Borne Pathogens
- ☐ Contaminated food/water
- ☐ Other __________

☒ **Radiation**
- ☐ Lighting
- ☐ Welding arc/flash
- ☒ Sunlight
- ☐ X-rays
- ☐ NORM scale
- ☐ Other __________

☒ **Sound**
- ☒ Equipment noise
- ☐ Impact noise
- ☐ Venting noise
- ☐ Communication (SimOps)
- ☐ Communication (Language)
- ☐ Other __________

****NOTE** Red text indicates PPE analysis and certification required in section 6 and completion of a line for each hazard in table 4.2**

Mitigations

Hazard Controls (Engineering and Administrative)
- ☐ Work Permits
- ☒ PPE Program
- ☐ Warning signs
- ☐ Pipeline markers
- ☒ Spotters/Attendants
- ☐ Barricades
- ☒ Housekeeping
- ☐ Ignition source controls
- ☐ Gas monitoring
- ☒ Material Safety Data Sheets
- ☐ Scaffolding
- ☐ Parking Plans
- ☐ Equipment Staging Plans
- ☐ Essential personnel only
- ☐ Break Rotation
- ☐ Temporary Lighting
- ☒ Isolation of Hazardous Energy
- ☐ Equipment Inspections
- ☒ Other __S.T.A.R. Cards _
- ☐ Other ___
- ☐ Other _____

Safety Controls (Personal Protective Equipment)
- ☒ Hard hat
- ☒ Safety shoes
- ☒ Safety glasses
- ☐ Face shield
- ☐ Goggles
- ☒ Cotton gloves
- ☒ Leather gloves
- ☐ Chemical gloves
- ☐ Electrical rated gloves
- ☐ Chemical suit
- ☒ Work vest/Life vest
- ☐ Full body harness
- ☐ Specialty Clothing
- ☐ Hearing protection
- ☐ FRC
- ☐ Other Rain Suit___
- ☐ Other __________
- ☐ Other __________

Safety Equipment
- ☐ Fire Extinguishers
- ☐ Fire retardant tarps
- ☐ Locks and tags
- ☐ Gas detectors
- ☐ Personal Monitors
- ☐ Tag line
- ☐ Safety cable
- ☐ Safety Barricade
- ☐ Caution tape
- ☐ Area Monitors
- ☐ Other _____
- ☐ Other __________
- ☐ Other __________
- ☐ Other __________

Emergency/Contingency Plans
- ☐ Spill Control
- ☐ Spill Contingency Plans
- ☒ Emergency Evacuation Plans
- ☒ Incident Reporting Procedure
- ☒ Early Injury Management
- ☐ Other __________

Environmental Equipment
- ☐ Absorbent pads
- ☐ Containment pans
- ☐ Other __________

Certification Requirements
- ☐ Certified Welder
- ☐ Qualified Crane Operator
- ☐ Qualified Rigger
- ☐ Qualified Signal Man
- ☒ Competent Person
- ☐ Scaffolding Inspector
- ☐ Qualified Gas tester
- ☐ Confined Space Attendant
- ☐ Fire Watch
- ☐ Equipment Operator
- ☐ Other CDL
- ☐ Other __Electrician________

Licensing Requirements
- ☐ Asbestos Abatement
- ☐ Lead Abatement
- ☐ Other __________
- ☐ Other __________

Applicable Safe Work Practices
- ☒ Safe Work
- ☐ Bypassing Critical Protection
- ☐ Confined Space
- ☐ Diving
- ☒ Electrical Safe Work
- ☐ Excavation
- ☐ Lifting and Rigging
- ☐ Hot Work
- ☐ Isolation of Hazardous Energy
- ☐ Simultaneous Operations
- ☐ Working at Heights
- ☐ Other __________

General
- ☐ Other __________
- ☐ Other __________

Major Equipment Required

Equipment:______________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________________
Action:______________________

Equipment:______________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________________
Action:______________________

Equipment:______________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________________
Action:______________________

Equipment:______________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ______________________
Action:______________________

Occupational Health Considerations (Characterization, monitoring plan, exposure controls)

None

Emergency Actions Planning / Emergency Response Capability Required

All hands have communications (cell, vehicles CB/radios).

Pre-requisite actions, SIMOPS and Communications Required

Radios, cell phones.

4.0.9 Install Modules Risk Assessment and Hazard I.D. (Low/Medium Risk, NON-ROUTINE TASKS)

Task #: 9

Potential Hazards

- ☒ **Gravity**
  - ☐ Overhead work
  - ☐ Falling object
  - ☐ Excavation
  - ☐ Collapsing roof/equipment
  - ☒ Elevated/Uneven work surface
  - ☐ Open holes
  - ☐ Other ________
- ☒ **Motion**
  - ☒ Vehicle/Equipment movement
  - ☐ Limited mobility (confined space)
  - ☒ Material movement
  - ☒ Water/Wind movement
  - ☒ Body positioning/Ergonomics
  - ☒ Manual Lifting
  - ☒ Crush/Pinch points
  - ☐ Containment
  - ☐ Other ________
- ☒ **Mechanical**
  - ☐ Rotating equipment
  - ☐ Compressed springs
  - ☐ Drive belts and conveyors
  - ☐ Motors
  - ☒ Power/Hand tools
  - ☐ Other ________
- ☒ **Electrical**
  - ☐ Power lines (above)
  - ☐ Energized equipment
  - ☐ Static charges
  - ☒ Wiring
  - ☐ Batteries
  - ☐ Other ________
- ☐ **Pressure**
  - ☐ Piping
  - ☐ Cylinders
  - ☐ Vessels/Tanks
  - ☐ Hoses
  - ☐ Other ________
- ☒ **Temperature**
  - ☐ Ignition source
  - ☐ Hot/Cold surfaces, liquids, gases
  - ☒ Hot/Cold weather conditions
  - ☐ Additional protective clothing? ☐Lvl A ☐Lvl B ☐Lvl C ☐Lvl D
  - ☐ Other ________
- ☐ **Chemical**
  - ☐ Explosive/Flammable vapors
  - ☐ Welding fumes
  - ☐ Carcinogen Compound
  - ☐ Toxic Compounds
  - ☐ Corrosive Compound
  - ☐ Reactive Compounds
  - ☐ Pyro-phoric material
  - ☐ Other ________
- ☒ **Biological**
  - ☒ Animals/Insects
  - ☐ Bacteria/Viruses
  - ☐ Blood Borne Pathogens
  - ☐ Contaminated food/water
  - ☐ Other ________
- ☒ **Radiation**
  - ☐ Lighting
  - ☐ Welding arc/flash
  - ☒ Sunlight
  - ☐ X-rays
  - ☐ NORM scale
  - ☐ Other ________
- ☒ **Sound**
  - ☒ Equipment noise
  - ☐ Impact noise
  - ☐ Venting noise
  - ☐ Communication (SimOps)
  - ☐ Communication (Language)
  - ☐ Other ________

****NOTE** Red text indicates PPE analysis and certification required in section 6 and completion of a line for each hazard in table 4.2**

Mitigations

Hazard Controls (Engineering and Administrative)

- ☐ Work Permits
- ☒ PPE Program
- ☐ Warning signs
- ☐ Pipeline markers
- ☒ Spotters/Attendants
- ☐ Barricades
- ☒ Housekeeping
- ☐ Ignition source controls
- ☐ Gas monitoring
- ☒ Safety Data Sheets
- ☐ Scaffolding
- ☐ Parking Plans
- ☒ Equipment Staging Plans
- ☐ Essential personnel only
- ☐ Break Rotation
- ☐ Temporary Lighting
- ☐ Isolation of Hazardous Energy
- ☒ Equipment Inspections
- ☒ Other S.T.A.R. Cards
- ☐ Other
- ☐ Other __

Safety Controls (Personal Protective Equipment)

- ☒ Hard hat
- ☒ Safety shoes
- ☒ Safety glasses
- ☐ Face shield
- ☐ Goggles
- ☒ Cotton gloves
- ☒ Leather gloves
- ☐ Chemical gloves
- ☐ Electrical rated gloves
- ☐ Chemical suit
- ☒ Work vest/Life vest
- ☐ Full body harness
- ☐ Specialty Clothing
- ☐ Hearing protection
- ☐ FRC
- ☐ Other Rain Suit
- ☐ Other ________
- ☐ Other ________

