<table>
<thead>
<tr>
<th>Docket Number:</th>
<th>09-AFC-08C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Title:</td>
<td>Genesis Solar Energy Project</td>
</tr>
<tr>
<td>TN #:</td>
<td>224664</td>
</tr>
<tr>
<td>Document Title:</td>
<td>Petition to Amend for Aqueous Ammonia Systems for Units 1 and 2</td>
</tr>
<tr>
<td>Description:</td>
<td>GSEP Petition to Amend (PTA) requesting to install an aqueous ammonia system, with 3,150 gallon tank, for both Units 1 and 2</td>
</tr>
<tr>
<td>Filer:</td>
<td>Eric Veerkamp</td>
</tr>
<tr>
<td>Organization:</td>
<td>Nextera Energy Resources</td>
</tr>
<tr>
<td>Submitter Role:</td>
<td>Applicant</td>
</tr>
<tr>
<td>Submission Date:</td>
<td>9/7/2018 12:46:52 PM</td>
</tr>
<tr>
<td>Docketed Date:</td>
<td>9/7/2018</td>
</tr>
</tbody>
</table>
August 31, 2018

Mr. Eric Veerkamp
Compliance Project Manager
1516 9th Street, MS 2000
Sacramento, CA. 95814

RE: Petition to Amend, Aqueous Ammonia Tank Upgrade and Installation

Dear Eric,

The Genesis Staff is hereby submitting the Petition to Amend upgrading the new Aqueous Ammonia System. The enclosed documentation describes the design and plans for the upgrade. Also included in the documentation is the completed petition form and the Risk Management Plan (RMP).

The required fee of $5,000.00 dollars (check) is also enclosed.

Please feel free to contact me with any questions.

Sincerely,

Eric Preher
General Plant Manager

Cc:
Genesis Solar, LLC
(9-AFC-8)

Petition to Amend

Submitted by
Genesis Solar, LLC
Aug 2018
# Table of Contents

Content.................................................................................................................................3
Executive Summary..................................................................................................................4
1.0 Introduction................................................................................................................................
   1.1 Overview ....................................................................................................................................6
   1.2 Ownership of Genesis ................................................................................................................8
   1.3 Summary of Environmental Impacts ..........................................................................................8
2.0 Description of Project Changes..........................................................................................9
   2.1 Changes to Condition of Certification ......................................................................................9
   2.2 Necessity of Proposed Changes ...............................................................................................9
3.0 Environmental Analysis of Project.....................................................................................10
   3.1 Air Quality ..............................................................................................................................10
   3.2 Impact to Public Health ............................................................................................................10
   3.3 Consistency of Amendment with the Certification and LORS ..............................................10
4.0 Potential Effects on the Public.............................................................................................11
5.0 List of Property Owners and Potential Effects on Property Owners .....................................11
   5.1 List of Property Owners ..........................................................................................................11
   5.2 Potential Effects on Property Owners ....................................................................................11
6.0 Approved Drawings and Pictures.........................................................................................11
Content

Genesis Solar, LLC, as project owner, petitions the California Energy Commission (CEC or Commission) to comply with the Conditions of Certification for the project. Genesis Solar LLC requests authorization to construct an aqueous ammonia storage system at each unit which includes a 3,150-gallon aqueous ammonia storage tank, 16’ x 16’ covered containment pad, fill head and truck unloading station. The applicable Conditions of Certification are: COMPLIANCE-13, GEN-1, GEN-8 and STRUC-1.
Executive Summary

Genesis Solar, LLC as project owner, petitions the California Energy Commission (CEC or Commission) to comply with the Condition of Certification COMPLIANCE-13, GEN-1, GEN-8 and STRUC-1 regarding the manner of regulation of new construction at the Genesis Solar Facility. Genesis Solar, LLC proposes to construct an aqueous ammonia storage system at both Unit 1 and Unit 2 power blocks. The storage system at each unit will house 19% aqueous ammonia used in the pH control of the condensate and feed water. The aqueous ammonia will be housed in a 3150-gallon poly double walled tank, on a 16' X 16' cement slab with a 4” curb surrounding the system. A truck unloading station will be constructed consisting of a fill connection bulkhead and 14’ x 16’ containment with catch basin. The fill piping from the fill bulkhead to the aqueous ammonia tank will be above ground.

Per the CEC Condition of certification, this compliance proposal is being submitted for approval due to the following condition decisions:

COMPLIANCE-13

The project owner must petition the Energy Commission pursuant to Title 20, California code of Regulations section 1769, in order to modify the project (including linear facilities) design, operation or performance requirements, and to transfer ownership or operational control of the facility. It is the responsibility of the project owner to contact the CPM to determine if a proposed project change should be considered a project modification pursuant of section 1769. Implementation of a project modification without first securing Energy Commission, or Energy Commission staff approval, may result in enforcement action that could result in civil penalties in accordance with section 25534 of the Public Resources Code.

A petition is required for amendments and for staff approved project modifications as specified below. Both shall be filed as a “Petition to Amend.” Staff will determine if the change is significant or insignificant. For verification changes, a letter from the project owner is sufficient. In all cases, the petition or letter requesting a change should be submitted to the CPM, who will file it with the Energy Commission’s Dockets Unit in accordance with Title 20, California Code of Regulations, section 1209.

GEN-1

The project owner shall design, construct, and inspect the project in accordance with the 2007 California Building Standards Code (CBSC), also known as Title 24, California Code of Regulations, which encompasses the California Building Code (CBC), California Building Standards Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and all other applicable engineering LORS in effect at the time initial design plans are submitted to the CBO for review and approval (the CBSC in effect is the edition that has been adopted by the California Building Standards Commission and published at least 180 days previously). The project owner shall ensure that all the provisions of the above applicable codes are enforced during the construction, addition, alteration, moving, demolition, repair, or maintenance of the completed facility. All transmission facilities (lines, switchyards, switching stations and substations) are covered in the conditions of certification in the Transmission System Engineering section of this document. In the event that the initial engineering designs are submitted to the CBO when the successor to the 2007 CBSC is in effect, the 2007...
CBSC provisions shall be replaced with the applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern. The project owner shall ensure that all contracts with contractors, subcontractors, and suppliers clearly specify that all work performed and materials supplied comply with the codes listed above. (Decision pg. 4)

**GEN-8**

The project owner shall obtain the CBO’s final approval of all completed work that has undergone CBO design review and approval. The project owner shall request the CBO to inspect the completed structure and review the submitted documents. The project owner shall notify the CPM after obtaining the CBO’s final approval. The project owner shall retain one set of approved engineering plans, specifications, and calculations (including all approved changes) at the project site or at another accessible location during the operating life of the project. Electronic copies of the approved plans, specifications, calculations, and marked-up as-builts shall be provided to the CBO for retention by the CPM.

