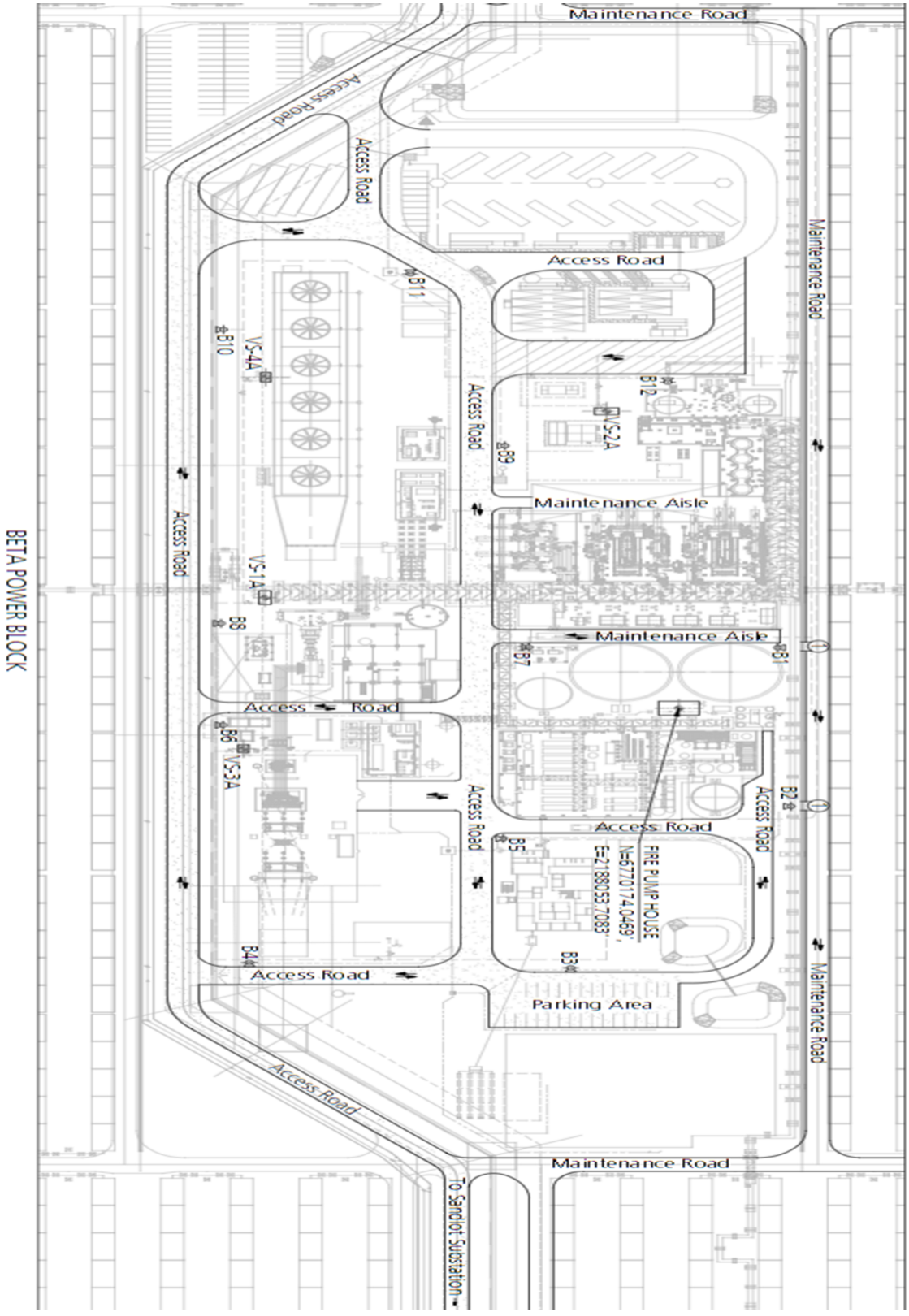
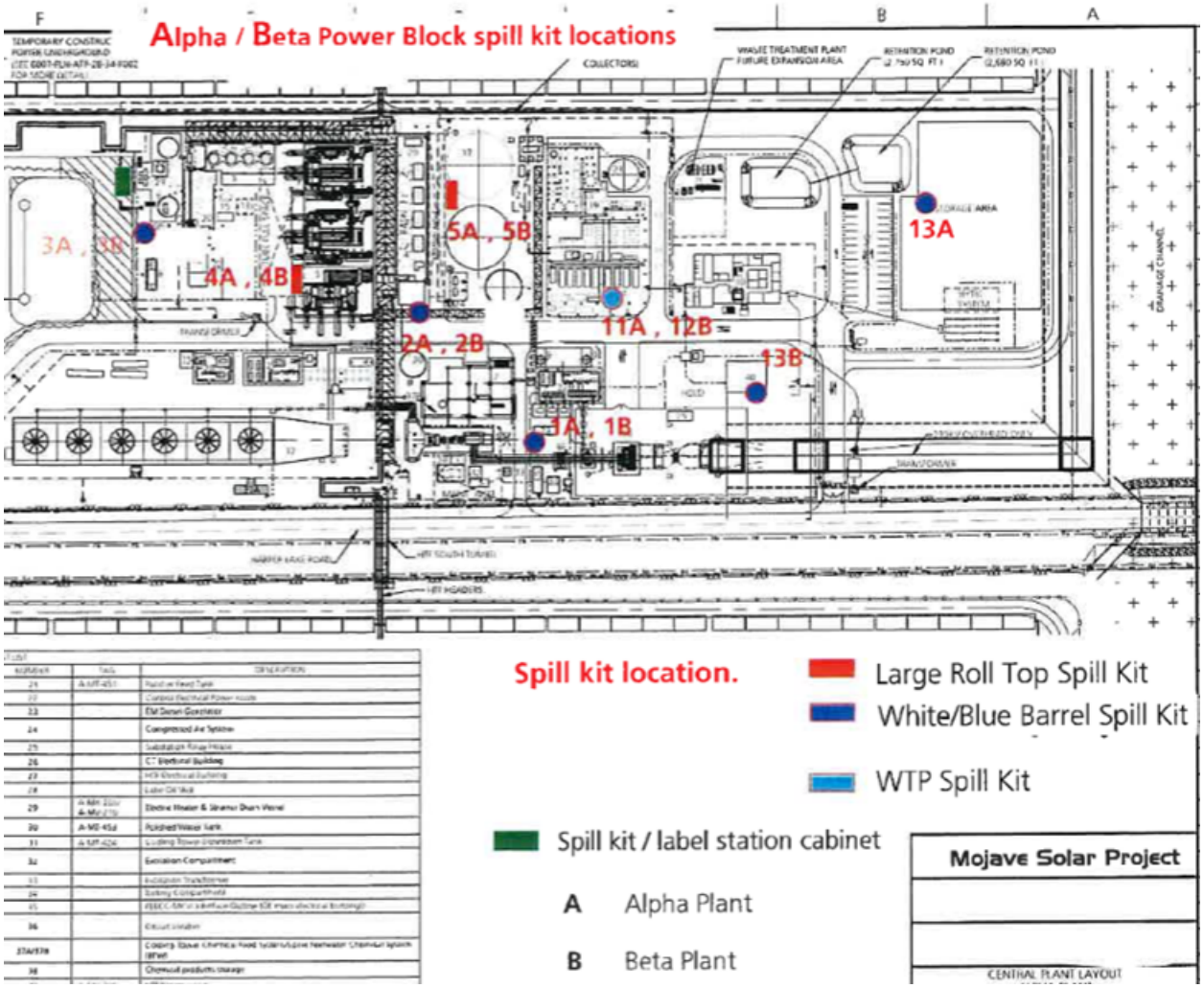
DOCKETED	
Docket Number:	09-AFC-05C
Project Title:	Abengoa Mojave Compliance
TN #:	254876
Document Title:	Mahnaz Ghamati Comments - 8- Mojave Solar Project 2023 Annual Compliance Report
Description:	N/A
Filer:	System
Organization:	Mahnaz Ghamati
Submitter Role:	Applicant Representative
Submission Date:	3/6/2024 11:04:44 AM
Docketed Date:	3/6/2024