Safety Equipment

- ☒ Fire Extinguishers
- ☐ Fire retardant tarps
- ☐ Locks and tags
- ☐ Gas detectors
- ☐ Personal Monitors
- ☐ Tag line
- ☐ Safety cable
- ☐ Safety Barricade
- ☐ Caution tape
- ☐ Area Monitors
- ☐ Other ____
- ☐ Other ________
- ☐ Other ________
- ☐ Other ________

Emergency/Contingency Plans

- ☐ Spill Control
- ☐ Spill Contingency Plans
- ☒ Emergency Evacuation Plans
- ☒ Incident Reporting Procedure
- ☐ Early Injury Management
- ☐ Other ________

Environmental Equipment

- ☐ Absorbent pads
- ☐ Containment pans
- ☐ Other ________

Certification Requirements

- ☐ Certified Welder
- ☐ Qualified Crane Operator
- ☐ Qualified Rigger
- ☐ Qualified Signal Man
- ☒ Competent Person
- ☐ Scaffolding Inspector
- ☐ Qualified Gas tester
- ☐ Confined Space Attendant
- ☐ Fire Watch
- ☐ Equipment Operator
- ☐ Other CDL
- ☐ Other __Electrician________

Licensing Requirements

- ☐ Asbestos Abatement
- ☐ Lead Abatement
- ☐ Other ________
- ☐ Other ________

Applicable Safe Work Practices

- ☒ Safe Work
- ☐ Bypassing Critical Protection
- ☐ Confined Space
- ☐ Diving
- ☒ Electrical Safe Work
- ☐ Excavation
- ☐ Lifting and Rigging
- ☐ Hot Work
- ☐ Isolation of Hazardous Energy
- ☒ Simultaneous Operations
- ☐ Working at Heights
- ☐ Other ________

General

- ☐ Other ________
- ☐ Other ________

Major Equipment Required

Equipment:__________ **Make:** ______ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________
Action: ____________

Equipment:__________ **Make:** ______ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________
Action: ____________

Equipment:__________ **Make:** ______ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________
Action: ____________

Equipment:__________ **Make:** ______ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________
Action: ____________

Occupational Health Considerations (Characterization, monitoring plan, exposure controls)

None

Emergency Actions Planning / Emergency Response Capability Required

All hands have communications (cell, vehicles CB/radios).

Pre-requisite actions, SIMOPS and Communications Required

Radios, cell phones.

4.0.10 DC Collector Cabling (CAB) Risk Assessment and Hazard I.D. (Low/Medium Risk, NON-ROUTINE TASKS)

Task #: 10

Potential Hazards

☒ **Gravity**
- ☐ Overhead work
- ☐ Falling object
- ☐ Excavation
- ☐ Collapsing roof/equipment
- ☒ Elevated/Uneven work surface
- ☐ Open holes
- ☐ Other ________

☒ **Motion**
- ☒ Vehicle/Equipment movement
- ☐ Limited mobility (confined space)
- ☒ Material movement
- ☒ Water/Wind movement
- ☒ Body positioning/Ergonomics
- ☒ Manual Lifting
- ☒ Crush/Pinch points
- ☐ Containment
- ☐ Other ________

☒ **Mechanical**
- ☒ Rotating equipment
- ☐ Compressed springs
- ☐ Drive belts and conveyors
- ☐ Motors
- ☒ Power/Hand tools
- ☐ Other ________

☒ **Electrical**
- ☐ Power lines (above)
- ☐ Energized equipment
- ☐ Static charges
- ☒ Wiring
- ☐ Batteries
- ☐ Other ________

☐ **Pressure**
- ☐ Piping
- ☐ Cylinders
- ☐ Vessels/Tanks
- ☐ Hoses
- ☐ Other ________

☒ **Temperature**
- ☐ Ignition source
- ☐ Hot/Cold surfaces, liquids, gases
- ☒ Hot/Cold weather conditions
- ☐ Additional protective clothing? ☐Lvl A ☐Lvl B ☐Lvl C ☐Lvl D
- ☐ Other ________

☐ **Chemical**
- ☐ Explosive/Flammable vapors
- ☐ Welding fumes
- ☐ Carcinogen Compound
- ☐ Toxic Compounds
- ☐ Corrosive Compound
- ☐ Reactive Compounds
- ☐ Pyro-phoric material
- ☐ Other ________

☒ **Biological**
- ☒ Animals/Insects
- ☐ Bacteria/Viruses
- ☐ Blood Borne Pathogens
- ☐ Contaminated food/water
- ☐ Other ________

☒ **Radiation**
- ☐ Lighting
- ☐ Welding arc/flash
- ☒ Sunlight
- ☐ X-rays
- ☐ NORM scale
- ☐ Other ________

☒ **Sound**
- ☒ Equipment noise
- ☐ Impact noise
- ☐ Venting noise
- ☐ Communication (SimOps)
- ☐ Communication (Language)
- ☐ Other ________

****NOTE** Red text indicates PPE analysis and certification required in section 6 and completion of a line for each hazard in table 4.2**

Mitigations

Hazard Controls (Engineering and Administrative)
- ☒ Work Permits
- ☒ PPE Program
- ☒ Warning signs
- ☐ Pipeline markers
- ☒ Spotters/Attendants
- ☒ Barricades
- ☐ Housekeeping
- ☐ Ignition source controls
- ☐ Gas monitoring
- ☐ Material Safety Data Sheets
- ☐ Scaffolding
- ☐ Parking Plans
- ☒ Equipment Staging Plans
- ☒ Essential personnel only
- ☐ Break Rotation
- ☐ Temporary Lighting
- ☒ Isolation of Hazardous Energy
- ☒ Equipment Inspections
- ☒ Other S.T.A.R. Cards
- ☐ Other ___
- ☐ Other ___

Safety Controls (Personal Protective Equipment)
- ☒ Hard hat
- ☒ Safety shoes
- ☒ Safety glasses
- ☐ Face shield
- ☐ Goggles
- ☒ Cotton gloves
- ☒ Leather gloves
- ☐ Chemical gloves
- ☐ Electrical rated gloves
- ☐ Chemical suit
- ☒ Work vest/Life vest
- ☐ Full body harness
- ☐ Specialty Clothing
- ☐ Hearing protection
- ☐ FRC
- ☐ Other Rain Suit
- ☐ Other ________
- ☐ Other ________

Safety Equipment
- ☒ Fire Extinguishers
- ☐ Fire retardant tarps
- ☐ Locks and tags
- ☐ Gas detectors
- ☐ Personal Monitors
- ☐ Tag line
- ☐ Safety cable
- ☐ Safety Barricade
- ☐ Caution tape
- ☐ Area Monitors
- ☐ Other ____
- ☐ Other ________
- ☐ Other ________
- ☐ Other ________

Emergency/Contingency Plans
- ☐ Spill Control
- ☐ Spill Contingency Plans
- ☒ Emergency Evacuation Plans
- ☒ Incident Reporting Procedure
- ☐ Early Injury Management
- ☐ Other ________

Environmental Equipment
- ☐ Absorbent pads
- ☐ Containment pans
- ☐ Other ________

Certification Requirements
- ☐ Certified Welder
- ☐ Qualified Crane Operator
- ☐ Qualified Rigger
- ☐ Qualified Signal Man
- ☒ Competent Person
- ☐ Scaffolding Inspector
- ☐ Qualified Gas tester
- ☐ Confined Space Attendant
- ☐ Fire Watch
- ☐ Equipment Operator
- ☐ Other CDL
- ☐ Other __Electrician________

Licensing Requirements
- ☐ Asbestos Abatement
- ☐ Lead Abatement
- ☐ Other ________
- ☐ Other ________

Applicable Safe Work Practices
- ☒ Safe Work
- ☐ Bypassing Critical Protection
- ☐ Confined Space
- ☐ Diving
- ☒ Electrical Safe Work
- ☐ Excavation
- ☐ Lifting and Rigging
- ☐ Hot Work
- ☐ Isolation of Hazardous Energy
- ☐ Simultaneous Operations
- ☐ Working at Heights
- ☐ Other ________

General
- ☐ Other ________
- ☐ Other ________

Major Equipment Required

Equipment:______________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action: ____________________

Equipment:______________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action: ____________________

Equipment:______________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action: ____________________

Equipment:______________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action: ____________________

Occupational Health Considerations (Characterization, monitoring plan, exposure controls)

None

Emergency Actions Planning / Emergency Response Capability Required

All hands have communications (cell, vehicles CB/radios).

