DOCKETED	
Docket Number:	08-AFC-03C
Project Title:	Marsh Landing Generating Station Compliance
TN #:	249526
Document Title:	Part 5 - 2022 Marsh Landing CEC Annual Report
Description:	Annual Compliance Operations Report 2022, Part 5
Filer:	David Frandsen
Organization:	NRG
Submitter Role:	Applicant
Submission Date:	3/31/2023 8:56:05 AM
Docketed Date:	3/31/2023

3.5 SOIL & WATER-6

- Water flow meters have been installed in three locations.
    - Potable water flow FT400001
    - Potable water flow to the Raw Water Tank FT360004
    - Discharge flow of Waste Water/Sanitary Drains to DDSD FT950002
- Calibration activities were completed in January. See attached calibration sheets.

The range of annual water usage is a minimum of 7.1 acre feet in 2019 to 23.1 acre feet in 2020.

The average annual water usage is 11.6 acre feet. See attached Summary spreadsheet.

Payments to the City of Antioch are as follows:

- $8,500 for the year 2013 paid in May 2014.
- $8,200 for the year 2014 paid in May 2015.
- $8,200 for the year 2015 paid in May 2016.
- $9,000 for the year 2016 paid in May 2017.
- $11,200 for the year 2017 paid in May 2018.
- $9,700 for the year 2018 paid in May 2019.
- $7,100 for the year 2019 paid in May 2020.
- $23,100 for the year 2020 to be paid in May 2021.
- $19,800 for the year 2021 to be paid in May 2022.
- $15,500 for the year 2022 to be paid in May of 2023.

CALIBRATION DATA RECORD

CUSTOMER	**Clearway Marsh Landing LLC**	PROJECT	**March 2022 Shutdown**
INST. I.D.	0-FT-360004	MANUF.	Rosemount
SERVICE	Raw Water Supply		
MODEL NO:	8732EST2AIN0M4C1Q4	SERIAL NO:	338997
INPUT:	0-500 GAL/MIN	OUTPUT:	4-20 madc
CAL DATA:	Tube Cal # 0838 3052 0825 2005	INST. TYPE:	magmeter 6"
SENSOR DATA:	0-FE-360004 S/N 0218808	LOCATION:	raw water tank

TEST EQUIPMENT	MODEL	S/N	NIST TEST
Flowtube Simulator	Rosemount 8714D	326886	208626
Multimeter	Fluke 87	29100150	3817432

INPUT		OUTPUT RESULTS		
%	VALUE	DESIRED	AS FOUND	AS LEFT
0	0 Ft/sec	4 madc	4.000	4.000
10	3 Ft/sec	5.6 madc	5.601	5.601
33.3	10 Ft/sec	9.33 madc	9.334	9.334
100	30 Ft/sec	20 madc	20.002	20.002

ISOLATION VALVE POSITION AS FOUND: N/A AS LEFT: N/A

REMARKS:	Tube Cal Number 0838305208252005	Calibration Tube Settings 1000015010000000
	Units = GAL/MIN	Calibration Units of measure = Ft/S
	LRV = 0	Cal Analog Output Range: 20mA = 30.00 ft/sec
	URV = 500	Cal Analog Output Zero: 4mA = 0 ft/sec
	Freq = 5 HZ	Cal Freq = 5 HZ

Reset to customer configuration

PERFORMED BY	D Farley	DATE:	3/30/2023
VERIFIED BY		DATE:	3/30/23

3D Technical Services, Inc.
Clayton, California
(925) 691-5543

CALIBRATION DATA RECORD

CUSTOMER	**Clearway Marsh Landing LLC**	PROJECT	**March 2022 Shutdown**
INST. I.D.	0-FT-400001	MANUF.	Rosemount
SERVICE	Outfall A / Raw Water Tank		
MODEL NO:	8732EST2AIN0M4C1Q4	SERIAL NO:	338199
INPUT:	0-500 GAL/MIN	OUTPUT:	4-20 madc
CAL DATA:	Tube Cal # 0984 7059 0960 5005	INST. TYPE:	magmeter 8"
SENSOR DATA:	0-FE-400001 S/N 0228878	LOCATION:	west of ammonia tank

TEST EQUIPMENT	MODEL	S/N	NIST TEST
Flowtube Simulator	Rosemount 8714D	326886	208626
Multimeter	Fluke 87	29100150	3817432

INPUT		OUTPUT RESULTS		
%	VALUE	DESIRED	AS FOUND	AS LEFT
0	0 Ft/sec	4 madc	4.000	4.000
10	3 Ft/sec	5.6 madc	5.601	5.601
33.3	10 Ft/sec	9.33 madc	9.335	9.335
100	30 Ft/sec	20 madc	20.006	20.006

ISOLATION VALVE POSITION AS FOUND: N/A AS LEFT: N/A

REMARKS:	Tube Cal Number 0984705909605005	Calibration Tube Settings 1000015010000000
	Units = GAL/MIN	Calibration Units of measure = Ft/S
	LRV = 0	Cal Analog Output Range: 20mA = 30.00 ft/sec
	URV = 500	Cal Analog Output Zero: 4mA = 0 ft/sec
	Freq = 5 HZ	Cal Freq = 5 HZ

Reset to customer configuration

PERFORMED BY	D Farley	DATE:	3/30/2023
VERIFIED BY		DATE:	3/30/23

3D Technical Services, Inc.
Clayton, California
(925) 691-5543

CALIBRATION DATA RECORD

CUSTOMER	**Clearway Marsh Landing LLC**	PROJECT	**March 2022 Shutdown**
INST. I.D.	0-FT-950002	MANUF.	Rosemount
SERVICE	Sanitary and Process Wastewater		
MODEL NO:	8732EST2AIN0M4C1Q4	SERIAL NO:	337659
INPUT:	0-80 GAL/MIN	OUTPUT:	4-20 madc
CAL DATA:	Tube Cal # 0926 1052 0923 6005	INST. TYPE:	magmeter 3"
SENSOR DATA:	0-FE-950002 S/N 0218078	LOCATION:	next to office

TEST EQUIPMENT	MODEL	S/N	NIST TEST
Flowtube Simulator	Rosemount 8714D	326886	208626
Multimeter	Fluke 87	29100150	3817432

INPUT		OUTPUT RESULTS		
%	VALUE	DESIRED	AS FOUND	AS LEFT
0	0 Ft/sec	4 madc	4.000	4.000
10	3 Ft/sec	5.6 madc	5.600	5.600
33.3	10 Ft/sec	9.33 madc	9.334	9.334
100	30 Ft/sec	20 madc	20.002	20.002

ISOLATION VALVE POSITION — AS FOUND: N/A — AS LEFT: N/A

REMARKS:	Tube Cal Number 0926105209236005	Calibration Tube Settings 1000015010000000
	Units = GAL/MIN	Calibration Units of measure = Ft/S
	LRV = 0	Cal Analog Output Range: 20mA = 30.00 ft/sec
	URV = 80	Cal Analog Output Zero: 4mA = 0 ft/sec
	Freq = 5 HZ	Cal Freq = 5 HZ
	Reset to customer configuration	

PERFORMED BY	D Farley	DATE:	3/30/2023
VERIFIED BY		DATE:	3/30/23

3D Technical Services, Inc.
Clayton, California
(925) 691-5543

Purchase Order: CREDIT CARD

Cert #: 208626

Standard Meter Lab, Inc.