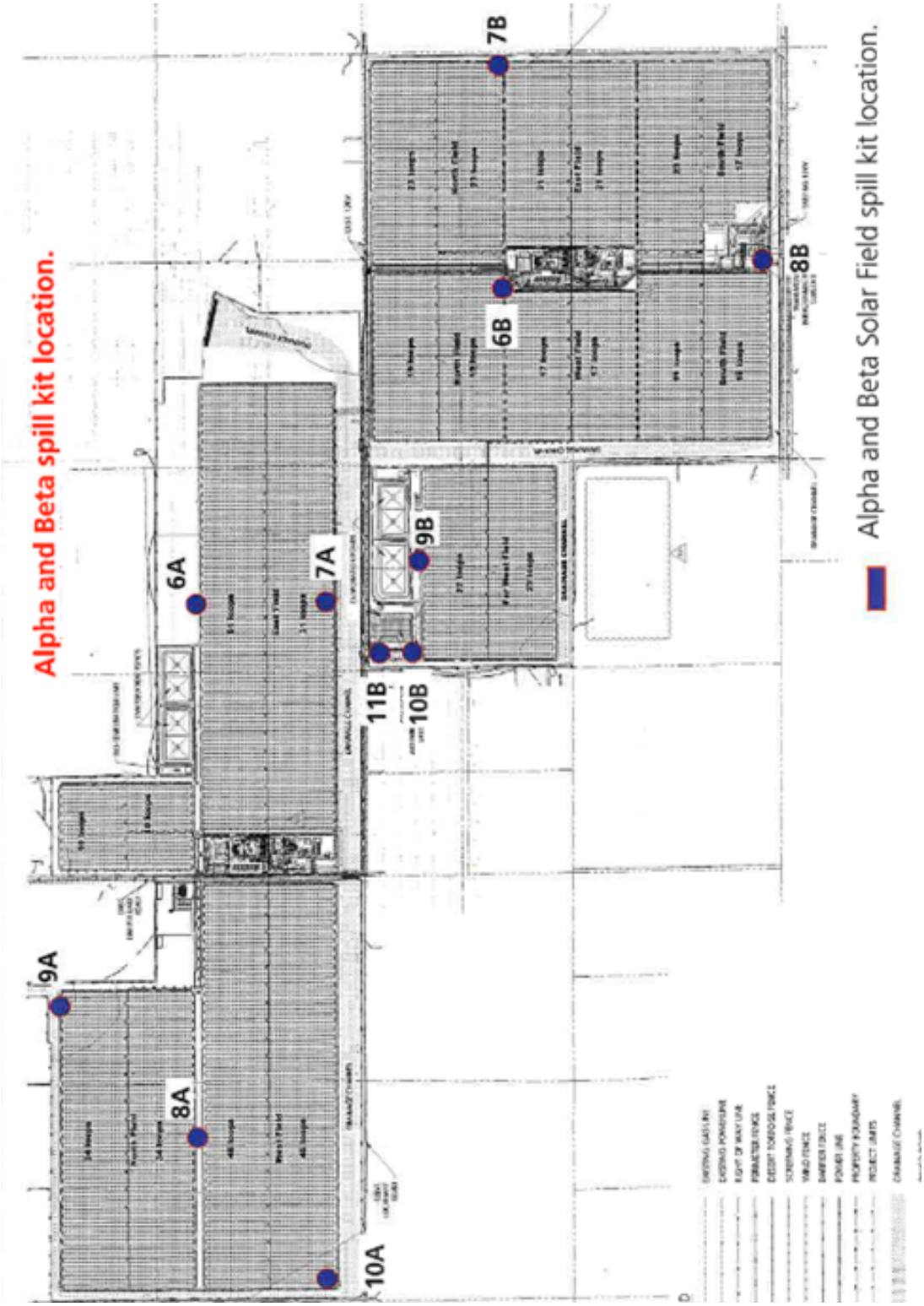
Comment Received From: Mahnaz Ghamati
Submitted On: 3/6/2024
Docket Number: 09-AFC-05C

8- Mojave Solar Project 2023 Annual Compliance Report (09-AFC-5C)

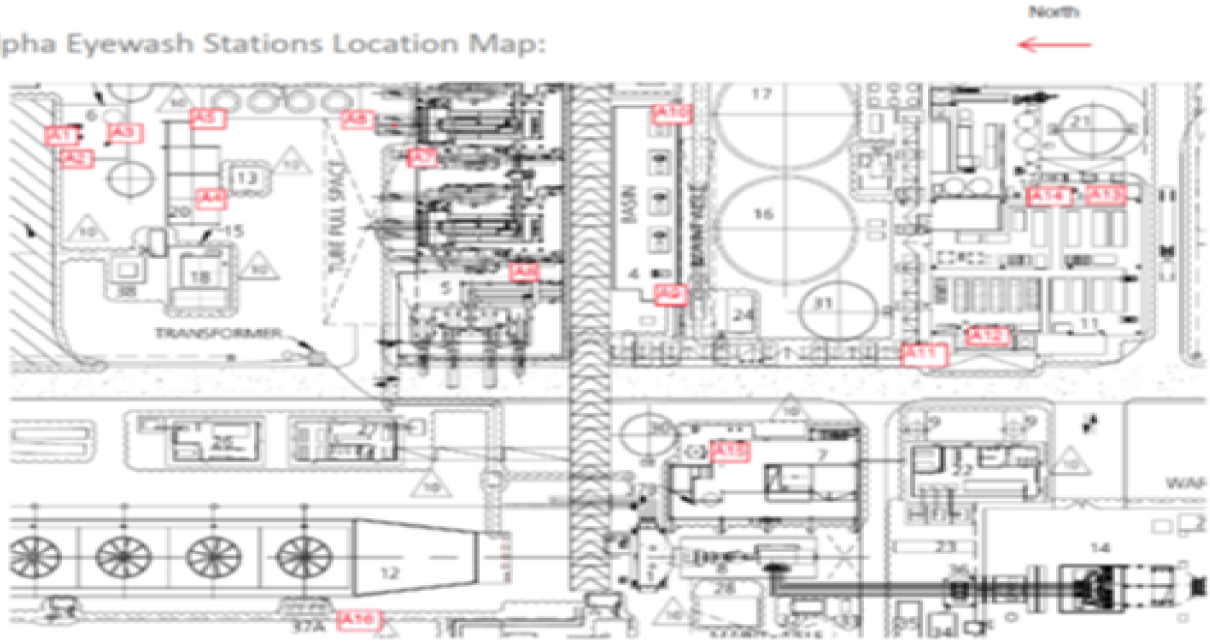
Additional submitted attachment is included below.


Maintenance Road
Access Road
Access Road
Access Road
Maintenance Road
B11
B10
VS-4A
Access Road
B12
VS-2A
B9
Maintenance Aisle
BETA POWER BLOCK
Access Road
VS-1A
B8
Maintenance Aisle
B7
B1
Access Road
B6
VS-3A
Access Road
Access Road
B2
Access Road
B5
FIRE PUMP HOUSE
N=677017.4.0469'
E=2188053.7083'
B4
B3
Access Road
Parking Area
Maintenance Road
Access Road
Maintenance Road
To Sandlot Substation

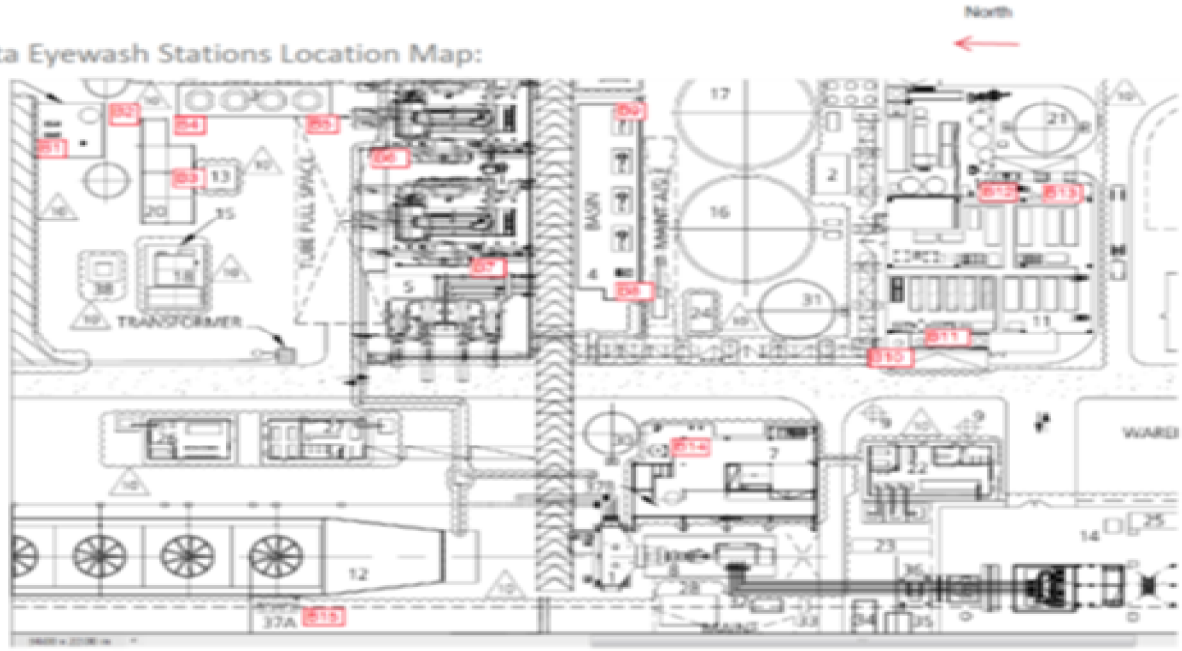

Alpha / Beta Power Block spill kit locations
3A , 3B
4A , 4B
5A , 5B
2A , 2B
1A , 1B
11A , 12B
13A
13B
Spill kit location.
Large Roll Top Spill Kit
White/Blue Barrel Spill Kit
WTP Spill Kit
Spill kit / label station cabinet
A Alpha Plant
B Beta Plant
Mojave Solar Project
CENTRAL PLANT LAYOUT


Alpha and Beta spill kit location.
Alpha and Beta Solar Field spill kit location.
6A
7A
7B
6B
8B
9B
11B
10B
9A
8A
10A

Alpha Eyewash Stations Location Map:



Beta Eyewash Stations Location Map:



Mojave

Mojave Solar LLC

Atlantica
Sustainable Infrastructure

Spill Prevention, Control, And Countermeasures (SPCC) Plan, Rev 06

PP-O&M-MJV-006

Revision	Date	Reason for Revision
00	09/16/2013	Initial Release
01	10/07/2013	Agency Comments
02	02/27/2014	To address San Bernardino Fire Department concerns
03	06/17/2021	Updated Formatting, Font Header and ASI Logo
04	05/19/2022	Updated certification page signed by current Plant Manager
05	01/20/2023	Updated the signatures and appendixes.
06	01/17/2024	Chemical inventory updated

Produced by:	Department	Date
Nicholas Diercks	Environmental Technician	Electronic Signature
Fred Hrenchir	Safety Services Lead	Electronic Signature
Steven Pochmara	Q&E Compliance Manager	Electronic Signature

Reviewed by:	Department	Date
Mahnaz Ghamati	Q&E Compliance Manager	01/17/2024

Approved by:	Department	Date
David Rosas	Plant Manager	01/17/2024

Contents

CERTIFICATION PAGE

Facility Information

Name of Facility: Mojave Solar Project

Type of Facility: Solar Power Plant

Location of Facility: 42134 Harper Lake Road; Hinkley, California

Owner/Operator: Mojave Solar LLC

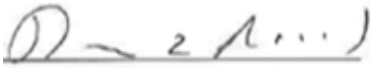
Designated Person Accountable for Spill Prevention at this Facility: Mahnaz Ghamati

Date of Initial Oil Storage: December 1, 2013

This Facility has not had a reportable oil spill event that has resulted in the Submission of this plan to the EPA (refer to Section 1.5 for Submission requirements).

Management Approval

- The spill prevention, control, and countermeasures for the referenced facilities will be implemented and maintained as described in this SPCC Plan.
- Management agrees to provide the manpower, equipment, and materials required to expeditiously control and remove any quantity of unauthorized discharge.

Signature:  Date: 01/20/2023

Title of Manager: David Rosas Galindo, Plant Manager

Certification

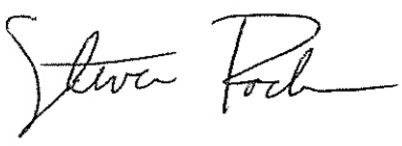
Pursuant to 40 CFR § 112.3(d), I hereby certify and attest that:

1. I am familiar with the provisions of 40 CFR Part 112;
2. I, or my agent, have visited and examined the facility;
3. This SPCC Plan has been prepared in accordance with good engineering practices, with consideration of applicable industry standards and the requirements of Part 112;
4. Procedures for required inspections and testing have been established; and
5. This plan is adequate for the facility.

This certification shall in no way relieve the owner/operator of the duty to prepare and fully implement this Plan in accordan with the provisions of 40 CFR Part 112.

Date: 2/27/14

Bradford A. DeWitt
State of California Registration No: P1804

MOJAVE SOLAR PROJECT **EPA APPLICABILITY OF SUBSTANTIAL HARM CRITERIA** **40 CFR Part 112 SUBPART D** **112.20 (a)(2) and 112.20 (f)(1)**	
Does the Facility transfer oil over-water to or from vessels and does the Facility have a total storage capacity greater or equal to 42,000 gallons? Yes [ ] No [X]	
Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons and within any aboveground storage tank area, does the Facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tanks plus sufficient freeboard to allow for precipitation? Yes [ ] No [X]	
Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons and is the Facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? Yes [ ] No [X]	
Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons and is the Facility located at a distance such that a discharge from the facility would shut down a public drinking water intake? Yes [ ] No [X]	
Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons and has the Facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years? Yes [ ] No [X]	
CERTIFICATION	
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.	
Signature	
Printed Name	Steven Pochmara
Title	Permit Manager
Date	02/27/2014

MOJAVE SOLAR PROJECT **EPA APPLICABILITY OF SUBSTANTIAL HARM CRITERIA** **40 CFR Part 112 SUBPART D** **112.20 (a)(2) and 112.20 (f)(1)**	
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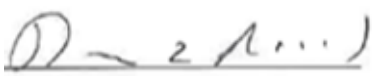
Signature	
Printed Name	David Rosas Galindo
Title	Plant Manager
Date	01/20/2023

DISTRIBUTION LIST

Note: The Distribution of this Plan is tracked by the Copy Number located on the Title Page. Plan Distribution and Plan Review and Update Procedures are provided in Sections 1.4 & 1.5.

COPY NUMBER	• PLAN HOLDER	LOCATION
1	Mojave Solar Project 42134 Harper Lake Road; Hinkley, California 92347	Main Office (ALPHA site)
1	Mojave Solar Project 42134 Harper Lake Road; Hinkley, California 92347	Main Office (BETA site)
2	EnviroTech Consultants, Inc. 5400 Rosedale Highway Bakersfield, CA 93308	Main Office
1	Processes Unlimited International Inc. 5500 Ming Ave. Bakersfield, Ca. 93309	Main Office

REVISION RECORD

Note: It is the responsibility of the holder of this plan to ensure that all changes and updates are made. The holder should:

- Remove and discard obsolete pages.
- Replace obsolete pages with the updated pages.
- Record each change on this form.

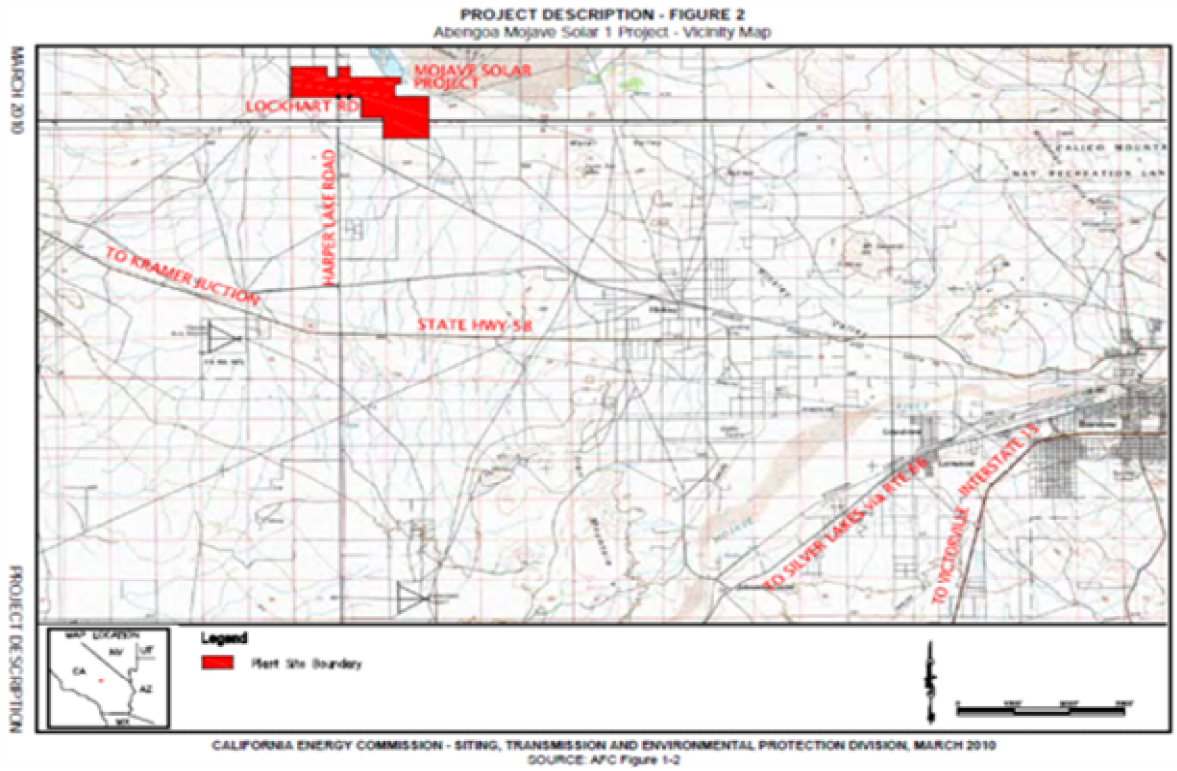
Change Date	Affected Page Number(s)	Description of Change(s)	Name
EXAMPLE			
01/01/01	1-1 thru 1-4; 5-2	HES Staff Update	M. Doyle

1 INTRODUCTION

1.1 Facility Description

The Mojave Solar Project facility ("Facility") consists of 1,765 acres and is located in unincorporated San Bernardino County approximately nine miles northwest of the community of Hinkley, California along the Highway 58 corridor (See Figure 1-1). The Facility is accessed via Harper Lake Road, approximately six miles north of the intersection of Harper Lake Road and Highway 58. The existing Solar Electric Generating Stations (SEGS) VIII and IX facilities owned by Next Era Energy Resources are immediately northwest of the Facility. The topography is flat (about 2,070 feet above sea level) consisting of open desert and agricultural land adjacent to the Harper Dry Lake Depression. Elevated land surrounds the Facility site from all directions and can be found 1-3 miles from the Facility. The Facility is owned and operated by Mojave Solar LLC. The California Energy Commission (CEC) has exclusive jurisdiction to license this Facility.