Pre-requisite actions, SIMOPS and Communications Required

Radios, cell phones.

4.0.11 Back Feed Utility Power to Solar Field — Risk Assessment and Hazard I.D. (Low/Medium Risk, NON-ROUTINE TASKS)

Task #: 15

Potential Hazards

☒ Gravity
- ☐ Overhead work
- ☐ Falling object
- ☐ Excavation
- ☐ Collapsing roof/equipment
- ☒ Elevated/Uneven work surface
- ☐ Open holes
- ☐ Other __________

☒ Motion
- ☐ Vehicle/Equipment movement
- ☐ Limited mobility (confined space)
- ☐ Material movement
- ☐ Water/Wind movement
- ☒ Body positioning/Ergonomics
- ☐ Manual Lifting
- ☐ Crush/Pinch points
- ☐ Containment
- ☐ Other __________

☐ Mechanical
- ☐ Rotating equipment
- ☐ Compressed springs
- ☐ Drive belts and conveyors
- ☐ Motors
- ☐ Power/Hand tools
- ☐ Other __________

☒ Electrical
- ☒ Power lines (above)
- ☒ Energized equipment
- ☐ Static charges
- ☐ Wiring
- ☐ Batteries
- ☐ Other __________

☐ Pressure
- ☐ Piping
- ☐ Cylinders
- ☐ Vessels/Tanks
- ☐ Hoses
- ☐ Other __________

☒ Temperature
- ☐ Ignition source
- ☐ Hot/Cold surfaces, liquids, gases
- ☒ Hot/Cold weather conditions
- ☐ Additional protective clothing? ☐Lvl A ☐Lvl B ☐Lvl C ☐Lvl D
- ☐ Other __________

☐ Chemical
- ☐ Explosive/Flammable vapors
- ☐ Welding fumes
- ☐ Carcinogen Compound
- ☐ Toxic Compounds
- ☐ Corrosive Compound
- ☐ Reactive Compounds
- ☐ Pyro-phoric material
- ☐ Other __________

☒ Biological
- ☒ Animals/Insects
- ☐ Bacteria/Viruses
- ☐ Blood Borne Pathogens
- ☐ Contaminated food/water
- ☐ Other __________

☒ Radiation
- ☐ Lighting
- ☐ Welding arc/flash
- ☐ Sunlight
- ☐ X-rays
- ☐ NORM scale
- ☐ Other __________

☐ Sound
- ☐ Equipment noise
- ☐ Impact noise
- ☐ Venting noise
- ☐ Communication (SimOps)
- ☐ Communication (Language)
- ☐ Other __________

****NOTE** Red text indicates PPE analysis and certification required in section 6 and completion of a line for each hazard in table 4.2**

Mitigations

Hazard Controls (Engineering and Administrative)
- ☒ Work Permits
- ☒ PPE Program
- ☒ Warning signs
- ☐ Pipeline markers
- ☒ Spotters/Attendants
- ☐ Barricades
- ☒ Housekeeping
- ☐ Ignition source controls
- ☐ Gas monitoring
- ☐ Material Safety Data Sheets
- ☐ Scaffolding
- ☐ Parking Plans
- ☐ Equipment Staging Plans
- ☒ Essential personnel only
- ☐ Break Rotation
- ☐ Temporary Lighting
- ☐ Isolation of Hazardous Energy
- ☐ Equipment Inspections
- ☒ Other __S.T.A.R. Card___
- ☐ Other ___
- ☐ Other ___

Safety Controls (Personal Protective Equipment)
- ☒ Hard hat
- ☒ Safety shoes
- ☒ Safety glasses
- ☒ Face shield
- ☐ Goggles
- ☐ Cotton gloves
- ☐ Leather gloves
- ☐ Chemical gloves
- ☒ Electrical rated gloves
- ☐ Chemical suit
- ☐ Work vest/Life vest
- ☐ Full body harness
- ☐ Specialty Clothing
- ☐ Hearing protection
- ☒ FRC
- ☐ Other Rain Suit___
- ☐ Other __________
- ☐ Other __________

Safety Equipment
- ☒ Fire Extinguishers
- ☐ Fire retardant tarps
- ☒ Locks and tags
- ☐ Gas detectors
- ☐ Personal Monitors
- ☐ Tag line
- ☐ Safety cable
- ☒ Safety Barricade
- ☐ Caution tape
- ☐ Area Monitors
- ☐ Other _____
- ☐ Other __________
- ☐ Other __________
- ☐ Other __________

Emergency/Contingency Plans
- ☐ Spill Control
- ☐ Spill Contingency Plans
- ☒ Emergency Evacuation Plans
- ☒ Incident Reporting Procedure
- ☐ Early Injury Management
- ☐ Other __________

Environmental Equipment
- ☐ Absorbent pads
- ☐ Containment pans
- ☐ Other __________

Certification Requirements
- ☐ Certified Welder
- ☐ Qualified Crane Operator
- ☐ Qualified Rigger
- ☐ Qualified Signal Man
- ☒ Competent Person
- ☐ Scaffolding Inspector
- ☐ Qualified Gas tester
- ☐ Confined Space Attendant
- ☐ Fire Watch
- ☐ Equipment Operator
- ☐ Other CDL
- ☒ Other __Electrician________

Licensing Requirements
- ☐ Asbestos Abatement
- ☐ Lead Abatement
- ☐ Other __________
- ☐ Other __________

Applicable Safe Work Practices
- ☐ Safe Work
- ☐ Bypassing Critical Protection
- ☐ Confined Space
- ☐ Diving
- ☐ Electrical Safe Work
- ☐ Excavation
- ☐ Lifting and Rigging
- ☐ Hot Work
- ☒ Isolation of Hazardous Energy
- ☐ Simultaneous Operations
- ☐ Working at Heights
- ☐ Other __________

General
- ☐ Other __________
- ☐ Other __________

Major Equipment Required

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action:____________________

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action:____________________

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action:____________________

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action:____________________

Occupational Health Considerations (Characterization, monitoring plan, exposure controls)

None

Emergency Actions Planning / Emergency Response Capability Required

All hands have communications (cell, vehicles CB/radios).

Pre-requisite actions, SIMOPS and Communications Required

Radios, cell phones.

4.0.12 Inverter Commissioning Risk Assessment and Hazard I.D. (Low/Medium Risk, NON-ROUTINE TASKS)

Task #: 16

Potential Hazards

☒ **Gravity**
- ☐ Overhead work
- ☐ Falling object
- ☐ Excavation
- ☐ Collapsing roof/equipment
- ☒ Elevated/Uneven work surface
- ☐ Open holes
- ☐ Other ________

☒ **Motion**
- ☐ Vehicle/Equipment movement
- ☐ Limited mobility (confined space)
- ☐ Material movement
- ☒ Water/Wind movement
- ☒ Body positioning/Ergonomics
- ☐ Manual Lifting
- ☒ Crush/Pinch points
- ☐ Containment
- ☐ Other ________

☒ **Mechanical**
- ☐ Rotating equipment
- ☐ Compressed springs
- ☐ Drive belts and conveyors
- ☐ Motors
- ☒ Power/Hand tools
- ☐ Other ________

☒ **Electrical**
- ☐ Power lines (above)
- ☒ Energized equipment
- ☐ Static charges
- ☐ Wiring
- ☐ Batteries
- ☐ Other ________

☐ **Pressure**
- ☐ Piping
- ☐ Cylinders
- ☐ Vessels/Tanks
- ☐ Hoses
- ☐ Other ________

☒ **Temperature**
- ☐ Ignition source
- ☐ Hot/Cold surfaces, liquids, gases
- ☒ Hot/Cold weather conditions
- ☒ Additional protective clothing?
- ☐ Lvl A ☐ Lvl B ☐ Lvl C ☐ Lvl D
- ☐ Other ________

☐ **Chemical**
- ☐ Explosive/Flammable vapors
- ☐ Welding fumes
- ☐ Carcinogen Compound
- ☐ Toxic Compounds
- ☐ Corrosive Compound
- ☐ Reactive Compounds
- ☐ Pyro-phoric material
- ☐ Other ________