Certificate of Calibration

Intertek

#US4461c

Customer: 3d Technical Services **Contact:** Dan Farley

Address: 2270 Curry Canyon Rd. Clayton, Ca 94517

Instrument Identification

System ID: 1051933 **Serial #:** 0326886

Tool #: NA **Property #:** NA

Manufacturer: ROSEMOUNT INC. **Model #:** 8714D

Range: (4 to 20) mA DC; (0 to 30) ft/s

Description: SIMULATOR, MAGNETIC FLOW METER

Test Results

Serviced Performed: Calibration **Service Technician:** Keith S Lam

Cal Date: 03/22/2023 **Cal. Due Date:** 03/22/2024

Location of Cal: In-house **Laboratory:** Standard Meter Lab

Address: 236 Rickenbacker Cir, Livermore, CA 94551

As Found Result: In Tolerance **As Left Result:** In Tolerance

Environmental Conditions: 68.2 °F / 44.2% RH **Instruction Used:** MAN-8714D

Technical Remarks

Condition

Received in good condition.

Analysis

Verified accuracy in accordance with the listed calibration instructions.

Calibration Standards

I.D.	Manufacturer	Model Number	Description	Cal. Due Date	NIST #
1000069	FLUKE ELECTRONICS	189	MULTIMETER, TRUE RMS, LOGGING	8/3/2023	198207

Approval Person: Diane P Smith General Manager Signature: Diane P Smith Date: 03/22/2023

Measurement Information

Description	Unit	Nominal	Tolerance -	Tolerance +	As Found	As Left	OT?
500 mA DC Input	mV DC	1.078	1.022	1.133	1.097	1.097	No

End of Report

TECHNICAL SERVICES GROUP

2900 Main St Alameda CA 94501 Phone (510)522-8326 Fax (510)522-3136

Certificate of Calibration

3D TECHNICAL SERVICES
PO BOX 176
CLAYTON
CA 94517

Customer ID #	**4459**	*Certificate Number:*	**3817432**
File #	**2071**	*Rated Accuracy*	**SEE DATA SHEET**
Instrument Type	**MULTIMETER**	*Pass/Fail as Found*	**PASS**
		Pass/Fail as Left	**PASS**
Range	**ASSTD.**	*1st (Mfg) S/N*	**29100150**
Units	**MILLIVOLT**		
Resolution	**AS RATED**		
Mfg.	**FLUKE**	*2nd S/N*	**N/A**
Model	**87V**		
Cal By	**REX EDORA 90807**		
		Cal Date	**3/3/2023**
Curent Cal Cycle (Months	**12**	*Cal Due*	**3/3/2024**
Previous Cal Cycle	**12**	*Notes*	
Standards Used	**FLUKE 515A S/N 10520 DUE 06/23/2023 NIST F30406**		

TECHNICAL SERVICES GROUP CERTIFIES THAT THIS INSTRUMENT HAS BEEN CALIBRATED TRACEABLE TO THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY AND CONFORMS TO ISO 10012 AND ANSI / NCSL Z-540. UNLESS OTHERWISE SPECIFIED MEASURMENT UNCERTAINTIES ARE LESS THAN 1/4 OF TOLERANCE OR 1 MINOR DIVISION.

CALIBRATION DATA SHEET

TECHNICAL SERVICES GROUP
2900 Main Street (PO Box 250) Alameda, Ca. 94501 Phone 510 522 8326 or Toll Free 800 300 4TSG Fax 510 522 3136

DB #	Customer	TSG Job #	TSG Item #
	3D		
Instrument Type	**Description & Function**	1st Serial # 29100150	2nd Serial #
Manufacturer FLUKE	Model # 87V	Calib. Date 3-03-23	Recall Date 3-03-24
Technician Name & Badge # PAT GUEST	Inspected by / Repaired by / Calibrated by GUEST	Existing Cal Cycle 1YR	Cal Cycle Update

MULTIMETER

1. Reason submitted: Calibration (✓) Repair ( ) Evaluation ( )
2. Physical Condition: Good (✓) Damaged ( )
3. Instrument Received: In Tolerance (✓) Out of Tolerance ( )
4. Calibration Procedure: Manufacturer's Specification ( ) TSG (✓)
5. Environment: Temperature 70 Deg. F Relative Humidity 44 %
6. Instrument Returned: In Tolerance (✓) Limited ( ) Repaired ( ) B.E.R ( )

List of Calibration Standards

Manufacturer	Model #	Serial #	Recall Date
FLUKE	5725A	10500	6-23-23

8. Parts Used

Part Number / Description	Amount

9. Discrepancy

10. Corrective Action

11. Calibration Data (✓) Out of Tolerance Parameter ( ) (Check One)

Instrument Parameter	Instrument Range	Acceptable Error	Standard Value Applied	Device Under Test Indication	Corrected Indication	Tolerance Initial	Tolerance Final	Applicable NIST Test Report Numbers
DCV	AUTO	±0.1%	100mV	100.0 mV				F304U6
			1V	1.000 V				
			10V	10.00V				
			100V	100.0V				
ACV		1%	1V	1.001 V				
			10V	10.01V				
			100V	100.1V				
Ω		0.5%	1K	1.000KΩ				
			1M	1.001MΩ				
DCA		1%	100mA	100.0 mA				
ACA								

Determination of Impact / Notes

The Technical Services Group Certifies that this Instrument was Calibrated against Standards Traceable to the National Institute of Standards & Technology, and conforms to ISO 10012-1 & ANSI/NCSLZ 540-1

TSG Calibration Superviser / Quality Assurance Supervisor

Marsh Landing Generating Station
Annual City Water Usage

2014 - 2022 ANNUAL

Min	Max	Avg
7.1	23.1	12.0

		MONTHLY Acre Feet		
Year	Acre Feet	Min	Max	Avg
2013 - May - Dec	8.5	0.13	2.09	0.58
2014	8.2	0.13	1.51	0.43
2015	8.2	0.13	1.47	0.45
2016	9.0	0.33	1.39	0.75
2017	11.2	0.39	2.17	0.93
2018	9.7	0.03	2.95	0.81
2019	7.1	0.19	1.11	0.60
2020	23.1	0.25	6.51	1.00
2021	19.8	0.28	5.64	1.65
2022	15.5	0.35	5.07	1.29

3.6 VIS-1

Current Condition:

The surface treatments of all structures and buildings remain in very good condition.

Maintenance Activities During the Year 2022:

- Some minor painting in the areas of Safety, Slips, Trips and Falls.
- Corrosion prevention measures of areas identified within the Structural Survey under NRG's OPO-217.

Anticipated Maintenance and Activities for 2023:

- Some painting activities are anticipated for 2023 in the areas of Safety, Slips, Trips and Falls.
- Corrosion preventative maintenance and painting in areas identified within the Structural Survey under NRG's OPO-217. Most likely to include some areas on the stacks.

3.7 VIS-2

Landscaping Maintenance is performed by a contractor on an as needed basis.

In 2022 we continued periodic weed abatement activities. There was grass hydroseeding that occurred as part of the Black Start project which had a good start this year due to the frequent rains. There were no removals of previously approved CEC plants.

3.8 WASTE-7

The Operation Waste Management Plan has been revised and is included. (See Plan Review and Change Log for a description of changes.)

The actual volume of wastes generated during the report period of 2022 was 5.85 tons. (Based on Hazardous Waste Manifests for 2022.) The majority of the waste was a form of used oil from the control system for the combustion turbines. 76.6% of the hazardous waste generated in 2022 was ultimately utilized in some form of recycling process.