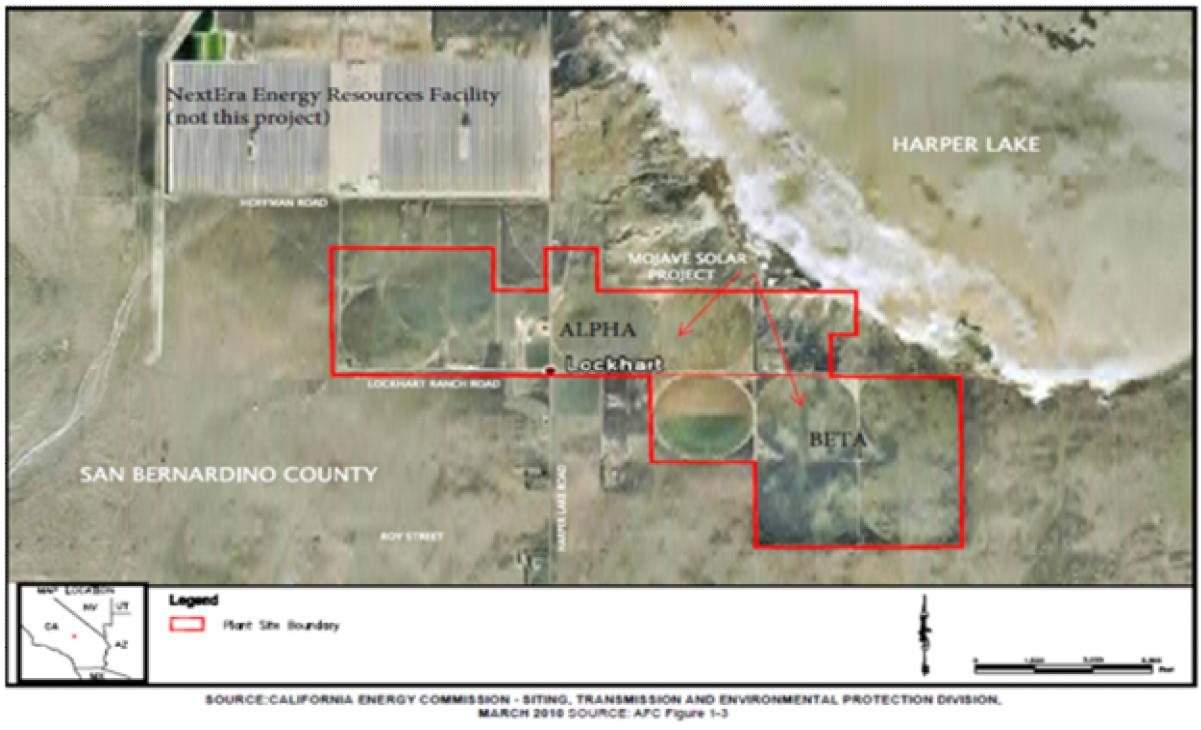
Figure 1-1 Facility Vicinity Map



The Facility consists of two sites, Alpha and Beta, which have a combined nominal electric output of 250 MW from twin, independently operable solar fields. The Alpha site,

situated in the northwest portion of the Facility area, occupies 884 acres and is bisected by Harper Lake Road. The Beta site is located east of Harper Lake Road in the southeast portion of the Facility site and occupies 800 acres (See Figure 1-2). The Alpha and Beta sites share the remaining 81 acres of the Facility for activities that include receiving and discharging offsite drainage improvements. Each field (Alpha and Beta) will feed a 125 MW Power Island.

Figure 1-2 Facility Site Map



The Facility uses parabolic trough, solar thermal technology to produce electrical power using a steam turbine generator fed from a solar steam generator. The solar steam generator receives heated heat transfer fluid (HTF) from solar thermal equipment comprised of arrays of parabolic mirrors that collect energy from the sun. The "Mirror Fields" are comprised of single-axis-tracking parabolic trough solar collectors arranged to form many parallel rows aligned on a north-south axis. Each solar collector has a linear, parabolic-shaped reflector that focuses the sun's radiation on a specially designed linear receiver known as a heat collection element (HCE). The collectors track the sun from east to west to ensure that the maximum amount of the sun's radiation is continuously focused on the HCE. The Heat Transfer Fluid, Therminol™ VP-1, is heated to approximately 740° F as it circulates through the HCE and returns to a series of heat exchangers where the fluid is used to generate steam in the solar steam generator

system at the Power Island, thereby providing steam to the steam turbine generator to produce electricity. The Facility's electrical transmission lines will interconnect with the Southern California Edison (SCE) 230-kV Kramer-Coolwater #1 transmission, which is located adjacent to the southern border of the Facility.

The Facility uses a wet cooling tower for power plant cooling. The electric re-heaters will supply HTF to HTF heat exchangers as needed during offline hours to keep the HTF in a liquid state when ambient temperatures fall below its freezing point of 54° F. Each Power Island will also have a diesel engine-driven firewater pump for fire protection and a diesel engine-driven backup generator for power plant essentials.

Water for plant cooling and other purposes is supplied via on-site wells, and both the Alpha and Beta sites have newly constructed wells that draw groundwater based on adjudicated water rights from Harper Valley Ground Basin.

A single treatment Facility has been installed for each pair of wells to treat the groundwater to meet potable standards for employee use. A septic system disposes of sanitary wastewater.

1.2 Plan Purpose/Objectives

The purpose of this Spill Prevention, Control, and Countermeasure (SPCC) Plan is to describe measures to be implemented by the Facility to prevent oil discharges from occurring, and to prepare to respond in a safe, effective, and timely manner to mitigate the impacts in the event of a discharge. This Plan is required by the California Energy Commission (CEC). This Plan follows the format specific in 40 CFR Section 112. In addition, this Plan will be used as a reference for oil storage information and testing records, as a tool to communicate practices on preventing and responding to discharges with employees, as a guide to Facility inspections, and as a resource during emergency response.

The specific objectives of this Plan are to define the spill prevention, control, and countermeasures for the Facility and to assist Facility personnel in establishing and maintaining an efficient and effective program. This is accomplished in the Plan by addressing:

- Personnel Training and Spill Prevention Procedures.
- Inspections and Records; Facility Drainage.
- Bulk Storage Tanks.
- Transfer Operations, Pumping, and In-Plant Process, Security

The Hazardous Materials Division of the San Bernardino County Fire Department is the Administering Agency and the Certified Unified Program Agency (CUPA) for San Bernardino County with responsibility for regulating hazardous materials handlers, hazardous waste generators, underground storage tank facilities, above ground storage tanks, and stationary sources handling regulated substances. Contact information for this Administering Agency is provided in the Emergency Contact List.

1.3 Plan Distribution Procedures

The person accountable for spill prevention at this Facility shall have the responsibility for administering the Plan. The Distribution Number listed on the Title Page designates plan copies. Distribution will be handled in the following manner:

- Distribution of the Plan is tracked by the number on the Title Page. A Distribution List is included (page 6) to facilitate control and to identify the current holders of the Plan.

2 SPCC PLAN REGULATION OVERVIEW

2.1 APPLICABILITY (§112.1)

This requirement applies to owners or operators of non-transportation-related onshore and offshore facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing or consuming oil and oil products, and that meet the following criteria:

- Due to the location, could reasonably be expected to discharge oil in harmful quantities into or upon the navigable waters of the United States or adjoining shorelines; and

- Has an aggregate aboveground storage capacity, in containers of 55 gallons or greater capacity, in excess of 1,320 gallons; **or**
- Has a completely buried storage capacity, excepting tanks subject to 40 CFR Part 280 or 281, in excess of 42,000 gallons.

Additionally, in California, if a facility has an aggregate aboveground oil storage capacity in excess of 1,320 gallons, regardless of proximity to navigable waters, then the facility is subject to the California Aboveground Petroleum Storage Act and is required to prepare an SPCC plan in accordance with the Federal Regulations.

This facility has an aggregate aboveground oil storage capacity greater than 1,320 gallons; therefore, is subject to the requirements of the SPCC regulation.

2.2 DEFINITIONS (§112.2)

Facility: "Any mobile or fixed, onshore or offshore building, property, parcel, lease, structure, installation, equipment, pipe, or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, oil distribution, and oil waste treatment, or in which oil is used, as described in appendix A to this part. The boundaries of a facility depend on several site-specific factors, including but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and types of activity at the site. Contiguous or non-contiguous buildings, properties, parcels, leases, structures, installations, pipes, or pipelines under the ownership or operation of the same person may be considered separate facilities."

Production Facility: "All structures (including but not limited to wells, platforms, or storage facilities), piping (including but not limited to flowlines or intra-facility gathering lines), or equipment (including but not limited to workover equipment, separation equipment, or auxiliary non-transportation-related equipment) used in the production, extraction, recovery, lifting, stabilization, separation or treating of oil (including condensate), or associated storage or measurement, and is located in an oil or gas field, at a facility."

Bulk storage container: "Any container used to store oil. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. Oil-filled electrical, operating, or manufacturing equipment is not a bulk storage container."