☒ **Biological**
- ☒ Animals/Insects
- ☐ Bacteria/Viruses
- ☐ Blood Borne Pathogens
- ☐ Contaminated food/water
- ☐ Other ________

☒ **Radiation**
- ☐ Lighting
- ☐ Welding arc/flash
- ☒ Sunlight
- ☐ X-rays
- ☐ NORM scale
- ☐ Other ________

☐ **Sound**
- ☐ Equipment noise
- ☐ Impact noise
- ☐ Venting noise
- ☐ Communication (SimOps)
- ☐ Communication (Language)
- ☐ Other ________

****NOTE** Red text indicates PPE analysis and certification required in section 6 and completion of a line for each hazard in table 4.2**

Mitigations

Hazard Controls (Engineering and Administrative)
- ☒ Work Permits
- ☒ PPE Program
- ☒ Warning signs
- ☐ Pipeline markers
- ☒ Spotters/Attendants
- ☐ Barricades
- ☐ Housekeeping
- ☐ Ignition source controls
- ☐ Gas monitoring
- ☒ Material Safety Data Sheets
- ☐ Scaffolding
- ☐ Parking Plans
- ☐ Equipment Staging Plans
- ☒ Essential personnel only
- ☐ Break Rotation
- ☐ Temporary Lighting
- ☒ Isolation of Hazardous Energy
- ☐ Equipment Inspections
- ☒ Other S.T.A.R. Cards.
- ☐ Other ___
- ☐ Other ___

Safety Controls (Personal Protective Equipment)
- ☒ Hard hat
- ☒ Safety shoes
- ☒ Safety glasses
- ☒ Face shield
- ☐ Goggles
- ☐ Cotton gloves
- ☐ Leather gloves
- ☐ Chemical gloves
- ☒ Electrical rated gloves
- ☐ Chemical suit
- ☐ Work vest/Life vest
- ☐ Full body harness
- ☐ Specialty Clothing
- ☐ Hearing protection
- ☒ FRC
- ☐ Other Rain Suit
- ☐ Other ________
- ☐ Other ________

Safety Equipment
- ☒ Fire Extinguishers
- ☐ Fire retardant tarps
- ☐ Locks and tags
- ☐ Gas detectors
- ☐ Personal Monitors
- ☐ Tag line
- ☐ Safety cable
- ☐ Safety Barricade
- ☐ Caution tape
- ☐ Area Monitors
- ☐ Other ____
- ☐ Other ________
- ☐ Other ________
- ☐ Other ________

Emergency/Contingency Plans
- ☐ Spill Control
- ☐ Spill Contingency Plans
- ☒ Emergency Evacuation Plans
- ☒ Incident Reporting Procedure
- ☐ Early Injury Management
- ☐ Other ________

Environmental Equipment
- ☐ Absorbent pads
- ☐ Containment pans
- ☐ Other ________

Certification Requirements
- ☐ Certified Welder
- ☐ Qualified Crane Operator
- ☐ Qualified Rigger
- ☐ Qualified Signal Man
- ☒ Competent Person
- ☐ Scaffolding Inspector
- ☐ Qualified Gas tester
- ☐ Confined Space Attendant
- ☐ Fire Watch
- ☐ Equipment Operator
- ☐ Other CDL
- ☐ Other __Electrician________

Licensing Requirements
- ☐ Asbestos Abatement
- ☐ Lead Abatement
- ☐ Other ________
- ☐ Other ________

Applicable Safe Work Practices
- ☐ Safe Work
- ☐ Bypassing Critical Protection
- ☐ Confined Space
- ☐ Diving
- ☐ Electrical Safe Work
- ☐ Excavation
- ☐ Lifting and Rigging
- ☐ Hot Work
- ☒ Isolation of Hazardous Energy
- ☐ Simultaneous Operations
- ☐ Working at Heights
- ☐ Other ________

General
- ☐ Other ________
- ☐ Other ________

Major Equipment Required

Equipment:________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ________
Action: ________

Equipment:________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ________
Action: ________

Equipment:________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ________
Action: ________

Equipment:________ **Make:** ______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ________
Action: ________

Occupational Health Considerations (Characterization, monitoring plan, exposure controls)

None

Emergency Actions Planning / Emergency Response Capability Required

All hands have communications (cell, vehicles CB/radios).

Pre-requisite actions, SIMOPS and Communications Required

Radios, cell phones.

4.0.13 Tracker Commissioning   Risk Assessment and Hazard I.D. (Low/Medium Risk, NON-ROUTINE TASKS)

Task #: 17

Potential Hazards

☒ **Gravity**
- ☐ Overhead work
- ☐ Falling object
- ☐ Excavation
- ☐ Collapsing roof/equipment
- ☒ Elevated/Uneven work surface
- ☐ Open holes
- ☐ Other __________

☐ **Motion**
- ☐ Vehicle/Equipment movement
- ☐ Limited mobility (confined space)
- ☐ Material movement
- ☐ Water/Wind movement
- ☐ Body positioning/Ergonomics
- ☐ Manual Lifting
- ☐ Crush/Pinch points
- ☐ Containment
- ☐ Other __________

☒ **Mechanical**
- ☐ Rotating equipment
- ☐ Compressed springs
- ☐ Drive belts and conveyors
- ☐ Motors
- ☒ Power/Hand tools
- ☐ Other __________

☒ **Electrical**
- ☐ Power lines (above)
- ☒ Energized equipment
- ☐ Static charges
- ☐ Wiring
- ☐ Batteries
- ☐ Other __________

☐ **Pressure**
- ☐ Piping
- ☐ Cylinders
- ☐ Vessels/Tanks
- ☐ Hoses
- ☐ Other __________

☒ **Temperature**
- ☐ Ignition source
- ☐ Hot/Cold surfaces, liquids, gases
- ☐ Hot/Cold weather conditions
- ☒ Additional protective clothing?
- ☐Lvl A ☐Lvl B ☐Lvl C ☐Lvl D
- ☐ Other __________

☐ **Chemical**
- ☐ Explosive/Flammable vapors
- ☐ Welding fumes
- ☐ Carcinogen Compound
- ☐ Toxic Compounds
- ☐ Corrosive Compound
- ☐ Reactive Compounds
- ☐ Pyro-phoric material
- ☐ Other __________

☒ **Biological**
- ☒ Animals/Insects
- ☐ Bacteria/Viruses
- ☐ Blood Borne Pathogens
- ☐ Contaminated food/water
- ☐ Other __________

☒ **Radiation**
- ☐ Lighting
- ☐ Welding arc/flash
- ☒ Sunlight
- ☐ X-rays
- ☐ NORM scale
- ☐ Other __________

☒ **Sound**
- ☒ Equipment noise
- ☐ Impact noise
- ☐ Venting noise
- ☐ Communication (SimOps)
- ☐ Communication (Language)
- ☐ Other __________

****NOTE** Red text indicates PPE analysis and certification required in section 6 and completion of a line for each hazard in table 4.2**

Mitigations

Hazard Controls (Engineering and Administrative)
- ☒ Work Permits
- ☒ PPE Program
- ☒ Warning signs
- ☐ Pipeline markers
- ☐ Spotters/Attendants
- ☐ Barricades
- ☒ Housekeeping
- ☐ Ignition source controls
- ☐ Gas monitoring
- ☐ Material Safety Data Sheets
- ☐ Scaffolding
- ☐ Parking Plans
- ☐ Equipment Staging Plans
- ☐ Essential personnel only
- ☐ Break Rotation
- ☐ Temporary Lighting
- ☒ Isolation of Hazardous Energy
- ☐ Equipment Inspections
- ☒ Other __S.T.A.R. Cards
- ☐ Other ___ __
- ☐ Other _____

Safety Controls (Personal Protective Equipment)
- ☒ Hard hat
- ☒ Safety shoes
- ☒ Safety glasses
- ☐ Face shield
- ☐ Goggles
- ☐ Cotton gloves
- ☐ Leather gloves
- ☐ Chemical gloves
- ☒ Electrical rated gloves
- ☐ Chemical suit
- ☐ Work vest/Life vest
- ☐ Full body harness
- ☒ Specialty Clothing
- ☒ Hearing protection
- ☒ FRC
- ☐ Other Rain Suit__
- ☐ Other __________
- ☐ Other __________