**STRUC-1**

Prior to the start of any increment of construction of any major structure or component listed in *Facility Design Table 2* of condition of certification **GEN-2**, the project owner shall submit to the CBO for design review and approval the proposed lateral force procedures for project structures and the applicable designs, plans and drawings for project structures. Proposed lateral force procedures, designs, plans and drawings shall be those for the following items:

1. Major project structures;
2. Major foundations, equipment supports, and anchorage; and
3. Large field-fabricated tanks

Construction of any structure or component shall not begin until the CBO has approved the lateral force procedures to be employed in designing that structure or component.
1.0 Introduction

1.1 Overview

By this amendment Genesis Solar, LLC, petitions the Commission to consider the stated Condition of Certification to construct an aqueous ammonia storage system for pH control of the condensate and feed water at the Unit 1 and Unit 2 power blocks.

The aqueous ammonia storage tank is a double walled, self-contained, above ground tank with a 3150-gallon capacity. Tank will be fitted with a visual reverse float level indicator and installed with seismic restraints. The tank will rest on a 16’x16’x6” concrete pad with 4” curbs. A cover will be installed. Ground penetration will be 36 inches (See Drawings). The truck unloading station will include a fill connection bulkhead and truck containment. The bulkhead will be a Squibb Taylor S-Trongwall head model 1002 with 2” diameter sleeves. The truck containment will consist of a 14’ x 16’ system sloping to a 4’ x 4’ x 6’ precast containment vault.

This Amendment contains all of the information that is required pursuant to the Siting Regulations (California Code of Regulations [CCR] Title 20, Section 1769, Post Certification Amendments and Changes). The information necessary to fulfill the requirements of Section 1769(a)(1) is contained in Sections 1.0 through 5.0 as summarized in Table 1 below.
TABLE 1
Informational Requirements for Post-Certification Amendments and Changes in accordance with Title 20 California Code of Regulations

<table>
<thead>
<tr>
<th>Section 1769(a)(1) Requirement</th>
<th>Section of Petition Fulfilling Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) A complete description of the proposed modifications, including new language for any conditions that will be affected.</td>
<td>2.0</td>
</tr>
<tr>
<td>(B) A discussion of the necessity for the proposed changes</td>
<td>2.2</td>
</tr>
<tr>
<td>(C) If the modification is based on information that was known by the petitioner during the certification proceeding, an explanation why the issue was not raised at that time</td>
<td>2.2</td>
</tr>
<tr>
<td>(D) If the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision, an explanation of why the change should be permitted</td>
<td>2.2</td>
</tr>
<tr>
<td>(E) An analysis of the impacts the modification may have on the environment and proposed measures to mitigate any significant adverse impacts</td>
<td>1.3</td>
</tr>
<tr>
<td>(F) A discussion of the impact of the modification on the facility's ability to comply with applicable laws, ordinances, regulations, and standards;</td>
<td>1.3</td>
</tr>
<tr>
<td>(G) A discussion of how the modification affects the public</td>
<td>4.0</td>
</tr>
<tr>
<td>(H) A list of property owners potentially affected by the modification.</td>
<td>5.1</td>
</tr>
<tr>
<td>(I) A discussion of the potential effect on nearby property owners, the public and the parties in the application proceedings.</td>
<td>5.2</td>
</tr>
</tbody>
</table>
1.2 Ownership of Genesis Solar, LLC

Genesis Solar, LLC is a wholly owned subsidiary of NextEra Energy Resources.

1.3 Summary of Environmental Impacts

The Siting Regulations require that an analysis be conducted to address the potential impacts the proposed project change may have on the environment and proposed measures to mitigate any potentially significant adverse impacts (Title 20, CCR, Section 1769 (a)(1)(E)). The regulations also require a discussion of the impact of the proposed change on the facility’s ability to comply with applicable laws, ordinances, regulations and standards (“LORS”) (Title 20, CCR Section 1769 (a)(1)(F)).

Section 3.0 of this Amendment includes a discussion of the potential environmental impacts associated with the proposed additions and a discussion of the consistency of the change with LORS. Section 3.0 concludes that there would be no significant environmental impacts associated with implementing the construction of the aqueous ammonia storage system at Unit 1 and the aqueous ammonia storage system at Unit 2 specified in this Amendment and that the project would continue to comply with all applicable LORS.

The proposed changes to the site foot print will not adversely impact the environment. The proposed changes will not result in any significant physical change in the project or to the environment. The design of the plant will remain the same. Therefore, there is no possibility of any significant adverse environmental impacts resulting from the proposed changes to add the aqueous ammonia storage structures.
2.0 Description of Project Changes

This section includes a complete description of the proposed modification consistent with the Siting Regulations (Title 20, CCR, Section 1769 (a)(1)(A)).

2.1 Changes to Condition of Certification

By way of background, the Decision for the Genesis Solar facility describes in GEN-1 any alterations or additions will be presented to the CPM 30 days before commencement of work.

“Once the certificate of occupancy has been issued, the project owner shall inform the CPM at least 30 days prior to any construction, addition, alteration, moving, demolition, repair, or maintenance to be performed on any portion(s) of the completed facility that requires CBO approval for compliance with the above codes. The CPM will then determine if the CBO needs to approve the work.” (Decision, pg. 4)

The original Condition of Certification to the Decision will not be affected by the addition of the aqueous ammonia storage systems. The aqueous ammonia storage systems will be constructed to CBO specifications and inspected by the CBO as required. (Decision p.2)

Additionally, the implementation of the proposed aqueous ammonia storage systems will not adversely affect the Conditions of Certification listed to ensure that the Genesis Solar Energy Project will be designed and constructed in conformance with the applicable LORS pertinent to the engineering aspects summarized in the Decision. (Decision, p. 3)

2.2 Necessity of Proposed Changes

The Siting Regulations require a discussion of the necessity for the proposed modification to GEN-1, GEN-8 and STRUC-1 whether the additional storage areas is based on information known by the petitioner during the certification proceeding (Title 20, CCR, Sections 1769 (a)(1)(B), and (C)).

As described in Section 2.1 above, structural changes to the site does not change the decision as it is stated in GEN-1, GEN-8 and STRUC-1. The project owner did not know at the time of approval of the Decision that the storage areas would be necessary. Due to the extreme weather conditions in the Mojave Desert and the concerns regarding the equipment deterioration, Genesis Solar, LLC proposes to build and maintain the aqueous ammonia tank under a sun shielding awning and concrete slab hence keeping the integrity of the equipment.

The larger tanks are being installed due to higher than expected aqueous ammonia usage. A 330-gallon aqueous ammonia tank is currently installed at each unit. Current usage requires filling the 330-gallon aqueous ammonia tank by Genesis staff with 275 gallon totes every week. Large 3150-gallon tanks will eliminate the safety risk associated with a weekly chemical transfer by the Genesis staff. Deliveries will be performed in accordance with Genesis Bulk Chemical Unloading procedure.
3.0 Environmental Analysis of Proposed Project Changes and Consistency with LORS

This Amendment does not modify the decision requirements regarding the construction of the two (2) storage areas. The Amendment does not change the design or operation of the plant equipment. Accordingly, the proposed addition to the plant does not modify GEN-1, GEN-8 or STRUC-1 and will not result in any significant adverse environmental impact.