Tank: All tanks are containers. Regulations further define specific types of tanks, such as "underground" (USTs regulated by Federal UST regulations under 40 CFR 280 and 281), "bunkered", "completely buried" or "partially buried". USTs regulated by UST regulations are not subject to SPCC Regulations. "Breakout" tanks regulated by DOT are also not subject to SPCC Regulations. Bunkered, Completely Buried (such as vaulted tanks other than USTs) and Partially Buried Tanks are considered aboveground storage containers and are subject to SPCC Regulations.

Loading/Unloading Rack: "A fixed structure (such as a platform, gangway) necessary for loading or unloading a tank truck or tank car, which is located at a facility subject to the requirements of this part. A loading/unloading rack includes a loading or unloading arm and may include any combination of the following: piping assemblages, valves, pumps, shut-off devices, overfill sensors, or personnel safety devices."

Oil-filled operational equipment: "Equipment that includes an oil storage container (or multiple containers) in which the oil is present solely to support the function of the apparatus or the device. Oil-filled operational equipment is not considered a bulk storage container and does not include oil-filled manufacturing equipment (flow-through process). Examples of oil-filled operational equipment include, but are not limited to, hydraulic systems, lubricating systems (e.g. , those for pumps, compressors and other rotating equipment, including pump jack lubrication systems), gear boxes, machining coolant systems, heat transfer systems, transformers, circuit breakers, electrical switches, and other systems containing oil solely to enable the operation of the device."

2.3 REQUIREMENT TO PREPARE AND IMPLEMENT (§112.3)

The owner or operator or an onshore or offshore facility subject to this regulation must prepare in writing and implement a Spill Prevention Control and Countermeasure Plan in accordance with §112.7.

A licensed Professional Engineer must review and certify a Plan for it to be effective to satisfy the requirements of this part.

By means of this certification the Professional Engineer attests:

- That he is familiar with the requirements of this regulation
- That he or his agent has visited and examined the facility
- That the Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part
- That procedures for required inspections and testing have been established
- That the Plan is adequate for the facility
- That, if applicable, for a produced water container subject to §112.9(c)(6), any procedure to minimize the amount of free-phase oil is designed to reduce the accumulation of free-phase oil and the procedures and frequency for required inspections, maintenance and testing have been established and are described in the Plan.

The owner or operator of a facility for which a Plan is required must:

- Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or at the nearest field office if the facility is not so attended, and
- Have the Plan available to the Regional Administrator for on-site review during normal working hours.

2.4 AMENDMENT OF SPCC BY REGIONAL ADMINISTRATOR (§112.4)

Submission of Plan (§112.4(a))

The facility shall submit this Plan to the EPA Regional Administrator within sixty (60) days whenever the Facility has a discharge event(s) from potential spill sources that meets one of the following conditions:

- Discharge more than 1,000 gallons of oil into or upon the navigable waters of the United States or adjoining shorelines in a single spill event; or
- Discharges oil in harmful quantities into or upon the navigable waters of the United States or adjoining shoreline in two spill events greater than 42 gallons within any twelve-month period.

Documentation to be included with this Plan submission includes the following:

- Name and location of the facility
- Name(s) of the owner or operator of the facility
- Date and year of initial facility operation
- Maximum storage or handling capacity of the facility and normal daily throughput
- Description of the facility, including plot plants, flow diagrams and topographical maps
- The cause(s) of such discharge, including a failure analysis of system or sub-system in which the failure occurred
- The corrective actions and/or countermeasures taken, including an adequate description of equipment repairs and/or replacements
- Additional preventive measures taken or contemplated to minimize the possibility of recurrence

If, after submission of the Plan to the Regional Administrator, revisions to the Plan are required, the Plan will be amended in accordance with 40 CFR 112.4 (d)(e)(f).

2.5 AMENDMENT OF SPCC BY OWNERS AND OPERATORS (§112.5)

The "Designated Person Accountable for Oil Spill Prevention" (identified on the Certification Page) will coordinate the following plan review and update procedures.

Facility Changes Requiring Plan Revision

This Plan will be revised when there are changes in the Facility's design, construction, operation, or maintenance that materially affects the Facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines. Such amendments shall be incorporated into the Plan within six months of the change and fully implemented as soon as possible but no later than six months following the preparation of the amendment.

Changes that may require revision include, but are not limited to:

- Commission or decommission of containers.
- Replacement, reconstruction, or movement of containers.
- Reconstruction, replacement, or installation of piping systems.
- Construction or demolition that might alter secondary containment structures and/or drainage systems.

Five-Year Review

At least once every five years the Facility will complete a review and evaluation of this Plan and make amendments within six (6) months of the review in accordance with 40 CFR Section 112.5. This evaluation will include, at a minimum, the following:

- Applicability of new prevention and control technology which may significantly reduce the likelihood of a spill event from the facility if such technology has been field-proven at the time of the review.
- Accuracy of the SPCC Plan as compared to the current facility operation and SPCC Regulations.
- Capacity and structural integrity of secondary containment structures.
- SPCC inspections and records files to ensure continuity for a minimum period of five (5) years.

Certification of Revisions by a Professional Engineer

- Technical amendments to the Plan require certification by a Registered Professional Engineer.
- Administrative changes such as updates to contact information or other changes that do not increase the likelihood of a spill or discharge will not require certification by a Registered Professional Engineer.
- Plan amendments or submittals to the EPA Regional Administrator due to the occurrence of reportable spills or other Plan Amendments by the Regional Administrator will not require

recertification by a Registered Professional Engineer unless a technical amendment is required.

These procedures are in accordance with 40 CFR Sections 112.5.

Inclusion of Amendments into the Plan

- The facility will coordinate the word processing, publication, and distribution efforts of completing the revisions and maintaining the Plan.
- The plan holder, immediately upon receipt of any revisions, shall review and insert the revised pages into the Plan and discard the obsolete pages. This action should then be recorded on the "Revision Record" page in the Foreword.

2.6 QUALIFIED FACILITY PLAN REQUIREMENTS (§112.6)

The facilities included in this SPCC plan do not meet the criteria of a "Qualified Facility" as defined below:

- A Tier I qualified facility meets the qualification criteria of a Tier II qualified facility and has no individual aboveground oil storage container with a capacity greater than 5,000 U.S. gallons.
- A Tier II qualified facility is one that has had no single discharge exceeding 1,000 U.S. gallons or no two discharges each exceeding 42 U.S. gallons within any twelve-month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to this part if the facility has been in operation for less than three years and has an aggregate aboveground oil storage capacity of 10,000 U.S. gallons or less.

3 §112.7 GENERAL REQUIREMENTS FOR SPCC PLANS

3.1 GENERAL REQUIREMENTS (§112.7(a))

Facility Conformance with Part 112 Requirements (§112.7(a)(1))

The facility is in conformance with the following regulatory requirements:

- Federal Oil Spill Prevention regulations – US EPA Final Rule for Oil Pollution Prevention; Non-Transportation Related Onshore and Offshore Facilities (40 CFR Part 112).

Facility Description and Diagrams (§112.7(a)(3)(i)

The Mojave Solar Project will produce solar electricity by means of an integrated process using solar energy to heat a synthetic petroleum-based fluid in a closed-loop system that, in turn, heats water to create steam to drive a conventional steam turbine. The Facility is comprised of two separate but similar sections- the Alpha and Beta solar fields and Power Islands. An overall facility diagram showing the entire site is located in Appendix A-1. Appendix A-2-Central Plant Layout provides details of the Power Islands (Alpha Power Island is represented; however, the Beta Power Island is identical with the exception of gasoline storage), and Appendix A-3 shows the detailed locations of the pertinent HTF, HF and lube oil storage facilities noted.

Oil Storage and Oil-Filled Equipment

Oils stored at the facility required to have secondary containment include hydraulic fluid and lube oil. Oils used in operational equipment include Heat Transfer Fluid (HTF), mineral oil, and hydraulic fluid.

CFR 40, Part 112 Oil Pollution Prevention; Spill Prevention, Control, and Plan Requirements-Amendments (Section 112.2) excludes oil-filled operational equipment from the definition of bulk storage provided the oil storage container in which the oil is present solely supports the apparatus or the device. Examples of oil-filled operational equipment include hydraulic and lubricating systems and heat transfer systems. The regulations provide for the option of SPCC compliance by providing for secondary containment for each piece of operational equipment in accordance with 112.7(c); or by preparing a contingency plan which includes active containment measures (countermeasures or spill response capability) which prevent discharge into navigable waters.

Specific locations of oil storage areas and oil-filled operational equipment are indicated on the diagrams in Appendix A-3. A table listing oils stored and their secondary containment and oil-filled operational equipment is included in Appendix B.

Heat Transfer Fluid (HTF)

Therminol VP1 is the heat transfer fluid (HTF) that will be used in the solar panels to collect solar heat and transfer it in order to generate steam to run the steam turbines. Therminol is a mixture of 73.5% diphenyl ether and 26.5% biphenyl and is a solid at temperatures below ~54 °F. Therminol can therefore be expected to remain liquid if a spill occurs. While the risk of off-site migration is minimal, Therminol is highly flammable, and fires have occurred at other solar generating stations that use it. Approximately 2,292,000 gallons of HTF will be contained in the pipes and heat exchanger. Isolation valves are placed throughout the HTF piping system designed to automatically block off sections of the piping in which a loss of pressure is detected.