Safety Equipment
- ☒ Fire Extinguishers
- ☐ Fire retardant tarps
- ☐ Locks and tags
- ☐ Gas detectors
- ☐ Personal Monitors
- ☐ Tag line
- ☐ Safety cable
- ☐ Safety Barricade
- ☐ Caution tape
- ☐ Area Monitors
- ☐ Other _____
- ☐ Other __________
- ☐ Other __________
- ☐ Other __________

Emergency/Contingency Plans
- ☐ Spill Control
- ☐ Spill Contingency Plans
- ☐ Emergency Evacuation Plans
- ☐ Incident Reporting Procedure
- ☐ Early Injury Management
- ☐ Other __________

Environmental Equipment
- ☐ Absorbent pads
- ☐ Containment pans
- ☐ Other __________

Certification Requirements
- ☐ Certified Welder
- ☐ Qualified Crane Operator
- ☐ Qualified Rigger
- ☐ Qualified Signal Man
- ☒ Competent Person
- ☐ Scaffolding Inspector
- ☐ Qualified Gas tester
- ☐ Confined Space Attendant
- ☐ Fire Watch
- ☐ Equipment Operator
- ☐ Other CDL
- ☐ Other __Electrician________

Licensing Requirements
- ☐ Asbestos Abatement
- ☐ Lead Abatement
- ☐ Other __________
- ☐ Other __________

Applicable Safe Work Practices
- ☒ Safe Work
- ☐ Bypassing Critical Protection
- ☐ Confined Space
- ☐ Diving
- ☒ Electrical Safe Work
- ☐ Excavation
- ☐ Lifting and Rigging
- ☐ Hot Work
- ☒ Isolation of Hazardous Energy
- ☐ Simultaneous Operations
- ☐ Working at Heights
- ☐ Other __________

General
- ☐ Other __________
- ☐ Other __________

Major Equipment Required

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action:____________________

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action:____________________

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action:____________________

Equipment:_______________ **Make:** _______ **Model:** ______ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____
Stop Work Trigger: ____________________
Action:____________________

Occupational Health Considerations (Characterization, monitoring plan, exposure controls)

None

Emergency Actions Planning / Emergency Response Capability Required

All hands have communications (cell, vehicles CB/radios).

Pre-requisite actions, SIMOPS and Communications Required

Radios, cell phones.

4.0.14 Site Restoration Risk Assessment and Hazard I.D. (Low/Medium Risk, NON-ROUTINE TASKS)

Task #	Potential Hazards	Mitigations	Major Equipment Required
182	☒ **Gravity** ☐ Overhead work ☐ Falling object ☐ Excavation ☐ Collapsing roof/equipment ☒ Elevated/Uneven work surface ☐ Open holes ☐ Other _____ ☒ **Motion** ☒ Vehicle/Equipment movement ☐ Limited mobility (confined space) ☐ Material movement ☐ Water/Wind movement ☒ Body positioning/Ergonomics ☒ Manual Lifting ☒ Crush/Pinch points ☐ Containment ☐ Other _____ ☒ **Mechanical** ☐ Rotating equipment ☐ Compressed springs ☐ Drive belts and conveyors ☐ Motors ☒ Power/Hand tools ☐ Other _____ ☒ **Electrical** ☒ Power lines (above) ☐ Energized equipment ☐ Static charges ☐ Wiring ☐ Batteries ☐ Other _____ ☐ **Pressure** ☐ Piping ☐ Cylinders ☐ Vessels/Tanks ☐ Hoses ☐ Other _____ ☒ **Temperature** ☐ Ignition source ☐ Hot/Cold surfaces, liquids, gases ☒ Hot/Cold weather conditions ☐ Additional protective clothing? ☐Lvl A ☐Lvl B ☐Lvl C ☐Lvl D ☐ Other _____ ☐ **Chemical** ☐ Explosive/Flammable vapors ☐ Welding fumes ☐ Carcinogen Compound ☐ Toxic Compounds ☐ Corrosive Compound ☐ Reactive Compounds ☐ Pyro-phoric material ☐ Other _____ ☒ **Biological** ☒ Animals/Insects ☐ Bacteria/Viruses ☐ Blood Borne Pathogens ☐ Contaminated food/water ☐ Other _____ ☒ **Radiation** ☐ Lighting ☐ Welding arc/flash ☒ Sunlight ☐ X-rays ☐ NORM scale ☐ Other _____ ☒ **Sound** ☐ Equipment noise ☐ Impact noise ☐ Venting noise ☐ Communication (SimOps) ☐ Communication (Language) ☐ Other _____ ****NOTE** Red text indicates PPE analysis and certification required in section 6 and completion of a line for each hazard in table 4.2**	**Hazard Controls (Engineering and Administrative)** ☐ Work Permits ☒ PPE Program ☐ Warning signs ☐ Pipeline markers ☐ Spotters/Attendants ☐ Barricades ☒ Housekeeping ☐ Ignition source controls ☐ Gas monitoring ☐ Material Safety Data Sheets ☐ Scaffolding ☐ Parking Plans ☒ Equipment Staging Plans ☐ Essential personnel only ☐ Break Rotation ☐ Temporary Lighting ☒ Isolation of Hazardous Energy ☒ Equipment Inspections ☐ Other S.T.A.R. Cards ☐ Other _____ ☐ Other _____ **Safety Controls (Personal Protective Equipment)** ☒ Hard hat ☒ Safety shoes ☒ Safety glasses ☐ Face shield ☐ Goggles ☐ Cotton gloves ☒ Leather gloves ☐ Chemical gloves ☐ Electrical rated gloves ☐ Chemical suit ☒ Work vest/Life vest ☐ Full body harness ☐ Specialty Clothing ☐ Hearing protection ☐ FRC ☐ Other Rain Suit ☐ Other _____ ☐ Other _____ **Safety Equipment** ☒ Fire Extinguishers ☐ Fire retardant tarps ☐ Locks and tags ☐ Gas detectors ☐ Personal Monitors ☐ Tag line ☐ Safety cable ☐ Safety Barricade ☐ Caution tape ☐ Area Monitors ☐ Other _____ ☐ Other _____ ☐ Other _____ ☐ Other _____ **Emergency/Contingency Plans** ☐ Spill Control ☐ Spill Contingency Plans ☒ Emergency Evacuation Plans ☒ Incident Reporting Procedure ☐ Early Injury Management ☐ Other _____ **Environmental Equipment** ☐ Absorbent pads ☐ Containment pans ☐ Other _____ **Certification Requirements** ☐ Certified Welder ☐ Qualified Crane Operator ☐ Qualified Rigger ☐ Qualified Signal Man ☒ Competent Person ☐ Scaffolding Inspector ☐ Qualified Gas tester ☐ Confined Space Attendant ☐ Fire Watch ☐ Equipment Operator ☐ Other CDL ☐ Other Electrician **Licensing Requirements** ☐ Asbestos Abatement ☐ Lead Abatement ☐ Other _____ ☐ Other _____ **Applicable Safe Work Practices** ☒ Safe Work ☐ Bypassing Critical Protection ☐ Confined Space ☐ Diving ☐ Electrical Safe Work ☐ Excavation ☐ Lifting and Rigging ☐ Hot Work ☐ Isolation of Hazardous Energy ☒ Simultaneous Operations ☐ Working at Heights ☐ Other _____ **General** ☐ Other _____ ☐ Other _____	**Equipment:**_____ **Make:** _____ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____ Stop Work Trigger: _____ Action: _____ **Equipment:**_____ **Make:** _____ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____ Stop Work Trigger: _____ Action: _____ **Equipment:**_____ **Make:** _____ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____ Stop Work Trigger: _____ Action: _____ **Equipment:**_____ **Make:** _____ **Model:** _____ **Capacity:** ___-- **Onsite:** __/__/____ **Offsite:** __/__/____ Stop Work Trigger: _____ Action: _____ **Occupational Health Considerations (Characterization, monitoring plan, exposure controls)** None **Emergency Actions Planning / Emergency Response Capability Required** All hands have communications (cell, vehicles CB/radios). **Pre-requisite actions, SIMOPS and Communications Required** Radios, cell phones.