Marsh Landing LLC

Operation Waste Management Plan

Marsh Landing Generating Station
Antioch, California

Revision 9
January 2023

SITE MANAGER REVIEW

The Operation Waste Management Plan for Marsh Landing Generating Station has been reviewed by the Plant Manager.

Signature	Joseph Moura
Name	Joseph Moura
Title	Plant Manager
Date	1/24/2023

ENVIRONMENTAL PERSONNEL REVIEW

The Operation Waste Management Plan for Marsh Landing Generating Station has been reviewed by the Facility Environmental Specialist/Engineer.

Signature	David Frandsen
Name	David Frandsen
Title	Environmental Specialist/Engineer
Date	Jan. 24, 2023

Table of Contents

List of Figures

List of Tables

Appendix

Appendix 1 EPA ID Numbers for Marsh Landing

PLAN REVIEW AND CHANGE LOG

Revision No.	Revision Date	Reviewed/ Revised By	Description of Change	Revised Pages
0	March 2013	D. Griffin	Original Plan	NA
1	March 2016	D. Frandsen	Reviewed and revised the Plan as follows: • Revised cover page and added a Review and Change Log. • Revised text to indicate plant being in the operational phase including text revisions to the present tense in lieu of future tense.	Throughout
2	November 2016	D. Frandsen	Reviewed and revised the Plan as follows: • Updated excerpts from the NRG Energy, Inc. Environmental Policy and Procedures Manual, links in Section 3.2, and on-site wastewater treatment description in Section 4.1. • Updated Tables 1 and 3 with typical wastes generated and made consistent. • Added Regional Environmental Manager/Director review, site vicinity map, and List of Tables.	Throughout
3	January 2017	D. Frandsen	Reviewed and revised the Plan as follows: • Combined Section 2.1 and 2.2, describing the facility and location. • Updated on-site wastewater treatment description in Section 4.1. • Revised Section 6.5 to reference the Compliance Conditions for Facility Closure Plan for closure requirements. • Minor formatting.	Throughout
4	January 2018	D. Frandsen	Reviewed and revised the Plan as follows: • Updated Plant Management. • Remove reference to the Industrial General Permit for storm water discharges. • Added waste ethylene and propylene glycol solutions to wastes generated. • Updated Table 1 with 2017 waste generation.	Throughout

Revision No.	Revision Date	Reviewed/ Revised By	Description of Change	Revised Pages
5	January 2019	D. Frandsen	Reviewed and revised the Plan as follows: • Updated Plant Management. • Administrative Corrections.	Throughout
6	January 2020	D. Frandsen	Reviewed and revised the Plan as Follows: • Added Destination of Ramos Environemntal Services for oil and water pickups in Table 4. • Added Appendix 1 EPA ID numbers.	Page 11 Appendix 1
7	January 2021	D. Frandsen	Reviewed and revised the Plan as follows: • Updated excerpts from Condition of Certification WASTE-7 and the NRG Energy, Inc. Environmental Manual to be consistent with current policies including Plan review frequency • Removed Regional Environmental Manager/Director review no longer required by the Environmental Manual • Removed acids from the list of water treatment chemicals no longer on-site • Added Environmental Logistics, Inc. and Hazmat TSDF, Inc. for the transportation and disposal of natural gas filters • Updated years remaining in original planned operational life of the facility	Throughout
8	January 2022	D. Frandsen	Reviewed and revised the Plan as follows: • Added a description of the Battery Energy Storage System installed in 2021. • Added soybean dielectric fluid and lithium-ion batteries waste streams • Removed separate paint wastes listings in Tables 1 and 3 since paint wastes are include in waste maintenance chemicals • Updated Table 1 with 2021 waste generation. • Updated years remaining in original planned operational life of the facility.	Sections 2 through 4 and 6.5

Revision No.	Revision Date	Reviewed/ Revised By	Description of Change	Revised Pages
9	January 2023	D. Frandsen	Reviewed and revised the Plan as follows: • Added a note in the site description regarding the current status of the BESS project. • Updated Tables 1 and 4 with 2022 waste generation. • Updated years remaining in original planned operational life of the facility.	Sections 2, 3, 5 and 6.5

1.0 INTRODUCTION

This Operation Waste Management Plan (OWMP) provides guidance for the identification and management of wastes which are likely to be generated during the operational phase of the Marsh Landing Generating Station (MLGS) in Antioch, California (Figure 1). This plan complies with Condition of Certification WASTE-7 issued by the California Energy Commission in Commission Decision 08-AFC-03 for MLGS, which states the following:

> *The project owner shall prepare an Operation Waste Management Plan for all wastes generated during operation of the facility and shall submit the plan to the CPM for review and approval. The plan shall contain, at a minimum, the following:*
>
> *1. A detailed description of all operation and maintenance waste streams, including projections of amounts to be generated, frequency of generation, and waste hazard classifications;*
>
> *2. Management methods to be used for each waste stream, including temporary on-site storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans;*
>
> *3. Information and summary records of conversations with the Contra Costa County Health Services Department (the local Certified Unified Program Agency) and DTSC regarding any waste management requirements necessary for project activities. Copies of all required waste management permits, notices, and/or authorizations shall be included in the plan and updated as necessary;*
>
> *4. A detailed description of how facility wastes will be managed, and any contingency plans to be employed, in the event of an unplanned closure or planned temporary facility closure; and*
>
> *5. A detailed description of how facility wastes will be managed and disposed of upon closure of the facility.*

The document is intended to satisfy this requirement; the requirements in the NRG Energy, Inc. Environmental Manual for Waste Minimization/Pollution Prevention Plan; and to serve as a guide to facility personnel. The OWMP identifies but does not address in detail wastes which are discharged in accordance with a federal, state or local permit or authorization on either an intermittent or ongoing basis. These include air emissions, wastewater discharged under a site-specific permit, water produced from dewatering, or other wastes discharged in accordance with state- or locally-issued Waste Discharge Requirements.

In accordance with the NRG Energy, Inc. policy provided in the Environmental Manual, this Plan will be reviewed, updated as necessary, and approved at least every other year by the Facility Manager or his/her designee. In accordance with the Condition of Certification WASTE-7, Plant management will document in each Annual Compliance Report the actual volume of wastes generated and the waste management methods used during the year;

provide a comparison of the actual waste generation and management methods used to those proposed in the original OWMP; and update the OWMP as necessary to address current waste generation and management practices

2.0 SITE DESCRIPTION

2.1 Site Location and Description

The Marsh Landing Generating Station (MLGS) is an electrical generating facility located at 3201C Wilbur Avenue, Antioch, California (Figure 1). MLGS was substantially completed in April 2013, with commercial operations commencing May 1, 2013.

MLGS is located adjacent to the Contra Costa Generating Station (CCGS), a retired steam electric generating plant. The site is bordered by industrial uses, including Pacific Gas and Electric Company (PG&E) operational areas and a PG&E switchyard. The main industrial process consists of four natural gas-fired, simple-cycle ("peaker") electric generating units with a combined generating capacity of 760 megawatts.

In 2021 equipment was installed to allow Units 3 & 4 to become black start capable. Equipment includes transformers, inverters, and Fluence Gen6 Cubes containing lithium-ion battery systems and is known as the Battery Energy Storage System (BESS). Currently the equipment is still under commissioning.

2.2 Waste Generation Overview

Typical of electrical generating facilities, MLGS uses a variety of hazardous materials, including natural gas, diesel fuel, batteries, thinners, paints, oils and fluids (lubricating, mineral, hydraulic, and soybean dielectric fluid), aqueous ammonia, cleaners and detergents, ethylene and propylene glycols, transmission fluid, and water treatment chemicals (sodium hypochlorite, polymers, sodium bisulfite, etc.) among others, in a variety of processes and equipment. Buildings and structures may also contain materials such as lead-based paint. No asbestos or PCBs wastes are expected to occur at the site.