To accommodate the volumetric change that occurs when heating the HTF to the operating temperature, expansion vessels and overflow tanks are required. Nitrogen will be used to provide a blanket on the headspace of the expansion vessels and tanks to prevent oxidation and contamination of the HTF by reducing its exposure to atmospheric air in the expansion vessels.

- Expansion Vessels: For each Power Island, there are four (4) HTF expansion vessels. Each HTF expansion vessel is designed to operate at 32% level with a total of 81728.74 lbs. of HTF. Based on the specific gravity of the HTF, each vessel will operate at approximately 9,245 gallons of HTF.
- HTF Overflow Tanks: For each Power Island, there are two (2) HFT overflow tanks, each having a capacity of 57,000 gallons.

The "close-loop" heat transfer process circulates HTF through the facility's pumps, expansion tanks, piping, and other associated components and does not require the transfer of oil. The HTF expansion and overflow tanks are present solely to support the HTF heat transfer/circulation process, and therefore meet the definition of "oil filled operational equipment".

Although the HTF is not defined as bulk storage, The Facility has constructed secondary containment for HTF expansion vessels and overflow tanks and has a prepared an emergency response plan including countermeasures and spill response procedures. Secondary containment drawings are included in Appendix C and the facility's emergency response plan is included in the Facility HMBP.

Hydraulic Fluid

Hydraulic Fluid (HF) is brought to the Facility by flatbed truck in 330-gallon totes and used in the hydraulic pumps to rotate the mirrors in the Mirror Fields. The hydraulic pumps and related distribution equipment are considered "oil filled operational equipment" and are not considered bulk storage containers. Hydraulic fluid is stored within the chemical products storage area (No. 38 on Central Plant Layout Map) of each Power Island. The chemical products storage areas have been constructed with secondary containment to meet the requirements of 110% of volume of the largest container.
Lube Oil

Storage areas for lube oil (exceeding 55 gallons) are located within the Lube Oil Skid (No. 28 on Central Plant Layout Map) of each Power Island. The lube oil skids have been constructed with secondary containment to meet the requirements of 110% of volume of the largest container.

Mineral Oil

Mineral oil is used in the facility's power transformers. The power transformers are defined as "oil filled operational equipment" (per §112.2) and are not considered bulk storage.

Transportation and Distribution of Oils

Heat Transfer Fluid (HTF)

Various containerized and bulk hazardous materials will be transported to the Facility via truck. Approximately 2.3 million gallons of HTF will be transported to the Facility prior to start-up of operations resulting in an estimated 374 deliveries total or 10 trucks per week. Each truck will deliver approximately

6,130 gallons of HTF. The risk of an accidental release during HTF transport in the Facility area has been assessed based on criteria such as previous accident data, established accident modeling, and existing regulatory requirements regarding transport of hazardous materials (e.g., standards for vehicle safety and driver qualifications/competence). The evidence shows that, with applicable regulatory conformance, the risk of exposure to significant concentrations of HTF during transportation to the Mojave Solar, LLC facility is extremely low.

The HTF tank truck unloading area will be surrounded with a rollover berm that provides secondary containment in the event of a discharge during transfer operations. The rollover berm is designed to address the more stringent containment requirements of 40 CFR 112.7(h), which requires that the berm be sufficient to contain the capacity of the largest compartment, plus freeboard for precipitation. The curbed area has been designed accordingly.

HTF is transported through the Mirror Fields using a supply-and-return header system, which assists in balancing flow through the pipe system. Pumps include seal cooling and high temperature materials to preserve component function under extreme conditions. The Mirror Fields are divided into sections with automatic or semiautomatic isolation valves. The isolation valves will be located to minimize the volume of HTF leakage during a pipe failure and may either be triggered automatically or by the operator inside the facility control room. Piping expansion loops are located throughout the Facility as required to maintain the composite pipe stress within the allowable limits.

Hydraulic Fluid (HF)

Hydraulic Fluid (HF) is brought in by flatbed truck in 330-gallon totes. The totes are unloaded at the containment areas. Secondary containment for unloading areas is provided with oil booms and pads to contain any spills or leaks. HF remains in the totes until it is downloaded into smaller containers for use in filling the hydraulic pumps that operate the mirrors. Small containers consist of less than 50-gallon steel or plastic containers. Minor amounts of HF pass through short length, small diameter hoses or pipes that transfer HF fluid from containers to motors.

Lube Oil/Mineral Oil

Lube Oil is brought in by truck in containers. Mineral oil is preloaded into the transformers prior to arriving on site.

Discharge Prevention Measures (§112.7(a)(3)(ii))

Off-Site Drainage

The Facility is located on relatively level terrain. The area originally drained towards the Harper Lake Wash, which is located northeast of the Facility. The off-site storm water runoff from the mountains east, west and the north of the Facility is managed by an interceptor and conveyance channels as well as detention basins to ensure that pre-development flows are not exceeded, and historic flow patterns are maintained. Off-site flows are eventually released into the Harper Lake Wash Area north of the Facility. (See Figure 1-2 Facility Site Map).

The Facility's storm water will be retained on-site in drainage basins. Runoff in the Mirror Fields will be collected in a series of shallow basins between the mirror rows. These basins will be designed to provide natural percolation/infiltration of the rainfall. The shallow retention areas are designed with a five percent slope to minimize the effects of erosion and soil carry-over and deposition into the retention basins. The drainage from the Power Islands will be contained within the Power Islands.

Discharge or Drainage Controls (§112.7(a)(3)(iii))

The Facility has developed measures for operating personnel that cover the activities to be conducted during the routine handling, loading, unloading, and transfer of products. Such measures include routine startup and shutdown, emergency shutdown, routine operating practices, and emergency response procedures. (See the Facility HMBP)

All oil storage containers (greater than 55 gallons) are provided with sufficient secondary containment to contain the volume of the largest container within

the containment area plus freeboard (110%). Facilities or equipment without secondary containment are addressed in Section 2.4.

The steel HTF overflow tanks are equipped with direct-reading level gauges and with high level alarms set at 90 percent of the rated capacity. Liquid level sensing devices will be tested on a monthly basis during the monthly inspection of the facility, following manufacturer recommendations. Venting capacity will be suitable for the fill and withdrawal rates. Overfill prevention systems for the HF and lube oil will be developed based on the operation of those systems. Totes will be not refilled, and therefore overfill prevention systems do not apply. Facility personnel will be present throughout the filling operations to monitor the product level in the tanks.

On-Site Drainage/Discharge

Drainage from the curbed and diked/containment areas including storm water, overflow from the adjacent tanks, and spillage will be contained and must be manually pumped out. The contents of the secondary containment areas will be inspected by facility personnel prior to pumping. Any water containing oil will be taken to the oil/water separator for treatment.

- Discharges occurring during truck loading/unloading operations will be restrained by the rollover berm. Operation and maintenance trucks may transport HTF or HF within the facility. When they are parked at the facility for an extended period of time (such as parking overnight with a load of product), they will be positioned in an area which will either provide secondary containment capacity (i.e., sufficient for the capacity of the delivery truck and additional freeboard for 4 inches of precipitation) or will be positioned such that any leakage will be able to be contained by booms or pads prior to entering a drainage basin.

- Discharge from above-ground storage tanks, totes or pipelines without direct containment will be identified and efforts made to contain the discharge by booms, pads or other material prior to reaching drainage basins.

- Totes and portable containers will have secondary containment. Any discharged material will be quickly contained and cleaned up using sorbent pads and appropriate cleaning products.

Countermeasures for Discharge Discovery, Response, and Cleanup (§112.7(a)(3)(iv))

The Facility uses in-house personnel to respond to small releases and contracts with a spill response contractor to provide immediate response to larger. All employees are trained in spill response and the SPCC plan is reviewed annually. The training provides specific response information including notification guidelines and available resources.

Leak detection will be accomplished in a combination of ways. A Facility employee performs a complete walk-through of the facility each day. This daily visual inspection involves: (1) looking for storage /piping damage or leakage, stained or discolored soils, or excessive accumulation of water in diked and bermed areas. Small leaks, which could occur at ball joints or other connections, will be detected based on these daily inspections. Small leaks could then be corrected via repacking of joints or valves or by minor repairs if needed. The ability to isolate loops and sections of the field will allow for quick repairs. In the event of larger sudden leaks, these are handled through a combination of remote pressure sensing equipment and remote operating valves that will allow for isolation of large areas of the field, or possibly the entire field.

Methods of Disposal of Recovered Materials (§112.7(a)(3)(v))

Visible discharges from any container or appurtenance – including seams, gaskets, piping, pumps, valves, rivets, and bolts – will be quickly corrected upon discovery. Oil will be promptly removed from the containment areas and disposed of according to the waste disposal method.

Spilled materials will be recovered via pump and vacuum lines. The material will be treated as waste and will be removed by a contracted third-party in accordance with the Hazardous Materials-Contingency Plan included in the Facility Emergency Response program.

Contact List and Phone Numbers for Response (§112.7(a)(3)(vi))

A current contact list that includes the facility response coordinator, National Response Center, response contractors, and appropriate Federal, State and Local agencies can be found in the Facility's Emergency Response program. Copies are kept in the main office.

Spill Notification Requirements (§112.7(a)(4))

Spill notification requirements are summarized in the Spill Notification Guidelines located in the Facility's Emergency Response program.