5.0 Personal Protective Equipment Required

Minimum PPE Required Throughout the Job at All Times:

1. ANSI Z.89 Hard Hats
2. ANSI Z.87 Safety Glasses
3. Safety Toed Work Boots, Minimum 6” Leather Uppers
4. Shirts with 4” minimum Sleeves
5. Pants
6. Gloves suitable for the task
7. High Visibility Safety Vest

Additional PPE Requirements (Special tasks). May include, but not limited to:

Face Shields, and hearing protection for grinding, buffing, chipping. Dual hearing protection required within 150’ of pile driving. Metatarsal guards. Snake chaps. Chainsaw/chopsaw chaps. Hearing protection in areas Of 85 dbs or greater. Fall protection (safety harness, lanyard and anchor point)

Hazard		Potential Source	Known Activities that potentially contain	Avenue of Exposure				Project Specific Controls, Action Triggers, SW Triggers					Required Monitoring and Emergency Response Capability	
				Inhalation	Absorption	Ingestion	Injection	OSHA PEL	OSHA STEL	OSHA CEIL	Engineering Control	Administrative Controls	PPE Controls	
☒	Allergens, Other	Bees Insects (spiders) snakes	All Activities	☐	☒	☒	☒				None	Action Level: Required Action: Stop Work Trigger: 1. Aggressive Bees Required Action: 1. Evacuate to a safe distance	Hand: Eye: Hearing: Clothing: Respiratory: - Type - Limits	Snake Bite-Notify Supervisor/Call HSE Bee Sting-Notify Supervisor/Call HSE Spider Bite-Notify Supervisor/Call HSE
☒	Allergens, Pollen	Vegetation (poison oak)	Pipeline repairs, Operations and Maintenance	☒	☒	☒	☐					Action Level: Required Action: Stop Work Trigger: 1. Poison oak Identified on ROW Required Action: 1. Remove poison oak 2. Apply barrio cream	Hand: Gloves Eye: Safety glasses, Goggles Hearing: Clothing: Cover exposed skin Respiratory: - Type ½ face - Limits	None required
☒	Blood borne Pathogens	Contact with blood Sharps /Needles	Rescue or Emergency Activities Dead wildlife	☐	☒	☒	☒					Action Level: Required Action: 1.Notify supervision 2. Keep a safe distance Stop Work Trigger: Required Action:	Hand: Nitrile Gloves Eye: Safety glasses Hearing: Clothing: Remove contaminated clothing Respiratory: - Type - Limits	
☒	Infectious Diseases, Mycotic (fungal)	-	-Water -Food -Environment	☒	☒	☒	☐					Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type - Limits	
☒	Infectious Diseases, Enteric (food and water borne disease / contaminants		-Water -Food -Environment	☒	☒	☒	☐					Required Action: 1. Wash face/hands prior to eating. 2. Maintain food at safe temperature.	Hand: Eye: Hearing: Clothing: Respiratory: - Type - Limits	
☒	Infectious Diseases, Vector borne	-Lyme disease -Q fever -West Nile -Dengue -Valley Fever	-Animal transmission -	☐	☐	☐	☒					Action Level: 1.Presence of vectors Required Action: 1. Appropriate clothing and repellants.	Hand: Eye: Hearing: Clothing: Respiratory: - Type - Limits	
☒	Asbestos	-Valve/Pump Packing -Pipe Coating -Pipe -Insulation -Gaskets -Brakes -Building Materials	Operations and Maintenance	☒	☐	☒	☐	0.1 f/cc .05 ppm			Regulated area Negative pressure enclosures Glove bags	Action Level: 0.025ppm Required Action: Stop Work Trigger: Quantities above action level. Required Action:	Hand: Gloves Eye: Goggles Hearing: Clothing: Tyvex suit Respiratory: Respirator Type Hepa filter Limits	
☒	Asphaltic Materials	Pipe coatings Excavations Site remediation		☒	☒	☐	☐	See ACM limits above				Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Gloves Eye: Safety Glasses Hearing: Clothing: Respiratory: - Type - Limits	
☐	Benzene	-Crudes -Products -Solvents -Condensates	-Sampling -Spill Clean up -Checking Leaks -Confined Space -Tank Cleaning -Tank Inspections -Waste Handling	☐	☐	☐	☐	1ppm	5ppm		Ventilation	Action Level: 0.5ppm Required Action: stop work Stop Work Trigger: >0.5ppm Required Action:: Stop work	Hand: Eye: Hearing: Clothing: Respiratory: Half Face Organic Vapor filter	

☒	Burns, Chemical	Acids, Bases, Cryogenic chemical		☐	☒	☒	☐	See specific MSDS				Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Nitrile Gloves Eye: Glasses Goggles Hearing: Clothing: Respiratory: - Type Limits	
☒	CPREon Dioxide			☒	☐	☐	☐	5000 ppm 29mg/m3	30,000 ppm 54,000mg/m3			Action Level: < 2500ppm Required Action: Stop work Stop Work Trigger: Required Action:	Hand: Gloves Eye: Glasses Hearing: Clothing: Respiratory: - Type - Limits	
☒	CPREon Monoxide	-Vehicle Emissions -Fire Combustion -Product	Operations and Maintenance	☒	☐	☐	☐	25ppm 29mg/m3		200 ppm		Action Level: 50% of PEL Required Action: Move upwind Stop Work Trigger: Air monitor alarm Required Action: Stop work and upwind	Hand: Eye: Hearing: Clothing: Respiratory: - Type Limits	
☐	Crude Oil	Pipeline	Operations Maintenance Pipeline work	☐	☐	☐	☐	LEL <10% Benzene <1%				Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Gloves Eye: Safety Glasses Hearing: Clothing: Remove contaminated Respiratory: - Type - Limits	
☒	Dust	-Weather -Abrasive blasting -Old buildings -Vaults	Operations and Maintenance	☒	☐	☐	☐	10 ppm 50mg/m3				Action Level: < 50% of PEL Required Action: Wet area Stop Work Trigger: > 50% PEL Required Action: Stop work	Hand: Eye: Safety Glasses Hearing: Clothing: Respiratory: - Type Limits	
☒	Epoxy Resins	-Pipeline Coating -Sealants - Enviroline 124	Operations and Maintenance, Pipeline Repairs	☒	☒	☒	☐	TBD			Ventilation	Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type Limits	
☐	Ethyl benzene			☐	☐	☐	☐	100ppm 435mg/m3	125ppm 545mg/m3			Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type Limits	
☒	Fiberglass	Insulation	Operations and Maintenance, Repairs	☒	☒	☒	☐	1.0f/cc			Signs ventilation	Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: gloves Eye: Glasses Hearing: Clothing: coveralls Respiratory: yes Type half face NPAP Limits	
☒	Gasoline	Gas operated equipment' Gas cans Pipelines	Construction activities	☒	☒	☒	☐	300ppm 900mg/m3	500 ppm 1500mg/m3	900mg/m3	Proper storage of Gas in approved container. No smoking	Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Gloves Eye: Glasses Hearing: Clothing: Respiratory: - Type - Limits	
☐	Gas, Liquid Petroleum	LPG Facilities, pipelines, tankers	Operations and Maintenance, Pipeline Repairs	☐	☐	☐	☐	1000ppm 1800mg/m3			Gas testing ventilation	Action Level: Alarm Required Action: stop work Stop Work Trigger: Required Action:	Hand: Gloves Eye: Glasses Hearing: Clothing: Respiratory: - Type - Limits	

☒	Greases, Lubricating	Mechanical Equipment	Servicing equipment	☐	☒	☒	☐	See specific MSDS				Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type - Limits	
☐	Grinding Dusts	Repairs, Grinding on equipment, fabrication	Operations and Maintenance, Pipeline Repairs	☐	☐	☐	☐				Ventilation for enclosed work	Action Level: Required Action: Stop Work Trigger: No ppe Required Action:	Hand: Gloves Eye:Glasses, face shield Hearing: Ear plugs Clothing: Long sleeves Respiratory: - Type Limits	
☐	H2S	Crude Oil, Oil fields ,pipelines	Operations and Maintenance	☐	☐	☐	☐	10 ppm 14mg/m3	15ppm 21mg/m3	50ppm	Ventilation 'Gas testing	Action Level: 5 ppm of greater Required Action: Stop work Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: full face air supplied Type Limits	
☐	HydrocPREon Liquid	Crude Oil, Oil fields	Operations and Maintenance, Pipeline Repairs	☐	☐	☐	☐	See specific MSDS <10% LEL			VOC	Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type Limits	
☐	HydrocPREon Vapors	Crude Oil, Oil fields	Operations and Maintenance, Pipeline Repairs	☐	☐	☐	☐	See specific MSDS <10% LEL			Ventilation Gas Testing	Action Level: Alarms Required Action: Stop work Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type Limits	
☒	Lube Oils	Engines, pumps, rotating equipment	Operations and Maintenance	☒	☒	☒	☐	See specific MSDS <10% LEL				Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type Limits	
☒	NOx	Welding Activities		☒	☐	☐	☐	3 ppm	5ppm			Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type Limits	
☒	Oxygen, depleted atmosphere	-Confined Spaces -Inert Atmospheres	Pipeline repairs, Operations and Maintenance	☒	☐	☐	☐	<19.5%			Gas testing Ventilation	Action Level: Alarms Required Action: Stop work Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type Limits	
☒	Oxygen, Enriched atmosphere	Confined Spaces	Pipeline repairs, Operations and Maintenance	☒	☐	☐	☐	>21.5%			Gas testing Ventilation	Action Level: 23% oxygen Required Action: Stop work Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type Limits	
☐	Ozone			☐	☐	☐	☐					Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type Limits	