3.1 Air Quality
The proposed changes that incorporate GEN-1, GEN-8 and STRUC-1 will not cause any change to air quality.

3.2 Impact to Public Health
The proposed changes that incorporate GEN-1, GEN-8 and STRUC-1 will have no effect on public health. Genesis Solar is well outside of the city of Blythe; approximately 3.5 miles north of I-10 and 6 miles from the rest area. There are no neighbors near the facility and no threat to outside public residences.

3.3 Consistency of Amendment with the Certification and LORS

The Siting Regulations require a discussion of the consistency of the proposed project revisions with the applicable laws, ordinances, regulations, and standards (LORS) and whether the modifications are based upon new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision (Title 14, CCR Section 1769 (a)(1)(D)). If the project is no longer consistent with the certification, the petition for project change must provide an explanation for why the modification should be permitted.

This Amendment is consistent with all applicable LORS and is not based on new information that changes or undermines any bases for the Decision. The findings and conclusions contained in the Decision for the project are still applicable to the project as modified.
4.0 Potential Effects on the Public

This section discusses the potential effects on the public that may result from the modification proposed in this request for approval, per the Siting Regulations (Title 20, CCR, Section 1769(a)(1)(G)).

The proposed changes will not affect the public. There are no residential homes, hospitals or schools within a 20-mile radius of the plant. The aqueous ammonia used in the water treatment process will remain at 19%, the current dosage used in the process.

5.0 List of Property Owners and Potential Effects on Property Owners

5.1 List of Property Owners

In accordance with the Siting Regulations (Title 20, CCR, Section 1769(a)(1)(H)), the project owner will provide the Compliance Project Manager for the project a list of all property owners whose property is located within 500 feet of the project.

There are no property owners within 500 feet of the project.

5.2 Potential Effects on Property Owners

This section addresses potential effects of the modification proposed in this Amendment on nearby property owners, the public, and parties in the application proceeding, per the Siting Regulations (Title 20, CCR, Section 1769(a)(1)(I)).

There are no property owners within 500 feet of the project.

6.0 Approved Drawings and Pictures

All Approved Drawings and Pictures are attached
August, 2018

RISK MANAGEMENT PLAN

For

Genesis Solar, LLC
Aqueous Ammonia Injection System
11995 Wiley’s Wells Road
Blythe, California 92225

Submitted To:
COUNTY OF RIVERSIDE DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
800 South Sanderson Avenue
Hemet, California 92545

Assistance Provided By:

Desert Engineers
75401 Painted Desert Drive
Indian Wells, Ca. 92210
(760) 568-9600
Info@DesertEngineers.Com

Project No. RS-1509
## DOCUMENTATION RECORD

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Genesis Solar, LLC</td>
</tr>
<tr>
<td>1</td>
<td>Eric Preher</td>
</tr>
<tr>
<td></td>
<td>11995 Wylie Wells Road</td>
</tr>
<tr>
<td></td>
<td>Blythe, CA 92225</td>
</tr>
<tr>
<td></td>
<td>(760) 921-1402</td>
</tr>
<tr>
<td></td>
<td>Florida Power &amp; Light</td>
</tr>
<tr>
<td>1</td>
<td>Charlyn Mosley</td>
</tr>
<tr>
<td></td>
<td>11995 Wylie Wells Road</td>
</tr>
<tr>
<td></td>
<td>Blythe, CA 92225</td>
</tr>
<tr>
<td></td>
<td>(760) 921-1401</td>
</tr>
<tr>
<td></td>
<td>California Energy Commission</td>
</tr>
<tr>
<td>1</td>
<td>Eric Veerkamp</td>
</tr>
<tr>
<td></td>
<td>CEC</td>
</tr>
<tr>
<td></td>
<td>1516 9th Street, MS 2000</td>
</tr>
<tr>
<td></td>
<td>Sacramento, CA 95814</td>
</tr>
<tr>
<td></td>
<td>County of Riverside Department of Environmental Health Hazardous Materials Division</td>
</tr>
<tr>
<td>2</td>
<td>Robert Lehman</td>
</tr>
<tr>
<td></td>
<td>County of Riverside</td>
</tr>
<tr>
<td></td>
<td>Department of Environmental Health</td>
</tr>
<tr>
<td></td>
<td>Hazardous Materials Division</td>
</tr>
<tr>
<td></td>
<td>800 South Sanderson Avenue</td>
</tr>
<tr>
<td></td>
<td>Hemet, CA 92545</td>
</tr>
<tr>
<td></td>
<td>(909) 766-2824</td>
</tr>
<tr>
<td></td>
<td>Juno Environmental Services</td>
</tr>
<tr>
<td>1</td>
<td>Idayna Stokes</td>
</tr>
<tr>
<td></td>
<td>700 Universe Blvd.</td>
</tr>
<tr>
<td></td>
<td>Juno Beach, FL 33408</td>
</tr>
</tbody>
</table>
# Record of Revision

<table>
<thead>
<tr>
<th>Revision #</th>
<th>Date</th>
<th>Date Entered</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**REVISION PAGE SUMMARY FORM**

Revision Number: 0.0  
Date: 

<table>
<thead>
<tr>
<th>Old Page Number(s)</th>
<th>New Page Number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

INTRODUCTION

In response to the Federal Environmental Protection Agency (EPA) and the County of Riverside Department of Environmental Health, this Risk Management Plan (RMP) has been prepared for the Genesis Solar, LLC facility located in Blythe, California. This document has been prepared to satisfy the following regulation:

- Federal EPA’s, Code of Federal Regulations, Title 40, Part 68, Accidental Release Prevention Requirements: Risk Management Programs Under Clean Air Act Section 112(r), Program 3 requirements.

- California Office of Emergency Services, California Code of Regulations, Title 19, Division 2, Chapter 4.5, California Accidental Release Prevention (CalARP) Program.

This document contains the necessary information to satisfy the EPA Risk Management Program and the CalARP Program regulations for facilities handling regulated substances in excess of the listed threshold quantity. Specifically, this document consists of the Executive Summary as required by 40 CFR Part 68.155 (19 CCR '2745.3) and the Data Elements forms as required by 40 CFR Part 68.160-180 (10 CCR '2745.4-.8). Finally, this document contains the certification page required by 40 CFR Part 68.185 (10 CCR '2745.9).

Currently, there is one regulated substance located at the Genesis Solar facility: aqueous ammonia (used for pH control of the boiler feed water). This RMP contains the information pertaining to the aqueous ammonia system that will be submitted to the County of Riverside Department of Environmental Health for review. The Safety Management Plan (SMP) is the system that supports the RMP and ensures that the facility is being operated safely.