Response Plan (§112.7(a)(5))

The facility has developed an Emergency Contact List that will be used in the event of an oil spill. The list includes contact information for facility personnel, spill contractors, emergency numbers, and government agencies that must be notified in case of a spill. The list can be located in the Facility's Emergency Response program.
The responsibilities of the response personnel include identifying the size, position, and content of the spill, and also the direction and speed and the chances of entering a vulnerable area.

No member of the response party shall do anything that would put himself or herself or anyone else at any sort of risk. Knowing this, it is also important that the flow of oil be blocked off as soon as possible as to prevent the general public from being affected.

The facility's Hazardous Materials Contingency Plan is located in Facility Emergency Response program.

3.2 Rate, Quantity and Direction of RELEASE (§112.7(b))

The predicted rate and quantity of a release from the bulk storage containers are noted in Appendix B. Any changes to this information will be amended in accordance with Section 2.5 of this Plan and 40 CFR Part 112 Subpart A Section

112.5. Direction of flow is shown directly on the overall Facility Plan in Appendix A-1. Other facilities are addressed below:

There is potential for oil spills to occur as a result of equipment failure.				
Spill Source	**Type of Failure**	**Estimated Volume** (max. rate of flow)	**Direction of Flow**	**Secondary Containment**
TRANSFER LINES	Leak	Will vary depending on flow rate, pipe diameter, location, and spill duration	Varies	None (1)
MANIFOLDS	Leak	Will vary depending on flow rate and spill duration	Varies	None (1)
STORAGE TANKS	Leak or Rupture	5,000 Gallons	Varies	Concrete walls and curbing
OIL-FILLED EQUIPMENT	Leak	Will vary depending on flow rate and spill duration	Varies	None (1)
TRUCK LOADING	Leak while loading	Will vary depending on flow rate and spill duration	Varies	See note (2)
(1) Permanent containment structures are not practical for these types of equipment, as potential spill volumes cannot be adequately predicted. Regular inspections, diligent monitoring and an Oil Spill Contingency Plan will be utilized to prevent and control spills at these sites. (2) Loading racks are not present at these facilities. Truck loading is accomplished through flex lines and pumps. When such operations are performed, they are continuously monitored.				

3.3 Secondary Containment / Diversionary Structures (§112.7(c))

Secondary containment is provided for each tank storage area as shown in Appendix B. Containment structures are of sufficient size and impermeability to retain any release until cleanup occurs.

3.4 Contingency Planning (§112.7(d))

Exceptions from Secondary Containment

In section 3.2, the facility identified equipment for which it is not practical to install secondary containment or containment structures, as described in section 112.7(c).

It is not practical to construct containment outside the proximity of the listed major facilities for equipment, such as transfer lines, pumps, manifolds, truck loading areas, and oil-filled equipment.

Buried ferrous piping at this facility will be either cathodically protected against corrosion or will be provided with a protective wrapping and coating. When a section of buried line will be exposed, it will be carefully examined for deterioration. If corrosion damage will be found, additional examination and corrective action will be taken as deemed appropriate considering the magnitude of the damage. Additionally, integrity and leak testing of buried piping will be conducted at the time of installation, modification, construction, relocation, or replacement. Records of all tests will be kept at the facility for at least three years. Lines that will not be in service or are on standby for an extended period of time will be capped or blank-flanged and marked as to their origin. All pipe supports will be designed to minimize abrasion and corrosion and to allow for expansion and contraction. Pipe supports will be visually inspected during the monthly inspection of the facility. All aboveground piping and valves will be examined monthly to assess their condition. Inspection includes aboveground valves, piping, appurtenances, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. Observations will be noted on the SPCC Inspection Checklist provided in this Plan (Appendix D-1). Warning signs will be posted at appropriate locations throughout the facility to prevent vehicles from damaging aboveground piping and appurtenances. Most of the aboveground piping will be located within process areas that will not be accessible to vehicular traffic. Brightly painted bollards will be placed where needed to prevent vehicular collisions with equipment.

Oil Spill Contingency Plan (§112.7(d)(1))

An Emergency Contingency Plan is included in the Hazardous Materials Business Plan (HMBP) prepared in accordance with state regulations. An Emergency Contact List is included in the Facility's Emergency program which addresses oil spills for equipment listed as having no secondary containment in section 3.2.

Written Commitment (§112.7(d)(2))

For the equipment listed as having no secondary containment in section 3.2, the facility has provided a written commitment of manpower, equipment, and materials necessary to remove any quantity of oil discharged that may be harmful. Refer to the "Certification Page".

3.5 Inspections, Testing, and Records (§112.7(e))

Facility personnel perform SPCC Inspections quarterly. A copy of the "SPCC Inspection Checklist" is located in Appendix D-1 and a copy of the "Mojave Solar Project Inspection Checklist" is located in Appendix D-2. In addition to the quarterly inspection, surveillance is a routine function of the facility personnel.

Operators inspect their facilities daily for signs of leaks. If a spill is detected, its source would be shut-in and supervisory personnel notified and appropriate actions taken to:

1. Contain and clean up spill
2. Repair the equipment that was the source of the leak
3. Make any required notifications

The facility also conducts periodic audits and facility reviews, that include spill prevention, containment, and control procedures.

Records of the quarterly inspections, signed by the appropriate supervisor or inspector, are maintained with the SPCC Plan for a minimum period of three (3) years.

3.6 Personnel, Training, and Discharge Prevention (§112.7(f))

Training (§112.7(f)(1))

Employees are given annual training on the SPCC plan, as applicable. The major emphasis of the training is in spill prevention and response, good housekeeping, and material management practices and an understanding of the SPCC Plan including applicable pollution control laws and discharge procedure protocols

Person Accountable for Discharge Prevention (§112.7(f)(2))

The Plant Manager is responsible for discharge prevention.

Discharge Prevention Briefings (§112.7(f)(3))

Discharge prevention briefings are conducted annually for oil handing personnel. The briefings highlight and describe known discharges or failures, malfunctioning components, and any recently developed precautionary measures. All training will be documented and maintained with this plan.

3.7 Security (§112.7(g))

The facility has implemented the following security practices at the facility:

- Each facility is surrounded by an 8 – foot tall chain link fence.
- Entrance to each site is controlled by a manned gate. Personnel entering the facility must provide identification to gain access to the facility. A visitor log is maintained at the facility to record access granted to non-employee personnel.
- Contracted security officers actively monitor the property to detect suspicious persons or activities.
- Security lighting is used to deter trespassing and ensure safety for those monitoring the premise. This lighting is also sufficient to assist with the detection of oil discharges.

3.8 TANK CAR AND TANK TRUCK LOADING/UNLOADING RACK (§112.7(h))

This facility does not utilize tank car and tank truck loading and unloading racks as defined in 40 CFR Part 112 Section 112.2.

3.9 Brittle Fracture Evaluation (§112.7(i))

The facility will inspect any aboveground storage containers that undergo repair, alteration or change in service. The inspection evaluates the potential for discharge due to brittle fracture or other catastrophe that might have been affected by the repair, alteration or change in service.

The facility will also investigate equipment failures. The inspection considers the condition of the equipment, including the potential for brittle fracture, and recommends changes to prevent a recurrence of the failure.

3.10 Conformance with Other Applicable Regulations (§112.7(j))

In 1989, California adopted the Aboveground Petroleum Storage Act under California Health and Safety Code, Chapter 6.67. This regulation requires all facilities with aboveground oil storage tank aggregate capacity of 1,320 gallons or more, regardless of surface water proximity, to develop SPCC Plans in accordance with the guidelines set forth in the SPCC Regulations under 40 CFR Part 112.7, and be under the jurisdiction of the State through the Regional Water Quality Control Board and the Certified Unified Program Administrator (CUPA). This facility is subject to the regulation.

This facility does store hazardous materials and as such falls under Hazardous Materials Business Plan regulations under California jurisdiction (see Appendix E-Hazardous Materials Contingency Plan).

3.11 Qualified Oil-filled Operational Equipment (§112.7(k))

All oil-filled operational equipment at this facility meets the criteria as "Qualified".

A Consolidated Contingency Plan is included in the Hazardous Materials Business Plan (HMBP) prepared in accordance with state regulations. An Emergency Contact List is included in the Facility's Emergency Response program which addresses oil spills for all oil-filled operational equipment.

For all oil-filled operational equipment, the facility has provided a written commitment of manpower, equipment, and materials necessary to remove any quantity of oil discharged that may be harmful. Refer to the "Certification Page".

4 §112.8 SPCC Plan Requirements for Onshore Facilities

4.1 General Requirements (§112.8(a))

This Plan satisfies the requirements of Section 112.7 in addition to the specific discharge prevention and containment procedures that follow.

4.2 Facility Drainage (§112.8(b))

Drainage from Secondary Containment Berms (§112.8(b)(1))

The Facility does not drain any containment areas to any pond, watercourse, storm water drains, etc. Pumps and vacuum lines will be used to remove accumulated materials as necessary.

4.3 Bulk Storage Containers (§112.8(c))

Materials of Construction (§112.8(c)(1))

The Facility's bulk storage containers have the following design characteristics, materials of construction, and fail-safe engineering features:

- Storage tanks are constructed of either welded or bolted steel. This material is determined to be compatible with the products stored and the conditions of storage (including pressure and temperature).