☐	Paint Dust (lead)	Old Buildings and pipelines	Pipeline repairs, Operations and Maintenance	☐	☐	☐	☐			50 ug/m3	Enclosed work area Containment Hepa Vacuums	Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Gloves Eye: Hearing: Clothing: Tyvek Respiratory: Respiratory Type Base on Levels Limits	
☐	Particulates, Metal	Demolition of metal structures, Preparation of metallic surfaces Repair of metallic components	Grinding Blasting	☐	☐	☐	☐	10ppm 50mg/m3			Ventilation, Exhaust fans Smoke eaters	Action Level: TBD Required Action: TBD Stop Work Trigger: TBD Required Action:	Hand: TBD Eye: Hearing: Clothing: Respiratory: - Type Limits	
☐	Silica/sand	Abrasive blasting, mud mixing on drills, excavations	Operations and Maintenance, pipeline repairs and installs	☐	☐	☐	☐	0.1mg/m3			Ventilation	Action Level: > o.1 mg/m3 Required Action: Stop work Stop Work Trigger: Required Action:	Hand: Gloves Eye: Safety Glasses Hearing: Clothing: coveralls Respiratory: Yes Type ½ face npr hepa 100 Limits	
☒	Solvents	-Lab chemicals -Degreasers -Paints	Operations and Maintenance, pipeline repairs and installs	☒	☒	☒	☒	See specific MSDS <10% LEL			Limit exposure	Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type Limits	
☐	Toluene	Crude Oil Petroleum products Cleaners thinners Solvents adHSEives	Cleaning Painting Coating exposure to crude oil or petroleum products	☐	☐	☐	☐	10ppm 37mg/m3	150ppm 560mg/m3	500ppm	Limit exposure	Action Level: < 50% of PEL Required Action: Stop work Stop Work Trigger: > 50% of PEL Required Action: Stop work	Hand: Gloves Nitrile Eye: chemical goggles Hearing: Clothing: Chemical resistant Respiratory: as needed Type TBD Limits	
☒	Welding Fumes	Pipe and rod	Welding and Maintenance	☒	☐	☐	☐	Material specific see MSDS NO2 / NOX = 3ppm			Provide adequate ventilation	Action Level: inadequate ventilation Required Action: Stop work Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: Approved for welding fumes Type TBD Limits	
☒	Animal Bites, Snake Bites	Snakes Spiders (Black widow)	Operations and Maintenance, pipeline repairs and installs, ROW clearings	☐	☐	☐	☒				Snake chaps when apprehending snakes	Action Level: Snake identified Required Action: Stop work Stop Work Trigger: Snake or spider identified Required Action:	Hand: Gloves Eye: Hearing: Clothing: snake chaps Respiratory: - Type Limits	Have clinic and Hospital identified prior to the start of work call Axiom in case of snake or spider bite.
☒	Burns, Thermal	-Welding -Hot Equipment -Sunlight -Cryogenic containment	Welding and Maintenance	☐	☒	☐	☐				Welding screens	Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Gloves Eye: welding hood or Goggles Hearing: Clothing: FRC Respiratory: As required - Type Limits	
☒	Ergonomic, Lifting	Construction site Offices	Routine office work All construction activities	☐	☐	☐	☐				None	Action Level: Training Required Action: Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type Limits	
☒	Ergonomic, Musculo skeletal – disorders	Construction site offices	Routine office work All construction activities	☐	☐	☐	☐				None	Action Level: Training Required Action: Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type	

													Limits	
☒	Ergonomic, Work positioning	Construction site offices	Routine office Work All construction activities	☐	☐	☐	☐				None	Action Level: Training Required Action: Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type Limits	
☒	Falling Object	-Over head hazards -Scaffolding -Construction zones -Cranes	Operations and Maintenance, Pipeline Repairs	☐	☐	☐	☐				No stacked work Stay out from under loads Keep tools and material away from excavation edges No lifting chains will be allowed to be used for lifting tasks	Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Gloves Eye: Glasses Hearing: Clothing: Respiratory: - Type Limits	
☐	Radiation, Ionizing Other	Radiographs	Testing-X-ray	☐	☐	☐	☐				Barricades Signs Barricade tape X ray attendant	Action Level: Engineering controls not in place Required Action: stop work Stop Work Trigger: same as above Required Action:	Hand: NA Eye: NA Hearing: NA Clothing: project required Respiratory: - Type Limits	
☒	Radiation, Ultraviolet	Sun Light plants Welding Activities	All activities perform outside in direct sun light	☐	☒	☐	☐				Provide shade	Action Level: At 85 degrees shade must be provided Required Action: Monitor heat index Stop Work Trigger: Required Action:	Hand: gloves Eye: Safety Glasses Hearing: Clothing: Project required Respiratory: - Type Limits	
☒	Sharps	Equipment, tools, broken glass, pipeline, needles	Operations and Maintenance, pipeline repairs and installs	☐	☐	☐	☒					Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type Limits	
☒	Sound, Noise	-Engines -Pumps -Compressors -Hand Tools Heavy equipment	- Abrasive blasting -PRVs	Pipeline repairs, Operations and Maintenance	☐	☒	☐	☐	Cal/OSHA PEL 85db			Provide earplugs for High noise environments	Action Level: 85 db Required Action: Stop Work Trigger: extremely high noise environments Required Action: Post signs near noisy equipment	Hand: Eye: Hearing: Ear plugs/muffs Clothing: Respiratory: - Type Limits	
☒	Thermal Stress, Cold	-Weather -Compressed Gas Trucks -Cryogenic Dewars and Trucks -Refrigeration units		Operations, Maintenance, Line Purging	☐	☒	☐	☐					Action Level: Required Action: Stop Work Trigger: Required Action:	Hand: Eye: Hearing: Clothing: Respiratory: - Type Limits	
☒	Thermal Stress; Heat	- Environmental -Offices	Outside work, enclosed work areas Confined spaces	All construction activities	☐	☒	☐	☐				Provide adequate water Provide adequate shade, Provide frequent breaks at temperatures above 90 degrees	Action Level: 85 degrees Required Action: see engineering controls Stop Work Trigger: temperature above 90 degrees, lack of shade, lack of water Required Action: provide all of the above	Hand: NA Eye: NA Hearing: NA Clothing: cooling vests, collars Respiratory: NA Type Limits	Foreman shall monitor crews for heat related illness. Provide an area to provide First aid for Heat stress. Activate EMS for Heat stress and Heat stroke issues

6.0 Environmental

6.1 PRE will hire a third party consultant to monitor environmental compliance. This consultant will provide guidance for all reporting requirements and onsite monitoring based on site activities.