Facility Description

This RMP addresses the plant's administrative and operational programs to prevent accidents and reduce potential risks associated with handling aqueous ammonia. Aqueous ammonia is used as a pH control of the boiler feed water that produces steam supplied to the steam turbines.
EXECUTIVE SUMMARY

This Executive Summary contains the facility's administrative and operational programs to prevent aqueous ammonia-related accidents and reduce potential risks. The regulated substance of concern and focus of this document is aqueous ammonia. The following topics are addressed in this Executive Summary:

- Accidental Release Prevention and Emergency Response Policies
- Stationary Source and Regulated Substances Handled
- Hazard Assessment Summary
- Accidental Release Prevention Program and Chemical-Specific Prevention Steps
- Five Year Accident History
- Emergency Response Program
- RMP Prevention Programs
ACCIDENTAL RELEASE PREVENTION AND EMERGENCY ACTION POLICIES

The Genesis Solar facility has an Emergency Action Plan (EAP) and a Hazardous Material Plan (HMP) in effect. These plans were designed to meet the following objectives:

1.) To save lives.
2.) To minimize and avoid injuries.
3.) To protect the environment.
4.) To minimize property damage.

Genesis Solar facility maintains a safety committee whose members are the designated emergency coordinators for the facility. The EAP and HMP provide the response organization and notification procedures, evacuation routes, ammonia health hazards, and mitigation procedures, which will be implemented to respond effectively to emergency situations that may arise at the facility. The EAP and HMP will be reviewed and updated to ensure compliance with the RMP regulations, as well as to incorporate facility changes.

Genesis Solar facility has coordinated emergency action efforts with the local fire department - Riverside County Fire Department. In the case of an ammonia-related emergency, it is the policy of Genesis Solar, LLC to evacuate the employees and to allow the fire department to respond to the emergency (potentially with the assistance of trained facility personnel). However, Genesis production technicians will respond to a small scale release by using approved air packs or respirators.

STATIONARY SOURCE AND REGULATED SUBSTANCE

Genesis Solar facility plans to begin operation of the aqueous ammonia system upon its completion. Current timeline estimates October 2018. Figure 1 shows the location of the facility and the surrounding area.

The aqueous ammonia system at the Genesis Solar facility consists primarily of one (1) polyurethane vessel and associated piping in Unit 1 and Unit 2. The aqueous equipment is located on a cement slab outside of the building under an awning. There are no planned releases of aqueous ammonia.

The maximum intended inventory of ammonia at the site is 3,150 gallons at each unit.

Figure 2 shows the facility site plan and Figure 3 shows the process flow diagram for the ammonia system.
FIGURE 1 Facility Location
FIGURE 2 Facility Site Plan

New Ammonia Bulk Storage Tank location and truck unloading station
FIGURE 3 Process Flow Diagram
HAZARD ASSESSMENT SUMMARY

Result Summary

As part of this analysis, the Emergency Response Guidebook was used as a toxic endpoint to quantify off-site impacts for the facility. The ERG stipulates hazardous exposure within 150 feet of the spill during a worst case scenario. The closest point to public exposure is 3.5 miles from the Genesis Solar facility.

The Genesis Solar Facility is located 3.5 miles north of Interstate 10 and 20 miles west of the city of Blythe, CA.

The RMP requires that facilities also consider “Environmental Receptors” defined as; areas such as national or state parks, forests, or monuments; wildlife sanctuaries, preserves, refuges, or areas; and Federal wilderness areas. There are no Environmental Receptors within the hazardous exposure radius.
ACCIDENTAL RELEASE PREVENTION PROGRAM AND CHEMICAL-SPECIFIC PREVENTION STEPS

The Genesis Solar facility ammonia system at each unit is comprised of a polyurethane vessel vented to atmosphere, level transmitter and local level indication. Much of the safety of the system is inherent in the policies and procedures that govern the operation of the system. For example, the facility operates in accordance with Cal/OSHA’s Process Safety Management regulation and California Accidental Release Prevention (CalARP) Program.

In the event of a power failure, ammonia operations would automatically shut down. Once power is restored, the ammonia system can be restarted from the control room.

FIVE YEAR ACCIDENT HISTORY

There have been no accidental ammonia releases at the Genesis Solar, LLC facility within the last five years.

EMERGENCY RESPONSE PROGRAM

RMP PREVENTION PROGRAMS

The Genesis Solar Safety Management Plan (SMP) is the system that supports the RMP and ensures that the facility is being operated safely. The SMP programs and associated documentation are maintained at the plant. The existing SMP includes all prevention programs currently in effect to address the ammonia system. (i.e. Employee Training, Compliance Audits, Incident Investigation, Emergency Planning & Response).
Certification Statement

The undersigned certifies that, to the best of my knowledge, information and belief, formed after reasonable inquiry, the information submitted is true, accurate, and complete.

_________________________________________  _______________________________________
Signature                                      Date

Eric Preher                                      General Manager

____________________________  ___________________________
Print Name                                      Print Title
REGISTRATION
(RMP SUBMIT)
Users are responsible for ensuring they have the current revision of the document prior to use.

**TABLE OF CONTENTS**

<table>
<thead>
<tr>
<th>SECTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 PURPOSE AND SCOPE</td>
<td>2</td>
</tr>
<tr>
<td>2.0 REFERENCES AND COMMITMENTS</td>
<td>2</td>
</tr>
<tr>
<td>3.0 SAFETY AND ENVIRONMENTIAL</td>
<td>2</td>
</tr>
<tr>
<td>4.0 PREREQUISITES</td>
<td>2</td>
</tr>
<tr>
<td>5.0 INSTRUCTIONS</td>
<td>3</td>
</tr>
<tr>
<td>5.1 Bulk chemical unloading pre-delivery</td>
<td>3</td>
</tr>
<tr>
<td>5.2 Bulk chemical unloading</td>
<td>4</td>
</tr>
<tr>
<td>5.3 Bulk chemical unloading post delivery</td>
<td>5</td>
</tr>
<tr>
<td>5.4 Clean up</td>
<td>6</td>
</tr>
<tr>
<td>6.0 REVISION HISTORY</td>
<td>6</td>
</tr>
<tr>
<td>Attachment 1, CHEMICAL LOAD CHECKLIST</td>
<td>7</td>
</tr>
<tr>
<td>Attachment 2, JSA</td>
<td>8</td>
</tr>
</tbody>
</table>
1.0 PURPOSE AND SCOPE

1.1.1. This procedure is to provide guidance for the bulk transfer of sodium hypochlorite, sulfuric acid, sodium hydroxide, and aqueous ammonia from delivery tanks into the bulk storage tanks located on-site.