The following sections summarize the individual waste streams associated with plant operations and procedures for waste characterization, handling, and disposal.

3.0 WASTE STREAM DESCRIPTION AND CHARACTERIZATION

3.1 Waste Generation

Typical wastes generated during ongoing operations of power generation are summarized in Table 1 below. Other wastes not listed may be generated from time to time. Projected amounts are estimates and will vary from year to year.

Table 1
Waste Stream Summary
Marsh Landing Generating Station

Waste	Frequency	Projected Average Amount	Hazards/Classification
Uncontaminated concrete or asphalt	Infrequently	None expected	None/ non-hazardous inert debris
Contaminated concrete or asphalt	Infrequently	None expected	Oils, metals/ hazardous, non-RCRA hazardous, or non-hazardous
Miscellaneous uncontaminated structural and building materials (e.g., brick, stone, glass, non-asbestos insulation, gypsum wallboard)	Infrequently	None expected	None/ non-hazardous inert debris
Scrap metal (e.g., equipment, machinery, piping, potable or service water tanks and piping)	Infrequently	Only as needed	Minor amounts of oil and grease/excluded scrap metal
Vegetative material	Frequently	As needed from landscaping activities	None/non-hazardous green waste
Uncontaminated soil	Infrequently	None expected	None/ non-hazardous inert debris
Contaminated soil or debris	Infrequently	None expected	Oils, metals, organics, etc./hazardous, non-RCRA hazardous, or non-hazardous
Oily water and oil-water separator sludge	Frequently	2,000 gallons / year	Oil, metals/hazardous or non-RCRA hazardous
Waste fuel (diesel, gasoline)	Infrequently	None expected	Hydrocarbons, flammable VOCs/hazardous
Waste oils and fluids (e.g., lubricating fuel, hydraulic, mineral, soybean dielectric fluid, etc.) and oily debris	Frequently, with larger amounts infrequently	500 pounds / month	Oil/ non-RCRA hazardous
Universal wastes (fluorescent light tubes, Compact fluorescent light bulbs, HID lamps, batteries, mercury-containing devices, electronic wastes, aerosol cans)	Frequently	225 pounds / year	Mercury, metals/hazardous (universal waste)

Table 1 Waste Stream Summary Marsh Landing Generating Station			
Waste	**Frequency**	**Projected Average Amount**	**Hazards/Classification**
Waste maintenance chemicals (greases, paints including paint-related debris, adhesives, solvents, glycols, etc.)	Infrequently	75 pounds / year	Metals, flammable VOCs, hydrocarbons, corrosives/hazardous
Empty containers < 5 gallons	Infrequently	30 pounds / year	Residual chemicals /empty container (see "Managing Empty Containers" by DTSC)
Empty containers > 5 gallons	Infrequently	450 pounds / year	Residual chemicals/ empty container (see "Managing Empty Containers" by DTSC)
Waste/spent corrosives	Infrequently	Minimal	Corrosive/hazardous
Ammonia waste	Infrequently	None expected	Corrosive/hazardous
Laboratory waste	Frequently	10 gallons / year	Metals, acids, corrosives/hazardous
Waste natural gas liquids	Continuously	Minimal	Flammable VOCs/hazardous
Lead-acid batteries	Infrequently	Only as needed	Lead, corrosive/excluded or hazardous
Lithium-ion batteries	Infrequently	Only as needed	Metals, corrosives /excluded or hazardous
Drained used oil filters	Frequently	As needed, <100 filters / year	Metals, oil/excluded or hazardous
Wood waste	Infrequently	None expected, as needed	None/ non-hazardous wood waste
Municipal refuse and garbage	Continuously	Continuous generation and disposal as needed	None/ non-hazardous municipal refuse
Sanitary wastewater	Continuously	<21 gallons / minute	Fecal coliform, nitrates, BOD/sanitary waste
Industrial wastewater	Continuously	<21 gallons / minute	Oil, metals/non-hazardous
Turbine cleaning wash water	Infrequently	Twice yearly, 2,000 gallons per event	Oil, detergents/non-hazardous
Decontamination wastewater (e.g., tank and sump emptying and cleaning)	Infrequently	None expected	Oil/non-RCRA hazardous or non-hazardous
Water from groundwater intrusion/dewatering	Infrequently	None expected	None/non-hazardous
CO and NOx catalyst	Very infrequently	18 to 19 tons every 10 to 15 years	Metals/hazardous
Waste CFCs	Infrequently	None expected	Ozone depleting/hazardous
Used natural gas filters	Infrequently	500 pounds / year	Organics/ non-RCRA hazardous

Note: Storm water is not a waste.

3.2 Waste Characterization

Waste characterization is performed on each waste stream to determine the appropriate management method. Wastes generally fall into one of the following categories:

- Inert soil or debris for disposal
- Inert soil or debris for on-site re-use
- Municipal refuse
- Green waste and wood waste
- Non-hazardous industrial waste
- Non-RCRA hazardous and universal wastes (California-only)
- RCRA hazardous waste, including universal wastes

Waste classification will be performed in accordance with the following guidance:

- California Code of Regulations (CCR) Title 22, Division 4.5, Chapter 11 - Identification and Listing of Hazardous Waste.
- *Defining Hazardous Waste*, guidance from California Environmental Protection Agency, Department of Toxic Substances Control available at https://www.dtsc.ca.gov/HazardousWaste/.
- *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846)* published by the USEPA Office of Solid Waste and available at https://www.epa.gov/hw-sw846.

The waste characterization process will begin with compiling generator knowledge regarding the waste. This can include information from the operational history of the site and waste production area; waste process knowledge; Safety Data Sheet (SDS) information; results of previous waste characterization and testing; and general knowledge regarding the nature of power generation facility waste streams. For most wastes, sufficient generator knowledge is expected to be available to allow appropriate waste classification.

Where generator knowledge is insufficient to adequately characterize the waste, physical or chemical testing of a waste may be needed. If testing is necessary, an appropriate number of samples will be collected using the appropriate sampling method in accordance with the guidance materials referenced above. Testing will be performed in accordance with the appropriate method specified in Table 2. These methods are consistent with the guidance documents above. All waste analyses will be performed by analytical laboratories certified through the California Department of Health Services Environmental Laboratory Accreditation Program.

In some cases, additional testing may be performed on wastes in order to satisfy profiling requirements for specific potential off-site disposal facilities, depending on their individual operating permit requirements, local ordinances, and internal policies and procedures.

Liquid wastes which will be discharged under a site-specific permit or authorization, or state-wide or region-wide general permit, will be characterized as required under that permit. In most cases, monitoring and sampling is performed at the discharge point and is subject to both specified discharge limitations and periodic reporting requirements.