Chemical Inventory and Chemical Acceptance Program Status

Product Name	First Date Onsite?	Last Date Offsite?	PSC CM Approval Date?	6 CFR Part 27 Chemical? Yes / No
ACETONE				Yes / No
ACETYLENE				Yes / No
AERVOE-SURVEY MARKING PAINT				Yes / No
AIR TOOL OIL				Yes / No
ANTIFREEZE				Yes / No
BENTONITE				Yes / No
BLUE PVC CEMENT				Yes / No
CHRISTY'S ULTRA SEAL				Yes / No
CLEAR PVC CEMENT				Yes / No
COLD GALVANIZING SPRAY				Yes / No
DELO 400				Yes / No
DENATURED ALCOHOL				Yes / No
DIESEL FUEL #2				Yes / No
DRILLX				Yes / No
DRILLTROLQD				Yes / No
ENVIROLINE 124				Yes / No
EPOXY PRIMER S-1301				Yes / No
FORM OIL				Yes / No
GASOLINE, UNLEADED				Yes / No
GLOSS BRIGHT COLD GALVANIZING COMP				Yes / No
GREASE, ULTRA HEAVY DUTY				Yes / No
OIL GUARD, 2 STROKE				Yes / No
HYDRAULIC OIL				Yes / No
KLEEN BLAST				Yes / No

KOPR-KOTE				**Yes / No**
OIL, CRANKCASE				**Yes / No**
OIL, INDUSTRIAL				**Yes / No**
OXYGEN				**Yes / No**
PIPE COATING SP-2888 BLUE				**Yes / No**
PROPANE				**Yes / No**
PURPLE POWER INDUSTRIAL STRENGTH CLEANER				**Yes / No**
PURPLE PVC PRIMER				**Yes / No**
PVC BONDING ADHSEIVE				**Yes / No**
RUSTEUM SAFETY YELLOW				**Yes / No**
RUSTEUM STRIPING WHITE				**Yes / No**
RUSTEUM STRIPING YELLLOW				**Yes / No**
SLIC-TITE				**Yes / No**
SODA ASH				**Yes / No**
STAUROLITE				**Yes / No**
THINZIT				**Yes / No**
THREAD CUTTING OIL				**Yes / No**
THREAD-EZE ULTRA				**Yes / No**
THREAD SEALANT, V-2				**Yes / No**
THREAD SEALER				**Yes / No**
WD-40 AEROSOL				**Yes / No**
WD-40 BULK LIGUID				**Yes / No**
WELDING ROD (5P,5P+,70+,85)				**Yes / No**

Wastes Generated:

Stream	Regulated?	Disposal Method	Disposal Frequency	Hazardous Waste?	HazWaste Class
Normal Construction Waste	No	Onsite dumpster.	When required.	No.	N/A

Waste Management Procedure: N/A

Profile?	Company Procedure	Copy Attached?	Subcontractor?	Identification and role of S/C

Spill Prevention and Containment:

Potential Source	Location	Activities	Vulnerabilities	Mitigations
Refueling Gas	ROW	Refueling. Fuel system damage.		Spill kits. Daylight activity. Use drip pans Fire watch. Pre-use equipment inspection.
Refueling Diesel	ROW	Refueling. Fuel system damage.		Spill kits. Daylight activity. Use drip pans Fire watch. Pre-use equipment inspection.
Service (POLs)	ROW	Servicing equipment		Spill kits. Daylight activity. Non permeable plastic placed under equipment (Visqueen). Pre-use equipment inspection.
Equipment failure	ROW	Construction Activities		Spill Kits, Pre –use equipment inspection Non permeable plastic placed under equipment. (Visqueen).

Sensitive Area / Endangered Species Protection: N/A

Issue	Location	Protective Action(s)	Verification Requirement(s)	Documentation

7.0 Audits, Inspections, and Planned Observations

Weekly site safety assessments are completed by site supervision and project safety department. Behavior Based Observations are completed by employees on a peer to peer basis. Follow all inspection guidelines outlined in the (PRO-SAF-0612)

Internal audits shall be performed quarterly using instructions outlined in PRO-SAF-0630

Employees are to complete pre-use inspections of tools and equipment. 360 degree walk around visual inspections are conducted before departing on a motor vehicle or equipment.

Maintenance staff conducts periodic vehicle inspections and equipment maintenance.

8.0 Security Measures

Security Plan

All PRE Personnel will park in designated employee parking lot and report to supervision upon arrival. Visitors and Vendors will report to the office and sign in and must be escorted by a PRE Representative. PRE and their Vendors and/or Visitors are subject to property and vehicle search while entering or exiting the site.

9.0 Communication Plan

Radio and cell phones (no hand held cell phone use while driving or operating heavy equipment)

Interpersonal communications – e.g. tailgate safety meetings, safety huddles, company newsletter, and monthly all hands safety meeting, corporate safety website.

Use numerous tools to communicate effectively on site. S.T.A.R. cards will be used to identify and communicate hazards and appropriate risk mitigation.
A job board will be posted with appropriate emergency communications (e.g. driving directions to hospital, call out numbers) and regulatory postings (OSHA postings. Wage and salary info, anti-discrimination, and workers compensation postings)

10.0 Safe Work Permits

PRE will provide safe work permits for special tasks such as confined space, hot work, Lock Out Tag Out, and Excavations prior to beginning work. Specific conditions are confirmed and communicated by PRE before work commences.

12.0 Incident, Injury, and Illness Management

Site HSE Department	**Phone**
Jordan Rodriguez	432-269-1999

First Aid/Minor Treatment Facility (located in Onsite Safety/Training Office)	**Phone**
Shannon Occupational Medicine and Injury Clinic 2626 N. Bryant San Angelo, TX 76903	325-481-2375

Emergency Medical Treatment Facility (Local Hospital/Regional Trauma Center)	**Phone**
San Angelo Community Medical Center (Trauma 1-3) 3501 Knickerbocker Rd San Angelo, TX 76904	325-949-9511 or 911

Emergency Transportation Provider (Attach driving route to this plan)	**Phone**
AMR (American Medical Response)	866-756-3399 or 911

Medical Management Plan Provider	**Contact**
CORE Medical	844-774-6674
Claims Administrator PRE INC	949-454-7114

Local Law Enforcement	**Phone**
Tom Green County Sheriff's Office 222 W Harris Ave San Angelo, TX 76903	325-655-8111 or 911

Local Fire Department	**Phone**
San Angelo Fire Department 306 W 1st St San Angelo, TX 76903	325-657-4283 or 911

Incidents that require medical treatment will be handled as follows:

- The safety department will notify the Project Manager. One of which will notify owner/client.

- Call on-site medical services.
- If the employee needs additional medical attention, the Site Project Safety Manager will transport the injured employee to the designated medical facility.
- If the employee needs emergency medical transport, the safety department will call the local emergency dispatch center and request emergency medical assistance.

	Emergency Condition	Triggering Event	Required Action
	Flooding	Significant rain event	Secure and evacuate work areas
	Fire	• Unintended flame • Controlled Burning of Trees and Brush out of control, or left unattended overnight	• Extinguish flame within capabilities, notify supervisor and call Site Safety • Call Site Manager and Site Safety Manager. Will determine if we call Fire Dept. or use onsite water truck. Fire Watch to monitor all fires.
	Explosion	vehicle collisions, over heating of vehicles, spark at a fuel source	Evacuate to safe area and notify supervisor.
	Wind	25 mph winds	Stop work to evaluate conditions
	Tornado	Tornado Warning	Immediately report to a safe location
	Lightning	• 30 Miles out • 20 Miles Out • 10 Miles or closer	• Employees given caution warning • Employees secure and evacuate work areas • All Work Shuts Down. 30 minutes down time from the last lightning strike according to Weather Sentry Alert Program
	MVC	• MVC incident	• investigation
	Criminal activity	Theft, Damage to Property	Immediately Report it to Supervisor
	Violence in the Workplace	Harrassment, Bullying, Threatening, Fighting, Any Altercation	Notify supervisor or HR department.
	Confined Space/Trench / excavation Rescue as applicable	Hazardous atmosphere/Trench failure	Stop work, Call 911, Call Project Safety Manager
	Transportation Emergency (non MVC)	Any type of Medical condition, personal or Work Injury Related	Work immediately shuts down in affected area. Call 911 and Site Project Safety Manager. Core Medical EMT will determine along with local Ambulance Unit on mode of transportation by the rating of the injury.

13.0 Managing Subcontractors

Subcontractors shall comply with PRE's Subcontractor Safety Qualification Program and job site rules and regulations

14.0 Motor Vehicle Safety

The maximum speed limit is dependent on location of travel, obey posted speed limit signs.

Any employee drving a PRE vehicle must be listed on the approved driver list.

PRE as well as third party employees will follow their own company requirements and procedure for vehicle safety, which may include Smith Driving Safety.

100% spotter policy is in effect when backing or when view is obstructed in all vehicles and equipment. also when crossing a roadway in any equipment or under a power line. Power lines have yellow cone markers for locations to cross under power lines. all heavy equipment must cross under overhead power lines at these posted locations only.