2.0 REFERENCES AND COMMITMENTS

2.1 Performance References

2.1.1. N/A

2.2 Developmental References

2.2.1. N/A

2.3 Commitments

2.3.1. N/A

3.0 SAFETY AND ENVIRONMENTAL

3.1 Safety

3.1.1. Safety eyewash and shower function properly prior to unloading of chemicals

3.1.2. SDS shall be reviewed and all associated precautions are understood

3.2 Environmental

3.2.1. Spills or drips must be corrected or contained immediately

4.0 PREREQUISITES

4.1.1. ENSURE no clearances are active on associated equipment

4.1.2. ENSURE bulk chemical tank containment is dry

4.1.3. IDENTIFY max fill capacity of bulk chemical tank AND ENSURE sufficient room for unloading

4.1.4. ENSURE bulk chemical tank containment drain valve is shut

4.1.5. REVIEW emergency trip switch location on delivery tank truck and operation with driver

4.1.6. FLUSH safety eyewash and shower station for one minute
5.0 INSTRUCTIONS

5.1 Bulk chemical unloading pre-delivery

5.1.1. CONDUCT tailboard with driver AND COMPLETE IRAMF

5.1.2. IDENTIFY unit chemical will be unloaded AND RECORD in Attachment 1

5.1.3. VERIFY chemical using Bill of Lading AND Chemical Inventory sheet to ENSURE chemical being delivered meets specifications AND record in Attachment 1

5.1.4. CHECK chemical bulk tank level AND RECORD in Attachment 1

5.1.5. SHOW driver the safety eyewash AND shower location

5.1.6. IDENTIFY chemical bulk tank that chemical will be UNLOADED into

5.1.7. INSPECT integrity of the following:

1. Transfer hose
2. Chemical tank fill line
3. Cam-locks fitting gaskets

5.1.8. FLAG delivery area with caution tape

5.1.9. ENSURE truck wheels chocked

5.1.10. ENSURE driver secures connections at bulk chemical tank fill and truck unloading connection AND RECORD in Attachment 1

5.1.11. ENSURE catch pans are placed underneath hose connections
5.2 Bulk chemical unloading

5.2.1. NOTIFY control room operator unloading will commence

5.2.2. DON PPE

5.2.3. VERIFY line-up

5.2.4. START unloading

5.2.5. MONITOR unloading for leaks AND max fill capacity

   IF leaks are detected
   THEN stop and notify control room operator

5.2.6. VERIFY level indication is rising

5.2.7. STOP when max fill capacity is reached OR ordered amount unloaded
5.3 Bulk chemical unloading post delivery

5.3.1. RECORD bulk chemical tank final level in Attachment 1

5.3.2. ENSURE driver clears transfer hose

5.3.3. ENSURE driver shuts chemical tank fill and truck unloading valves

5.3.4. ENSURE driver disconnects hose and drains any residual chemical

5.3.5. NOTIFY control room operator unloading is complete

5.3.6. SIGN AND COMPLETE driver’s paperwork

5.3.7. ENSURE wheel chocks are removed

5.3.8. COMPLETE Attachment 1
5.4 Clean up

5.4.1. **CLEAN** all tools used

5.4.2. **RETURN** all tools to their designated storage area

5.4.3. **DISPOSE** of generated waste

5.4.4. **SCAN** Attachment 1 into Maximo/Operator log

END of Instructions

6.0 REVISION HISTORY

<table>
<thead>
<tr>
<th>Rev #</th>
<th>Revision Description (Current Revision only)</th>
<th>Revised By:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Initial Issue</td>
<td>Sr. PGD Operations Specialist</td>
</tr>
</tbody>
</table>
**Attachment 1, CHEMICAL LOAD CHECKLIST**

Unit (Circle one): COMMON UNIT 1 UNIT 2

Chemical (Circle one): AQUEOUS AMMONIA 19% SODIUM HYPOCHLORITE 12.5%
SODIUM HYDROXIDE 50% SULFURIC ACID 93% 66E

Date: _______________ Time: __________

Tank Name:_______________ Product Name:______________

Connected By (Driver) Name:_________________ Initials:_____
Verified By (OPS) Name:_________________ Initials:_____

Initial Tank Level:_____________ Final Tank Level:_____________

Chemical delivery Company’s Name:_________________
## Attachment 2, JSA

<table>
<thead>
<tr>
<th>SEQUENCE OF BASIC JOB STEPS OR ELEMENTS</th>
<th>POTENTIAL HAZARDS</th>
<th>PROBABILITY OF INCIDENT 1 TO 5</th>
<th>SEVERITY OF INCIDENT 1 TO 5</th>
<th>RISK INDEX</th>
<th>RECOMMENDED ACTION OR CONTROL</th>
</tr>
</thead>
</table>
| Performing work during summer or in temperatures exceeding 100°F | Heat exhaustion or heat stroke | 3                             | 4                           | 12         | - Stay hydrated  
- Take frequent breaks  
- 2 person evolution  
- Reference : Heat and illness prevention plan |
| Unloading chemicals into storage tanks | Contact with chemical release when connecting and disconnecting transfer hoses | 3                             | 5                           | 15         | - Reference applicable SDS for chemical handling precautions  
- Use PPE: Per SDS  
- Peer check to verify status of equipment (depressurized, isolated) |
| Unloading chemicals into storage tanks | Exposure to chemical vapors – inhalation, eye irritation | 3                             | 5                           | 15         | - Reference applicable SDS for chemical handling precautions  
- Use PPE Per SDS  
- Position upstream of wind (use indications such as wind sock and DCS indications) |
### Attachment 2, JSA, Continued

<table>
<thead>
<tr>
<th>Work area access</th>
<th>Slips/ Trips/ Falls Walking to work area across uneven surfaces</th>
<th>Rating</th>
<th>Likelihood</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eyes on path  Safest path</td>
<td>3</td>
<td>Almost no possibility (&lt;0.1% chance)</td>
<td>Very minor injury, or near miss</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>Extremely Unlikely (&lt;5% chance)</td>
<td>First aid case</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>Somewhat Likely (&lt;25% chance)</td>
<td>Doctor case</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9</td>
<td>Very Likely (25% to 50% chance)</td>
<td>Reportable injury</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Extremely Likely (&gt;50% chance)</td>
<td>Major injury with long term absence or fatality</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Severity</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likelihood</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
</tr>
</tbody>
</table>

FORM 2 Rev. 0, Page 2 of 2
APPENDIX 6 ENVIRONMENTAL EVENT

The spill or release of any chemical /oil or Heat Transfer Fluid 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 Genesis Solar, LLC 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 or oil / HTF 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.

   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,

   a. If it is safe to do so under prevailing conditions, remain within observation distance.
   
   b. If safe conditions are in doubt, do not risk exposure – leave the area immediately.

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 Site/Plant Leader 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 (if it can be estimated).
   
   h. Environmental Impacts (water bodies, streams, ground, roadways)

4. Based upon the report from the person discovering the spill, the Site/Plant Leader shall evaluate whether the circumstances pose a threat to the surrounding community or the environment.
a. If a threat is imposed to the community or environment, 911 should be notified immediately. The Site/Plant Leader shall also contact at least one of the following specialized emergency responders:

<table>
<thead>
<tr>
<th>Organization</th>
<th>Expected Response Time</th>
<th>Contact Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP Environmental Services</td>
<td>12 hrs</td>
<td>602-717-2580</td>
</tr>
<tr>
<td>CVC</td>
<td>14 hrs</td>
<td>661-391-8310</td>
</tr>
</tbody>
</table>

5. The Plant Environmental Leader 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 Site/Plant Leader shall use the Genesis Solar, LLC Response Plan/Spill Prevention Control and Countermeasure Plan (FRP/SPCC). The Plant Environmental Leader shall ensure that all required notifications are made.