Table 2
Waste Characterization Method Summary
Marsh Landing Generating Station

Analyte/Characteristic	Analytical Method
Title 22 Metals	EPA Method 6010, 6020, 7471A/7471B
PCBs	EPA Method 8082
Chromium (VI)	EPA Method 7196A/7199
pH	EPA Method 9045C
TPH-diesel, motor oil, lube oil	EPA Method 8015B
TPH-gasoline	EPA Method 8015B
VOCs	EPA Method 8260B
SVOCs	EPA Method 8270C or 8310
Cyanide (total)	EPA Method 335.2 or 9012A
Flash Point	EPA Method 1010
Corrosivity	EPA Method 9040
Toxicity versus federal RL criteria listed at 22 CCR 66261.24(a)(1)	EPA Test Method 1311 (Toxicity Characteristic Leaching Procedure)
Toxicity versus California STLC criteria listed at 22 CCR 66261.24(a)(2)	Waste Extraction Test, Appendix II, Title 22, Division 4.5, Chapter 11
Acute Aquatic Toxicity versus California criteria 22 CCR 66261.24(a)(6)	Static Acute Bioassay Procedures for Hazardous Waste Samples," California Department of Fish and Game, Water Pollution Control Laboratory, revised November 1988

4.0 ON-SITE WASTE MANAGEMENT

4.1 Waste Containment and Storage

Once a waste is generated, a specific on-site management method will be followed in accordance with the waste's known and suspected hazards. Table 3 provides information on waste containment and storage for most of the identified waste streams. See Figure 2 for hazardous waste storage and accumulation areas. The sections following provide specific information on several of the waste streams.

Table 3
Waste Containment and Storage Summary
Marsh Landing Generating Station

Waste	Storage and Containment	Storage Time Limits
Uncontaminated concrete or asphalt	Pile storage, roll off bins, site-wide	None
Contaminated concrete or asphalt	Covered roll-off bins, site-wide	90 Days
Miscellaneous uncontaminated structural and building materials	Pile storage, roll off bins, site-wide	None
Scrap metal	Roll-off bins, site-wide	None
Vegetative material	Roll-off bins, site wide	None
Uncontaminated soil	Pile storage, site wide	None
Contaminated soil or debris	Covered roll-off bins, site-wide; 55-gallon drums, designated hazardous waste storage areas	90 days
Oily water and oil-water separator sludge	Temporary tanks with secondary containment if not collected directly into transport vehicle (e.g., vacuum truck), 55-gallon drums, designated hazardous waste storage areas	90 days
Lead-based paint debris	Double (4-mil) or single (6-mil) bagged and placed in 55-gallon drums, designated hazardous waste storage areas	90 days
Waste fuel (diesel, gasoline)	55-gallon drums, designated hazardous waste storage areas	90 days
Waste oils and fluids and oily debris	55-gallon drums, designated hazardous waste storage areas	90 days
Universal wastes	Boxes, fiber containers, buckets, and 55-gallon drums, designated hazardous waste storage areas	One year
Waste maintenance chemicals	55-gallon drums, designated hazardous waste storage areas	90 days
Empty containers < 5 gallons	Roll-off bins, site wide	None
Empty containers > 5 gallons	Designated empty drum storage areas, drums will be labeled "Empty"	One year

Table 3 Waste Containment and Storage Summary Marsh Landing Generating Station		
Waste	**Storage and Containment**	**Storage Time Limits**
Waste/spent corrosives, ammonia waste, laboratory waste	Poly drums, designated hazardous waste storage areas	90 days
Waste natural gas liquids	Temporary tanks with secondary containment if not collected directly into transport vehicle (e.g., vacuum truck), 55-gallon drums, designated hazardous waste storage areas	90 days
Lead-acid batteries	Plastic containers, pallets, designated hazardous waste storage areas	90 days
Lithium-ion batteries	Plastic containers, pallets, designated hazardous waste storage areas	90 days
Drained used oil filters	55-gallon drums, designated hazardous waste storage areas	One year
Wood waste	Roll-off bins, site-wide	None
Municipal refuse and garbage	Covered roll-off bins, trash cans, and dumpsters, site-wide	None
Sanitary wastewater	Sanitary waste collection sump and temporary storage facilities (e.g., hand-wash and portable facilities)	NA
Industrial wastewater	On-site storage tanks	NA
Turbine cleaning wash water	Double-walled underground storage tanks until removed by vacuum truck, combustion turbine drain tanks	None
Decontamination wastewater	Temporary tanks with secondary containment if not collected directly into transport vehicle (e.g., vacuum truck), 55-gallon drums, designated haz waste storage areas	Depends on hazards/ classification
Water from groundwater intrusion/dewatering	Temporary storage tanks, site-wide	None
CO and NOx catalyst	Roll-off bins, site-wide	90 days
Waste CFCs	Approved recovery containers, designated hazardous waste storage areas if not collected and removed immediately from site	90 days
Used natural gas filters	Boxes, fiber containers, designated hazardous waste storage areas	90 days
Waste ethylene and propylene glycol solutions	Plastic containers, drums	90 days

In addition to the above, all waste activities will be in accordance with the following regulatory requirements:

- CCR Title 22, Division 4.5, Chapter 12 – Standards Applicable to Generators of Hazardous Waste.
- Industrial Wastewater Permit issued by Delta Diablo.
- Air emissions permit and regulations, including Bay Area Air Quality Management District (BAAQMD) regulations for Fugitive Dust, Particulate Matter, Volatile Organic Emissions from Decontamination of Soil and Asbestos Emissions from Demolition/Renovation Activities, as applicable.

- MLGS Spill Prevention, Control, and Countermeasures Plan.
- MLGS Hazardous Materials Business Plan.

Hazardous waste accumulation areas are established and operated in accordance with CCR Title 22, Division 4.5, Chapter 12. Only short-term or limited-quantity storage of hazardous waste containers may occur outside of these designated areas.

On-Site Waste Processing and Treatment

At this time the only on-site waste processing activities and treatment are described below:

On-Site Wastewater Treatment

Wastewater from the evaporative cooler operations, floor drains and equipment area drains with the potential to be contaminated by oil are collected and passed through an oil-water separator and pumped to a 200,000 gallon wastewater storage tank. Water treatment area wastes are also pumped to the wastewater storage tank. Stored wastewater is later discharged, along with sanitary wastes, in accordance with the facility's industrial wastewater discharge permit issued by Delta Diablo.

In addition, the facility has a bioretention facility that detains and treats storm water. Storm water is detained and treated in the surface reservoir, filtered through plants and a biologically active soil mix, and then it infiltrates into the ground. The bioretention facility contains underdrains as a preventive measure against poor drainage. Underdrains are routed to an outlet that is valved and connects to CCGS's discharge tunnel to the River. The valve is kept closed and discharges to the River will only occur if the infiltration is inadequate to keep appropriate freeboard in the reservoir.

5.0 OFF-SITE WASTE DISPOSAL

5.1 Waste Transportation and Disposal Facility Selection and Use

All wastes will be transported from the site to the disposal, recycling or processing facility by appropriately licensed transporters and disposed of at licensed facilities. In addition, MLGS is subject to the NRG Energy, Inc. Environmental Policy and Procedures. Section 1.3. of NRG's Environmental Policy and Procedures Manual states the following:

1.3.2. Waste Disposal Contracts

Written contracts/purchase orders must be used when procuring services from suppliers for disposal and/or treatment of Facility wastes.

1.3.3. Waste Disposal Supplier Review, Selection & Contracting/Purchasing Details

NRG may not use the services of a waste disposal contractor without confirming:

1) the vendor company and its facility(ies) are properly licensed;

2) waste documentation is available as required by the vendor and/or Regulator, including:

a. a current waste profile (characterization) for the Facility waste stream the vendor will handle and the destination of each such waste; and

b. a properly completed manifest that complies with applicable law.