- Chemical storage containers are constructed of steel or plastic and are designed to be compatible with the contents.
- Tanks are operated within "Safe Fill" levels below the capacity limits of the tank.

Secondary Containment (§112.8(c)(2))

All bulk oil storage facilities have secondary containment designed to contain at least 110 percent of the maximum volume of the single largest tank in the containment area.

The secondary containment system provided for the bulk product storage tanks has the following design and construction characteristics:

- The calculated secondary containment volumes are detailed in Appendix B.
- The secondary containment is sufficiently impervious to contain a release until released material can be removed.

Drainage of Uncontaminated Rainwater ((§112.8(c)(3))

Rainwater within containments will be removed with pumps and vacuum lines as necessary.

Completely Buried Metallic Tanks (§112.8(c)(4))

The Facility does not contain any buried, partially buried or bunkered metallic tanks

Buried/Partially Buried Metallic Tanks (§112.8(c)(5))

The Facility does not contain any buried, partially buried or bunkered metallic tanks.

Testing of Aboveground Containers (§112.8(c)(6))

Integrity testing of aboveground containers is performed as required, and when repairs are made, in accordance with the facility PSM program. This program

details and records required inspections and personnel qualifications. The program and associated records are maintained at the facility. Plus, operations personnel will conduct periodic visual inspections of aboveground containers to determine if they have become compromised and/or leaking.

Internal Heating Coils (§112.8(c)(7))

There are internal heating coils within the HTF expansion vessels which are located within each Power Island. Each Power Island has four expansion vessels equipped with internal heating coils. Steam return and exhaust lines are monitored for contamination from leaking heating coils to ensure oils are not transferred into systems outside of spill containment areas.

Engineering to Prevent Releases (§112.8(c)(8))

The following engineering designs and practices are employed at the facility:

- Fail-safe engineering considerations include proper sizing of piping and gauging equipment.
- Audible communication between operators to prevent discharges due to overfilling or transfer equipment leaks.

Effluent Treatment Facilities (§112.8(c)(9))

The Mojave Solar LLC includes facilities for the treatment of water used during plant operations. An oil/water separator is used to treat water contaminated with oil. All wastewater from plant operations is treated and recycled back into the facility.

Visible Discharges (§112.8(c)(10))

Visible discharges of oil from a container are promptly remedied. Any accumulation of oil from these discharges is promptly removed.

Mobile or Portable Oil Storage Containers (§112.8(c)(11))

All mobile or portable oil storage containers have secondary containment designed to contain 110 percent of the maximum volume of the single largest container.

4.4 Facility Transfer Operations (§112.8(d)) (§112.12(d)) (Aboveground Valves, Piping Association with Transfer Operations)

Inspection of Buried Piping (§112.8(d)(1))

The facility does not operate any oil-containing buried piping.

Out-of-Service Piping (§112.8(d)(2))

Piping that is not in service or is in standby service for an extended period is capped or blind-flanged at the terminal connection of the transfer point. The origin of the piping is also marked.

Pipe Supports (§112.8(d)(3))

Pipe supports are designed to minimize any abrasion or corrosion of pipes and allows for expansion and contraction of the pipelines that are being supported.

Inspection of Aboveground Valves, Piping, and Appurtenances (§112.8(d)(4))

The following table lists equipment that is routinely inspected for spill and pollution prevention and control purposes:

- Flange joints
- Expansion joints
- Valve glands and bodies
- Catch pans
- Valves locks and/or seals
- Pipeline supports
- Metal surfaces

Problems identified during any inspection are documented and addressed as soon as possible, so as to prevent environmental and operating hazards. When required, follow-up inspections are performed and documented to ensure that appropriate corrective measures have been taken to ensure compliance.

All aboveground valves and pipelines are regularly examined during operating personnel rounds. During these examinations, operating personnel assess the general condition and necessity for corrective actions of the items.

Vehicles Entering Areas with Aboveground Pipelines (§112.8(d) (5))

All vehicle operators driving within the Facility are verbally notified of aboveground piping and oil transfer operations vulnerable to damage from vehicles

5 Appendix

Appendix A1- Overall Facility Maps

Appendix A2- Central Plant Layouts

Appendix A3- Location of Storage Facilities And Oil Filled Equiepment

Appendix B- List of Containers With Secondary Containment Calculations

Appendix C- Containment Diagrams

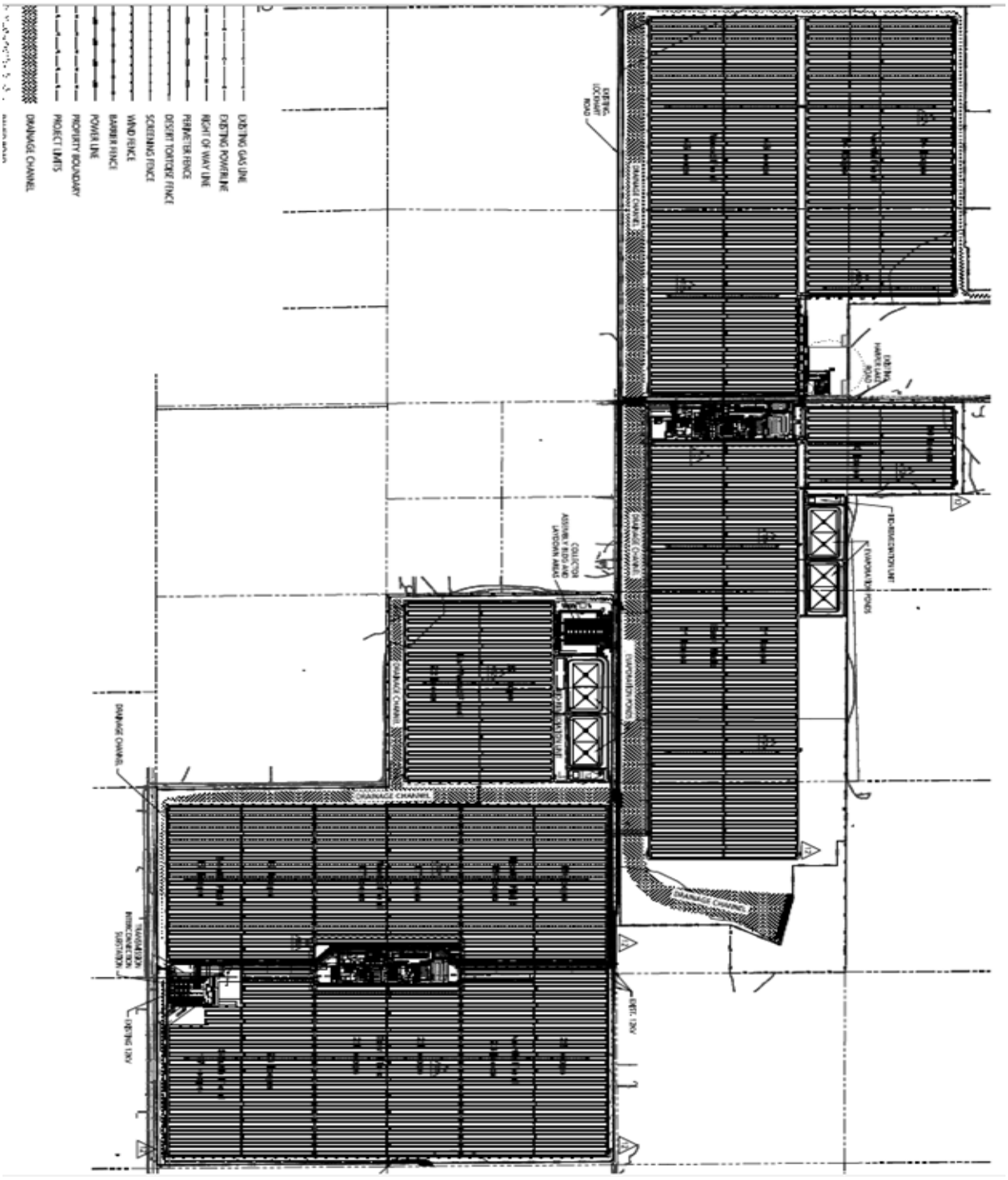
Appendix D1- SPCC Inspection form

Appendix D2- Inspection Checklists

Appendix E- References

APPENDIX A-1

MOJAVE SOLAR PROJECT
OVERALL FACILITY MAPS


DRAINAGE CHANNEL
PROJECT LIMITS
PROPERTY BOUNDARY
POWER LINE
BARBED FENCE
YARD FENCE
SCREENING FENCE
DESERT TORTOISE FENCE
PERIMETER FENCE
RIGHT OF WAY LINE
EXISTING POWERLINE
EXISTING GAS LINE
EXISTING LOCHART ROAD
DRAINAGE CHANNEL
EXISTING HARPER LAKE ROAD
DRAINAGE CHANNEL
COLLECTOR ASSEMBLY BLDG AND LAYDOWN AREAS
EVAPORATION PONDS
RECIRCULATION UNIT
DRAINAGE CHANNEL
DRAINAGE CHANNEL
DRAINAGE CHANNEL
TRANSMISSION INTERCONNECTION SUBSTATION
EXISTING 12KV
INTERCONNECTION
EXISTING 12KV

Alpha Plant Overall Map