6. The Site/Plant Leader or the Plant Environmental Leader shall make notification to the FPDC as possible so the FPDC can issue a “deviation” to a pre-determined distribution list. If the Environmental Event is significant where outside organizations may request information the distribution may be expanded to include employees from Corporate Security, Media Relations, and the Corporate Emergency Preparedness Group. The PGD Emergency Response Coordinator will be made aware of the situation via the FPDC notification, or by the Operating Fleet VP, or by a direct call from the site depending on the magnitude of the incident.

7. If applicable, the Site/Plant Leader or the Plant Environmental Leader shall closely coordinate with the PGD Emergency Response Coordinator, during pre and post event activities.

8. 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.

Note: This should be performed only if it is safe to do so without risking chemical exposure.

9. The person discovering the spill should attempt to barricade, restrict access or otherwise mark off safe boundaries around the spill to prevent others from inadvertently approaching the spill area.

Note: This should be performed only if it is safe to do so without risking chemical exposure.

10. 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.

11. Unless the person discovering the spill has reported unsafe conditions for approach of the area, the Plant Environmental Leader 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 move away to a safe distance from the unknown threat.
12. The Plant Leader 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).

   a. The adequacy or need for PPE should also be assessed. Upon completing this assessment, the Site/Plant Leader shall notify/inform the Genesis Solar, LLC Emergency Coordinator of the status of the emergency.

13. Once the Plant Leader (or Emergency Coordinator, as appropriate) 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 and arrange for proper cleanup/mitigation actions.
APPENDIX A BELOW REPRESENTS THE LIST OF CHEMICALS MAINTAINED AT THE GENESIS SOLAR, LLC.

Appendix A Chemical List

<table>
<thead>
<tr>
<th>Material</th>
<th>CAS No.</th>
<th>Application</th>
<th>Hazard Characteristics</th>
<th>Maximum Quantity On Site</th>
<th>CERC LA Sara RQ</th>
<th>RQ in Gallons of Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetylene</td>
<td>74-86-2</td>
<td>Welding Gas</td>
<td>Health: moderate toxicity Physical: toxic</td>
<td>990 cubic feet</td>
<td>NR</td>
<td>-</td>
</tr>
<tr>
<td>Argon</td>
<td>7440-37-1</td>
<td>Welding Gas</td>
<td>Health: low toxicity Physical: non-flammable gas</td>
<td>1980 cubic feet</td>
<td>NR</td>
<td>-</td>
</tr>
<tr>
<td>Carbon Dioxide</td>
<td>124-38-9</td>
<td>Welding Gas</td>
<td>Health: moderate toxicity Physical: non-flammable gas</td>
<td>556 lbs</td>
<td>NR</td>
<td>-</td>
</tr>
<tr>
<td>Diesel Fuel</td>
<td>68476-34-6</td>
<td>Equipment refueling and emergency diesel fire pump</td>
<td>Health: low toxicity Physical: combustible city</td>
<td>2800 gallons</td>
<td>NR</td>
<td>-</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>7727-37-9</td>
<td>HTF System</td>
<td>Health: low toxicity</td>
<td>2640 cubic feet</td>
<td>NR</td>
<td>-</td>
</tr>
<tr>
<td>Oxygen</td>
<td>7782-44-7</td>
<td>Welding Gas</td>
<td>Health: low toxicity Physical: oxidizer</td>
<td>1320 cubic feet</td>
<td>NR</td>
<td>-</td>
</tr>
<tr>
<td>Dow Thermal</td>
<td>101-84-8</td>
<td>Heat Transfer Fluid (HTF) throughout solar array</td>
<td>Health: moderate toxicity Physical: irritant: combustible liquid (class III-B)</td>
<td>1800000 gallons</td>
<td>100 pounds</td>
<td>42 gallons</td>
</tr>
<tr>
<td>Sodium Hypochlorite</td>
<td>7681-52-9</td>
<td>Biological control</td>
<td>Health: low toxicity Physical: N/A</td>
<td>1320 gallons</td>
<td>100</td>
<td>82 gallons</td>
</tr>
<tr>
<td>Material</td>
<td>CAS No</td>
<td>Use</td>
<td>Health:</td>
<td>Quantity</td>
<td>5000 gallons</td>
<td>1617 gallons</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------</td>
<td>--------------------------</td>
<td>------------------------</td>
<td>--------------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Sodium Bisulfite (30%)</td>
<td>7631-90-5</td>
<td>Bleach reduction for RO</td>
<td>High toxicity Physical: Corrosive</td>
<td>1320 gallons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antiscalant</td>
<td>37971-36-1</td>
<td>Antiscalant RO</td>
<td>low toxicity Physical: N/A</td>
<td>660 gallons</td>
<td>NR</td>
<td></td>
</tr>
<tr>
<td>Caustic (50%)</td>
<td>1310-73-2</td>
<td>pH Adjustment</td>
<td>Medium toxicity Physical: Corrosive and irritating to the eyes and skin</td>
<td>660 gallons</td>
<td>1000 pounds</td>
<td>157 gallons</td>
</tr>
<tr>
<td>Sulfuric Acid (93%)</td>
<td>7664-93-9</td>
<td>pH Adjustment</td>
<td>Medium toxicity Physical: Corrosive and irritating to the eyes and skin</td>
<td>2749 pounds</td>
<td></td>
<td>70 gallons</td>
</tr>
<tr>
<td>Coagulant</td>
<td>10028-22-5</td>
<td>Solids reduction, lamella reducer</td>
<td>Medium toxicity Physical: Corrosive and irritating to the eyes and skin</td>
<td>660 gallons</td>
<td>1000 pounds</td>
<td>253 gallons</td>
</tr>
<tr>
<td>Polymer</td>
<td>64742-47-8</td>
<td>Solids reduction, lamella reducer</td>
<td>Medium toxicity Physical: Irritating to the eyes and skin</td>
<td>660 gallons</td>
<td>NR</td>
<td></td>
</tr>
<tr>
<td>Ammonia Hydroxide (19.5%)</td>
<td>1336-21-6</td>
<td>pH Adjustment</td>
<td>High toxicity Physical: Corrosive and irritating to the eyes and skin can cause</td>
<td>660 gallons</td>
<td>1000 pounds</td>
<td>647 gallons</td>
</tr>
<tr>
<td>Substance</td>
<td>CAS Number</td>
<td>Description</td>
<td>Health:</td>
<td>Physical:</td>
<td>Quantity</td>
<td>Pounds</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------</td>
<td>--------------------------------------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>Phosphates</td>
<td>7601-54-9</td>
<td>phosphate treatment for steam generators</td>
<td>Medium toxicity</td>
<td>Irritating to the eyes and skin</td>
<td>660</td>
<td>NR</td>
</tr>
<tr>
<td>Sodium Bromide</td>
<td>7647-15-6</td>
<td>Biological control</td>
<td>High toxicity</td>
<td>Corrosive and irritating to the eyes and skin</td>
<td>660 gallons</td>
<td>1000</td>
</tr>
<tr>
<td>Unleaded Gasoline</td>
<td>86290-81-5</td>
<td>Equipment refueling and emergency diesel fire pump</td>
<td>Low toxicity</td>
<td>Combustible city</td>
<td>2000 gallons</td>
<td>NR</td>
</tr>
</tbody>
</table>
Project Site Driving Privilege Notice:

Safety Rules for Personnel Working on the Project Site:

A. All personnel working on the project site shall wear a hard hat, personal protective equipment, and comply with all posted safety rules.