3) for Hazardous, Universal, Industrial/Special Wastes or materials to be recycled such as electronic equipment, batteries, lamps and mercury containing devices, an NRG representative, contracted auditor or Regulator has visited and audited the disposal/recycling site specified within the previous five years, and the audit report has been reviewed and approved by Environmental Compliance. For Non-Hazardous waste (such as general trash) and general household recycling materials such as paper, plastic and aluminum, audit reports are not required.

a. This applies to transfer locations and final destination waste facilities.

b. The Environmental Group can assist with conducting and/or obtaining an audit of a waste vendor facility being considered for disposal of a particular waste stream.

c. No waste shall be sent to any third-party waste disposal facilities without approval from Environmental Compliance based on a review of the waste vendor audit reports.

Evaluation of commercially available audits of waste disposal facilities and companies (such as through the service provided by CHWMEG) where NRG waste materials are sent shall be acceptable documentation for satisfying the requirements above, provided that the audit report has been reviewed and the waste disposal facility approved by Environmental Compliance.

Copies of the approved contract/purchase order and information regarding the vendor shall be kept in the Facility Environmental Files.

Waste transporters and disposal facilities currently being used or planned for use are provided in Table 4. Each of these facilities has been selected and contracted in accordance with the above NRG Policy. Additional or alternate facilities and transporters may be used in the future, depending upon conditions. All transporters and facilities shall be licensed and have the appropriate permits. Vendors shall also meet NRG Policies and Procedures and other internal requirements.

Table 4
Waste Transportation and Disposal Vendors
Marsh Landing Generating Station Operations

Waste	Transporter Destination Facility
Waste (Concrete)	ALB, Inc. Cemex USA
Waste (Demo Debris)	Veolia Keller Landfill (Allied Waste)
Waste from Special Projects	Clean Harbors or Veolia MP Environmental
Routine Waste	Allied Waste
Waste Flammable Liquid (Lab Pack)	Veolia Veolia - Azusa
Waste Aerosols, Waste Flammables, Lead Debris	Veolia Veolia - Azusa
Universal Waste (Batteries, Lamps, Mercury Switches, Electronic Wastes, etc.) Hazardous Waste (Broken Bulbs, Waste Ammonia Solution) Non RCRA Hazardous Waste (Soil, Oily Debris, Ash, Pipes Contaminated with Fuel Oil, Oily Water, Waste Oils and Fluids, Lab Packs, Wood Waste, Asphalt, Non PCB Ballasts, Urea, Soil Mixed with Asphalt, Waste Ethylene and Propylene Glycol Solutions)	Veolia, Tristate Motor Transit Company, or MP Environmental Veolia - Azusa or Richmond
Hazardous Waste (Oily Pipe and Contaminated Soil)	Veolia Veolia – Azusa or Keller Landfill (Allied Waste)
Scrap Metal	Aaron Metals
Oil/Water/Sludge	Veolia or Safety-Kleen – Newark Veolia – Azusa or Ramos Environmental Services / World Oil Compton

Table 4 Waste Transportation and Disposal Vendors Marsh Landing Generating Station Operations	
Waste	**Transporter** **Destination Facility**
Non RCRA Hazardous Waste (Natural Gas Filters)	Environmental Logistics, Inc. Hazmat TSDF Inc.

6.0 WASTE MANAGEMENT SYSTEM

6.1 Waste Management Procedures and Best Management Practices

Waste management procedures and best management practices which will be implemented throughout the course of operations include the following:

- Assignment of responsibility for waste management to the Environmental Specialist and Environmental Technician.
- Training of personnel regarding waste management procedures.
- Recording specified data for each off-site waste transfer (inert, non-hazardous, and hazardous).
- Performing disposal facility audits, in accordance with NRG Policy.
- Performing on-site transporter checks.
- Performing inspections of waste storage areas and containers.

6.2 Recordkeeping

MLGS will maintain appropriate records for all disposal of waste. Records will include the following:

- Records of waste classification determinations, including documentation of generator knowledge and waste analyses.
- Disposal facility waste profiles.
- Disposal facility audit reports.
- Transporter audit reports.
- Waste storage inspection records/checklists.
- Bills of lading for non-hazardous waste and universal waste shipments.
- Hazardous waste manifests for each waste shipment, including Generator Initial Copy.

Additional or duplicate information for hazardous wastes may also be maintained in a tracking spreadsheet on the shared drive. This spreadsheet captures a variety of information about each waste shipment including Date Shipped Off Site, Waste Shipping Name and Description, Shipper/Receiving Facility, Profile Number, Manifest Tracking Number, Number of Containers, Type of Containers, Total Quantity (Volume/Weight), and Waste Codes.

6.3 Waste Minimization and Reduction

As previously indicated, MLGS is subject to the NRG Energy, Inc. Environmental Policy and Procedures. Section 1.3. of NRG's Environmental Policy and Procedures Manual states the following:

NRG seeks to reduce waste generation and, in accordance with Environmental Law, provide for the safe, cost-effective and responsible management of wastes that cannot otherwise be avoided.

1.3.1. Waste Minimization/Pollution Prevention Plan

Each Operations Facility will maintain and update a waste minimization/pollution prevention plan that describes an internal program for preventing, reducing, recycling, reusing and minimizing waste. The plan will determine best management practices for reducing wastes and the costs associated with lawfully handling them. The plan shall be reviewed, updated as necessary, and approved at least every other year by the Facility Manager or his/her designee.

As part of the waste minimization/pollution prevention plan, the following areas must be examined: (a) description of the primary waste materials produced (routinely generated wastes such as plant trash, cardboard, used/waste oil, coal combustion products, used lamps, spent solvents, oil impacted solids, aerosol cans, spent resins and process sludge); (b) steps already implemented to prevent, reduce, recycle, reuse or minimize waste materials; (c) potential additional steps to prevent, reduce, recycle, reuse or minimize waste materials; and (d) recommendations for purchasing alternative raw materials and/or Industrial Chemicals that may reduce waste generation.

Non-hazardous waste minimization and reduction initiatives include the following:

- Recycling of concrete to the extent possible.
- Equipment salvage.
- Recycling of scrap steel, copper, aluminum and other metals.
- Recycling of wood.
- Recycling of used 55-gallon drums as scrap metal.

Minimization and reduction of hazardous wastes generated by the power generation operations is accomplished through adherence to the above-referenced NRG Policy and applicable regulations. Recommendations, as they are presented, will be considered for purchasing alternative raw materials and/or Industrial Chemicals that may reduce waste generation.

6.4 Facility Waste Management During Unplanned or Temporary Closure

Regardless of the circumstances of the temporary closure (unplanned or planned), the facility will maintain 24-hour staffing and the CEC will be notified. Facility waste management practices in a temporary closure would essentially remain the same as those performed during operations, although the waste volumes would be less due to the non-operational status of the facility. In the event of an extended shutdown, the facility may

need to conduct certain tasks, such as the draining of chemicals, water, and other fluids from storage tanks and plant equipment to ensure worker safety, and to protect plant equipment and the environment. These activities would follow normal maintenance practices, and be performed in accordance with equipment manufacturer's recommendations.

All hazardous and nonhazardous wastes generated during the temporary closure would be collected, managed, and disposed of consistent with all laws, ordinances, regulations and standards (LORS). It is expected that the management methods, housekeeping, waste testing methods, transportation and disposal requirements would remain the same as those during the operational phase of the facility. Inspections of wastes would also continue to be performed consistent with Federal, State and local regulations. Even in a longer term facility closure, the regulatory compliance programs and ongoing waste practices would continue.

In an unplanned facility temporary closure, nonhazardous liquid wastes, such as wastewater, would be managed in similar fashion as those conducted during operation of the facility, although at a reduced scale, as some wastes would no longer be generated. Storm water, although not a waste, would continue to be managed in similar fashion as during operations. Nonhazardous solid wastes would also continue to be managed in similar means as those generated during the operational phase of the facility.

In the event of an unplanned temporary facility closure due to emergencies such as earthquakes, fires, or releases of hazardous materials, activation of the appropriate Contingency Plan would be implemented. Contingency Plans are required under a number of regulatory programs, and the implementation would depend upon the type of emergency encountered. For example, a release of a hazardous material would trigger the implementation of the Facility Emergency Plan and the Hazardous Materials/Hazardous Waste Contingency Plan under Hazardous Materials Business Plan requirements. These Contingency Plans include methods to control releases of hazardous materials, notification of appropriate authorities and the public, training for plant personnel, and other emergency response actions and preparation. When the release of hazardous materials has been contained and cleaned up, temporary closure will proceed as in the case of a closure where there is no release of hazardous materials.

If the facility closure is of extended duration, an updated Hazardous Materials Business Plan will be submitted to the local CUPA that would reflect the changes to the facility storage of hazardous materials including wastes. Should hazardous materials remain on the site, inspections, recordkeeping, training and all other compliance requirements of the CEC as well as all other LORS will be continued.

A facility closure plan would not be prepared as part of a temporary closure, as it would be expected the plant would eventually return to service.

6.5 Facility Wastes Management and Disposal upon Closure of the Facility

The original planned operational life of the facility is at least 30 years with at least 20 years remaining, although the facility could operate longer or shorter depending upon numerous variables and conditions. When the facility is expected to be finally closed, procedures set forth in a facility closure plan will be implemented. Refer to the Compliance Conditions for Facility Closure Plan for specific details.

Proposed decommissioning measures will attempt to maximize the recycling of all facility components. Unused chemicals will be sold back to the suppliers or other purchasers where practicable. All equipment will be shut down and drained so as to ensure public health and safety and protection of the environment. All hazardous and nonhazardous waste materials will be collected and disposed of consistent with all LORS. Until decommissioning activities have been completed, 24-hour staffing for the facility will be maintained.

Figures

CAD File:	Drawn By:	Date:	Project No.
G:\DWGS\0428281 NRG\001\0428281001-01.dwg	J. Estrada	01/03/18	0428281.001

Figure 1

Site Vicinity Map

Marsh Landing Generating Station

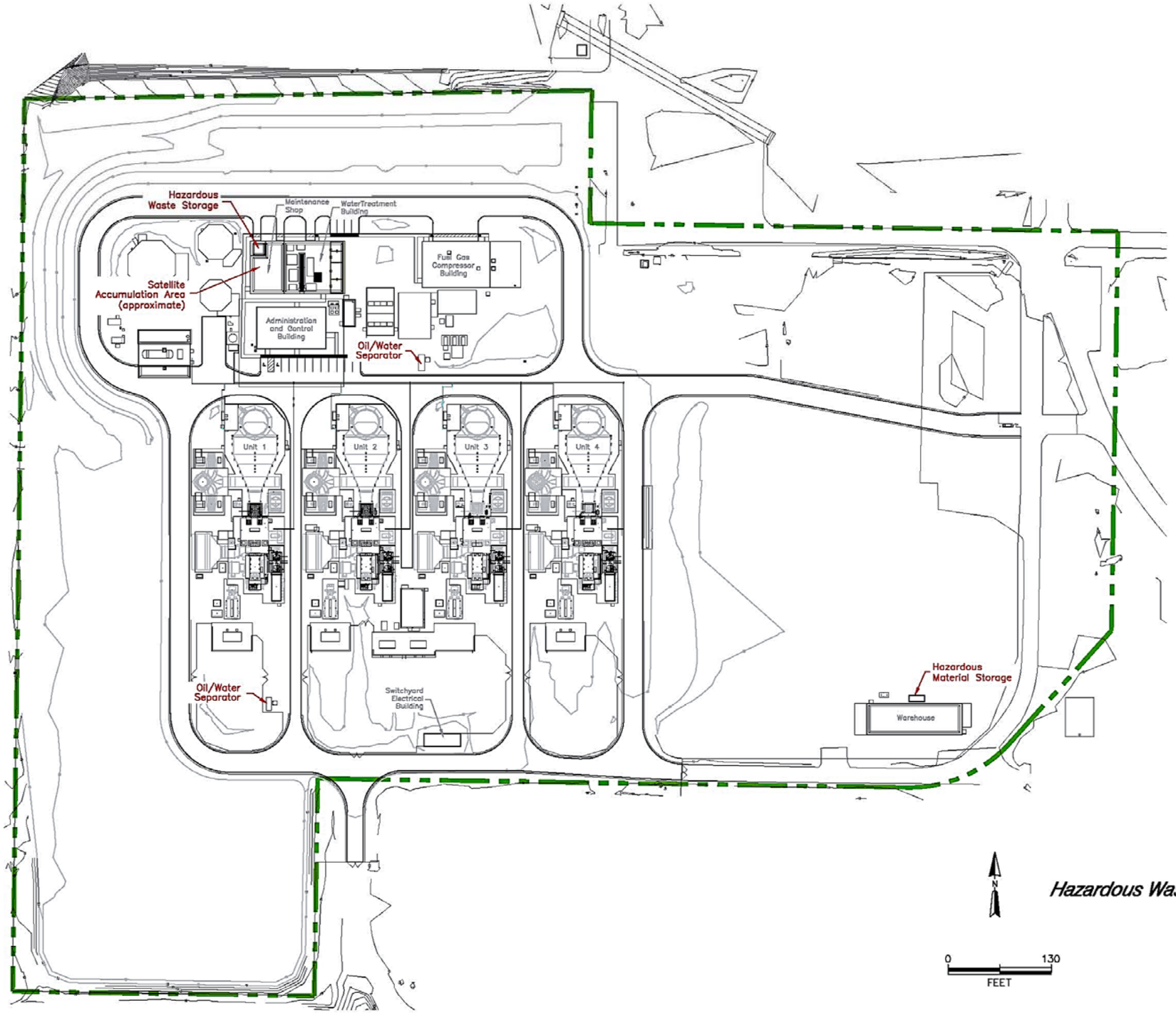
NRG Marsh Landing, LLC

3201-C Wilbur Avenue

Antioch, California

ERM *01/18*

CAD File: G:\0185229\018522900-07.dwg
Drawn By: J. Estrada
Date: 02/27/13
Project No. 0185229.00



LEGEND

Parcel Boundary

Notes:

1. Actual parcel location is approximate and based on construction drawings to date. For more detailed and accurate specifications, see Kiewit Marsh Landing Generating Station drawing number 2009-019-CM-013, 2009-019-CM-007, and 2009-019-PP-001.
2. Parcel boundary based on Contra Costa County Assessor's Map, Book 51, Page 3; 10-6-2010 (Block No. 031, Parcel 18). Parcel area = 26.84 acres.

N

0 130
FEET

Figure 2

Hazardous Waste Storage and Accumulation Areas
Marsh Landing Generating Station
GenOn Marsh Landing, LLC
3201-C Wilbur Avenue
Antioch, California

Appendix 1

Department of Toxic Substances Control
Meredith Williams, Ph.D.
Director
1001 "I" Street
P.O. Box 806
Sacramento, California 95812-0806

Jared Blumenfeld
Secretary for
Environmental Protection

Gavin Newsom
Governor

Facility Search Results

Selection Criteria:

Facility: MARSH LANDING
Search on: Physical Address
Status: Active and Inactive
Sort Direction: asc
Sorted By: EPA ID
Records Found: 2

EPA ID Number	Name	Address	City	Zip
CAL000359366	MARSH LANDING GENERATING STATION	3201 WILBUR AVE	ANTIOCH	94509
CAR000217273	MARSH LANDING GENERATING STATION	3201 WILBUR AVE # C	ANTIOCH	945098546

The Department of Toxics Substances Control (DTSC) takes every precaution to ensure the accuracy of data in the Hazardous Waste Tracking System (HWTS). However, because of the large number of manifests handled, inaccuracies in the submitted data, limitations of the manifest system and the technical limitations of the database, DTSC cannot guarantee that the data accurately reflect what was actually transported or produced.