B. All personnel shall be aware of the work being performed and the potential hazards associated with it.

C. All personnel shall be familiar with the location and use of fire extinguishers, emergency showers, and first aid stations.

D. All personnel shall be aware of the location and use of safety signs, warning signs, and barricades.

E. All personnel shall be aware of the location and use of safety equipment, such as respirators, hearing protection, and eye protection.

F. All personnel shall be aware of the location and use of emergency equipment, such as alarms, and procedures for reporting accidents or incidents.

G. All personnel shall be aware of the location and use of emergency procedures, such as evacuation routes, and procedures for reporting accidents or incidents.

H. All personnel shall be aware of the location and use of safety equipment, such as respirators, hearing protection, and eye protection.

I. All personnel shall be aware of the location and use of emergency equipment, such as alarms, and procedures for reporting accidents or incidents.

J. All personnel shall be aware of the location and use of emergency procedures, such as evacuation routes, and procedures for reporting accidents or incidents.

K. All personnel shall be aware of the location and use of safety equipment, such as respirators, hearing protection, and eye protection.

L. All personnel shall be aware of the location and use of emergency equipment, such as alarms, and procedures for reporting accidents or incidents.

M. All personnel shall be aware of the location and use of emergency procedures, such as evacuation routes, and procedures for reporting accidents or incidents.

N. All personnel shall be aware of the location and use of safety equipment, such as respirators, hearing protection, and eye protection.

O. All personnel shall be aware of the location and use of emergency equipment, such as alarms, and procedures for reporting accidents or incidents.

P. All personnel shall be aware of the location and use of emergency procedures, such as evacuation routes, and procedures for reporting accidents or incidents.

Q. All personnel shall be aware of the location and use of safety equipment, such as respirators, hearing protection, and eye protection.

R. All personnel shall be aware of the location and use of emergency equipment, such as alarms, and procedures for reporting accidents or incidents.

S. All personnel shall be aware of the location and use of emergency procedures, such as evacuation routes, and procedures for reporting accidents or incidents.

T. All personnel shall be aware of the location and use of safety equipment, such as respirators, hearing protection, and eye protection.

U. All personnel shall be aware of the location and use of emergency equipment, such as alarms, and procedures for reporting accidents or incidents.

V. All personnel shall be aware of the location and use of emergency procedures, such as evacuation routes, and procedures for reporting accidents or incidents.

W. All personnel shall be aware of the location and use of safety equipment, such as respirators, hearing protection, and eye protection.

X. All personnel shall be aware of the location and use of emergency equipment, such as alarms, and procedures for reporting accidents or incidents.

Y. All personnel shall be aware of the location and use of emergency procedures, such as evacuation routes, and procedures for reporting accidents or incidents.

Z. All personnel shall be aware of the location and use of safety equipment, such as respirators, hearing protection, and eye protection.

1. All personnel shall be aware of the location and use of emergency equipment, such as alarms, and procedures for reporting accidents or incidents.

2. All personnel shall be aware of the location and use of emergency procedures, such as evacuation routes, and procedures for reporting accidents or incidents.
EXISTING KEYNOTES

1. EXISTING BOILER TO REMAIN.
2. EXISTING SOLAR ENERGY PLANT FACILITIES TO REMAIN.
3. EXISTING DEMINERALIZED WATER TANK TO REMAIN.
4. EXISTING FIRE MONITOR TO REMAIN.
5. EXISTING SHADE STRUCTURE TO REMAIN.
6. EXISTING FIRE PROTECTION WATER PIPELINE TO REMAIN.
7. EXISTING FIRE MONITOR TO REMAIN.
8. EXISTING INJECTION PUMPS TO REMAIN.
9. EXISTING SOLAR ENERGY PLANT FACILITIES TO REMAIN.
10. EXISTING BOILER TO REMAIN.
11. EXISTING FIRE PROTECTION WATER PIPELINE TO REMAIN.
12. EXISTING INJECTION PUMPS TO REMAIN.

EXISTING INJECTION PUMPS

- EXISTING 8-INCH DIAMETER FIRE PROTECTION WATER PIPELINE TO REMAIN.
- EXISTING 6-INCH P.C.C. CURB TO REMAIN.
- EXISTING FIRE MONITOR TO REMAIN.
- EXISTING BOLLARD TO REMAIN.
- EXISTING OVERHEAD PIPE RACK TO REMAIN.
- EXISTING SHADE STRUCTURE TO REMAIN.
- EXISTING DEMINERALIZED WATER TANK TO REMAIN.

EXISTING FIRE SUPPRESSION CHEMICAL CONTAINER TO REMAIN.

EXISTING SOLAR ENERGY PLANT FACILITIES.

EXISTING 6-INCH DIAMETER VENT AND 6-INCH DIAMETER PIPELINE WITH 4-INCH DIAMETER, 4-FOOT HIGH SCRUBBER UNIT PER DETAIL C ON SHEET 5.

EXISTING SOLAR ENERGY PLANT FACILITIES.

EXISTING FIRE PROTECTION WATER PIPELINE TO REMAIN.

EXISTING 6-INCH P.C.C. CURB TO REMAIN.

EXISTING FIRE MONITOR TO REMAIN.

EXISTING BOLLARD TO REMAIN.

EXISTING OVERHEAD PIPE RACK TO REMAIN.

EXISTING SHADE STRUCTURE TO REMAIN.

EXISTING DEMINERALIZED WATER TANK TO REMAIN.

EXISTING FIRE SUPPRESSION CHEMICAL CONTAINER TO REMAIN.

CONSTRUCTION KEYNOTES

1. INSTALL PRE-FABRICATED STEEL UNLOADING BULKHEAD DESIGNED TO WITHSTAND A HORIZONTAL PULL OF NOT LESS THAN 2,000 POUNDS IN INCHES BELOW THE TOP OF THE PIPE. FILL THE BOLLARD PIPE WITH P.C.C. PLACE A CONVEX CONCRETE CAP AT TOP OF BOLLARD PIPE.

2. INSTALL A 3-INCH DIAMETER 7'-6" LONG, 8-GAUGE STEEL BOLLARD PIPE. FOR A HORIZONTAL DISTANCE OF 4 FEET TO DAYLIGHT.

3. INSTALL 6-INCH DIAMETER VENT AND 6-INCH DIAMETER PIPELINE WITH 4-INCH DIAMETER, 4-FOOT HIGH SCRUBBER UNIT PER DETAIL C ON SHEET 5.

4. INSTALL NEW 3,150 GALLON SAFE TANK ASSEMBLY PER MANUFACTURERS SPECIFICATIONS.

5. INSTALL NEW 6-INCH REINFORCED P.C.C. CONCRETE PAD PER SECTION DETAIL A-A ON SHEET 3 AND SECTION D-D ON SHEET 4.

6. INSTALL NEW P.C.C. CONCRETE FOOTING FOR SHADE STRUCTURE PER INSTALLATION PER SECTION DETAIL A-A ON SHEET 3 AND SECTION D-D ON SHEET 4.

7. INSTALL 6-INCH DIAMETER VENT AND 6-INCH DIAMETER PIPELINE WITH 4-INCH DIAMETER, 4-FOOT HIGH SCRUBBER UNIT PER DETAIL C ON SHEET 5.


9. INSTALL 6-INCH DIAMETER VENT AND 6-INCH DIAMETER PIPELINE WITH 4-INCH DIAMETER, 4-FOOT HIGH SCRUBBER UNIT PER DETAIL C ON SHEET 5.


11. INSTALL NEW P.C.C. CONCRETE FOOTING FOR SHADE STRUCTURE PER INSTALLATION PER SECTION DETAIL A-A ON SHEET 3 AND SECTION D-D ON SHEET 4.
The Holt Group, Inc.

CONSTRUCTION KEYNOTES
1. INSTALL NEW FINS THROUGH P.C.C. SPILL PAD. CONCRETE TO BE DOUBLE
   COMPACTION 95 PERCENT. CONCRETE TO BE NUMBER 4 REINFORCING BARS.
2. ALL REINFORCING STEEL TO BE BUDDED AND CONFORM TO THE PREPARED AND
   APPROVED PLANS.
3. INSTALL 7-INCH THICK P.C.C. SPILL PAD. CONCRETE TO BE DOUBLE
   COMPACTION 95 PERCENT.
4. BULKHEAD UNIT SHALL BE SQUIBB TAYLOR MANUFACTURERS DIRECTIONS.

TANK TRUCK SPILL PAD AND DROP INLET CATCH BASIN SECTION DETAIL

TANDEM INSTALL 12 INCHES OF CLASS 2 BASE. COMPACT THE CLASS 2 BASE TO 90 PERCENT OF MAXIMUM DENSITY AT 2 PERCENT OVER OPTIMUM WATER CONTENT PER ASTM D-1557.

TANK RESTRAINT SYSTEM DETAIL

NOTE:
1. INSTALL 7-INCH THICK P.C.C. SPILLpad. CONCRETE TO BE DOUBLE
   COMPACTION 95 PERCENT. CONCRETE TO BE NUMBER 4 REINFORCING BARS.
2. ALL REINFORCING STEEL TO BE BUDDED AND CONFORM TO THE PREPARED AND
   APPROVED PLANS.
3. INSTALL 7-INCH THICK P.C.C. SPILL PAD. CONCRETE TO BE DOUBLE
   COMPACTION 95 PERCENT.

The Holt Group, Inc.

ENGINEERING  PLANNING  SURVEYING
1601 N. Imperial Ave.
EL CENTRO OFFICE
(CABLE NOT SHOWN)
(760) 337-3883

1/4" TYPE 316 STEEL ROD.
STAINLESS CABLE
(ONE LEG SHOWN)
CABLE ASSEMBLY
4 1/4"
1/2"
TANK WALL
CONNECTION (NOT SHOWN)
CABLE THIMBLE AT SLING / LEG
CABLE CLIPS AND ONE (1) CABLE FREE END TO BE ATTACHED TO
THIMBLE
TWO (2) REQUIRED PER SLING LEG
THREE (3) REQUIRED PER CABLE LEG/
REQUIRED PER LEG
EDGE SOFTENER LOCATION
ONE (1) EDGE SOFTENER

DETAIL 1
90°'
201 E. Hobsonway
(760) 922-4658
201 E. Hobsonway
(760) 337-3883

ELEVATION VIEW
3-WAY CABLE / 3 RESTRAINT CLIP

NOTE:
1. restrain clip shall be hot dip galvanized or equivalent. Cable
   size must be listed on detail for use of clips for wind and seismic
   requirements

HOE DIAMETER

4" 5/8" 3/4" 1" 1 1/4" 1 1/2" 2" 2 1/2" 3" 3 1/4" 3 1/2"

HOLE DIAMETER

4" 5/8" 3/4" 1" 1 1/4" 1 1/2" 2" 2 1/2" 3" 3 1/4" 3 1/2"

DESIGNATION

RC 6 X 4 X 5/8 X 24
RC 6 X 4 X 5/8 X 16
RC 6 X 4 X 5/8 X 10
RC 6 X 4 X 5/8 X 4

EXP. 3-31-20

NOTE:
CABLE CLIPS ARE REQUIRED.
CABLE THIMBLE AT TANK WALL
THREE (3) REQUIRED PER CABLE LEG/
REQUIRED PER LEG

PREPARED UNDER THE DIRECT SUPERVISION OF:
ROBERT K. HOLT, P.E.
### Table

<table>
<thead>
<tr>
<th>Item</th>
<th>Degree</th>
<th>Radius</th>
<th>Height</th>
<th>Size</th>
<th>Connection</th>
<th>Material</th>
<th>Gasket</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>90°</td>
<td>9&quot;</td>
<td>1&quot;</td>
<td>FPT</td>
<td>PVC</td>
<td>EPDM</td>
<td>WATER INLET</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>-</td>
<td>-</td>
<td>1&quot;</td>
<td>FPT</td>
<td>PVC</td>
<td>EPDM</td>
<td>DRAIN</td>
<td>WITH PVC BALL VALVE.</td>
</tr>
<tr>
<td>180</td>
<td>-</td>
<td>36&quot;</td>
<td>8&quot;</td>
<td>SPIG</td>
<td>HDPE</td>
<td>-</td>
<td>OVERFLOW / OPERATING WATER LEVEL</td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>MAX</td>
<td>36&quot;</td>
<td>1&quot;</td>
<td>-</td>
<td>PVC</td>
<td>-</td>
<td>SCHEDULE 80 PVC PIPELINE (VACUUM RELIEF)</td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>MAX</td>
<td></td>
<td>1&quot;</td>
<td>-</td>
<td>PVC</td>
<td>-</td>
<td>SCHEDULE 80 PVC 90-DEGREE ELBOW</td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>MAX</td>
<td>4&quot;</td>
<td>1&quot;</td>
<td>-</td>
<td>PVC</td>
<td>-</td>
<td>SCHEDULE 80 PVC TEE</td>
<td></td>
</tr>
</tbody>
</table>

### Notes

- Install 1'-6" diameter P.C.C. PEDESTAL for BOLLARD PIPE.
- Install a 3-inch diameter, 7'-6" long, 8-gauge steel bollard pipe. The bollard pipe shall extend 1'-6" below the finished slab grade. Coat the bollard pipe with two (2) coats of a safety yellow epoxy coating system. Install a self-adhesive reflectorized tape around the bollard pipe 3 inches below the top of the pipe. Full the bollard pipe with P.C.C. concrete. Place a convex concrete cap at the top of the bollard pipe.

- **P.C.C. Spill Pad:** 6"