Report Generation Date: 01/03/2020

ANNA M. ROTH, RN, MS, MPH
HEALTH SERVICES DIRECTOR
MATTHEW S. KAUFMANN
DEPUTY HEALTH DIRECTOR
NICOLE A. HEATH
ACTING DIRECTOR OF HAZARDOUS MATERIALS PROGRAMS

CONTRA COSTA HEALTH SERVICES

CONTRA COSTA HAZARDOUS MATERIALS PROGRAMS
4585 Pacheco Boulevard, Suite 100
Martinez, California 94553
Ph (925) 655-3200
Fax (925) 646-2073
cchazmat@cchealth.org
www.cchealth.org/hazmat/

2023
HAZARDOUS WASTE GENERATOR (HWG) REPORTING FORM

FACILITY NAME: MARSH LANDING GENERATING STATION
3201 WILBUR AVE UNIT C
ANTIOCH, CA 94509

CUPA FACILITY ID: 774528
CERS ID: 10480876
EPA ID: CAR000217273

Please review the following to determine if submittal of the HWG Reporting form is necessary.

- Determine the amount of hazardous waste your business disposed of during the calendar year 2022. See "*Calculating Hazardous Waste*" on the reverse for tips on calculating hazardous waste disposal quantities.
- According to CCHSHMP records your business's annual hazardous waste disposal is:

25 - <50 TONS/YEAR

- If your hazardous waste disposal calculations fall within the listed range, you do not need to submit the HWG Reporting Form. Calculations will be verified during your next inspection. Discrepancies confirmed during an inspection will result in a fee adjustment.
- If your hazardous waste disposal calculations do not fall within the range shown above, you will need to submit the HWG Reporting Form. Calculations will be verified during your next inspection and discrepancies will result in a fee adjustment. The instructions and the form are on the reverse. Forms are due to CCHSHMP on or before March 1, 2023.

This request for information is separate than the California Environmental Reporting System (CERS) requirements. Completion of this form, or not having to complete this form, does not fulfill the CERS reporting requirement under Title 27 of the California Code of Regulations.

YOU MUST ALSO COMPLETE AN ONLINE CERS SUBMITTAL
http://cers.calepa.ca.gov/

For additional assistance, please call CCHSHMP at (925) 655-3200 to speak with a Hazardous Materials Specialist or email us at cchazmat@cchealth.org.

FACILITY NAME: MARSH LANDING GENERATING STATION
3201 WILBUR AVE UNIT C
ANTIOCH, CA 94509

CUPA FACILITY ID: 774528
CERS ID: 10480876
EPA ID: CAR000217273

Completing and Submitting the Hazardous Waste Generator Reporting Form

Calculating Hazardous Waste

Determine the amount of hazardous waste disposed of by your business by reviewing your business's hazardous waste manifests, consolidated manifests, and disposal receipts for calendar year 2022. Disposal includes any hazardous waste picked up by a licensed transporter or taken to a certified collection location. Hazardous waste is defined as any waste that is listed or meets the criteria of toxicity, corrosivity, ignitability, or reactivity as defined by the California Code of Regulations, Title 22, Chapter 11.
These guideline conversion factors may be used when calculating tonnage:

a) Number of gallons X 0.00417 tons / gallon = Number of tons
b) Number of cubic yards x 1.35 tons / cubic yard = Number of tons
c) Number of pounds / 2000 pounds = Number of tons

Completing the Reporting Form

1. If your calculation for the 2022 calendar year is outside your current disposal category you must complete this form.
2. Check the box that indicates the correct tonnage of hazardous waste disposed of during the 2022 calendar year.
3. Fill in signature, print name, date, phone number, and email address.

Submitting Options

CERS: Upload a pdf of the completed HWG Reporting Form to CERS under *Miscellaneous State-Required Documents* in the *Facility Information* submittal element. If there is a previously submitted Reporting Form, click on "Discard" to remove it before uploading the 2023 HWG Reporting Form. Type in "HWG Reporting Form" in the document title section and then click *Save & Finish*.
FAX: You may fax the completed HWG Reporting Form to (925) 646-2073.
EMAIL: You may email the completed HWG Reporting Form to cchazmat@cchealth.org
MAIL: Contra Costa Health Services Hazardous Materials Programs
4585 Pacheco Blvd., Suite 100, Martinez, CA 94553

Hazardous Waste Generator Reporting Form

Total Tonnage of Hazardous Waste Disposed Of During 2022

- ☐ Zero tons ≤ amount disposed < 1.3 tons
- ☒ 1.3 tons ≤ amount disposed < 5 tons
- ☐ 5 tons ≤ amount disposed < 12 tons
- ☐ 12 tons ≤ amount disposed < 25 tons
- ☐ 25 tons ≤ amount disposed < 50 tons
- ☐ 50 tons ≤ amount disposed < 250 tons
- ☐ 250 tons ≤ amount disposed < 500 tons
- ☐ 500 tons ≤ amount disposed < 1000 tons
- ☐ 1000 tons ≤ amount disposed < 2000 tons
- ☐ Greater than 2000 tons

I hereby certify that this form, including any accompanying statements, is true and correct to the best of my knowledge and belief.

Signature: [signature] **Date:** 1/26/2023

Print Name: Joe Moura **Phone:** 925-324-3512

Email Address: Joe.Moura@nrg.com

3.9 BIO-8

The California Wildlife Foundation Annual Report for 2022 is included.

file

CALIFORNIA WILDLIFE FOUNDATION
201 University Avenue
Berth #H43
Berkeley, CA 94710

WWW.CALIFORNIAWILDLIFEFOUNDATION.ORG
tel 510.208.4436
fax 510.268.9948

Duplicate
to David Frandsen
March 23, 2023

February 9, 2023

Mr. David Frandsen, Sr. Engineer
Clearway Energy Operating, LLC.
P. O. Box 1687
Antioch, CA 94509

Re: Antioch Dunes Marsh Lading Generating Stations Fund

Dear Mr. Frandsen:

Thank you and Clearway Energy Operating, LLC, for your support of the Antioch Dunes Fund.

Attached is the USFWS' report for 2022 by Louis Terrazas, Wildlife Refuge Specialist, US Fish & Wildlife Service, Antioch Dunes, Marin Islands, San Pablo Bay NWRs.

Your ongoing support of the important work on behalf of the Antioch Dunes National Wildlife Reserve is acknowledged and very much appreciated.

Sincerely,

Janet Cobb

Janet S. Cobb, Executive Officer

Bradley Brownlou, Holland & Knight LLP

Attachment

Projects and Accomplishments at Antioch Dunes NWR
Funded by Clearway Energy Operating, LLC.
January 2022 through December 2022 Summary
Report and 2023 Projects Proposal

During the 2022 year the Antioch Dunes National Wildlife Refuge staff worked to return to a more regular working structure. The ongoing COVID-19 pandemic allowed for more work from our home offices as opposed to our refuge office located in Petaluma, Ca. The waning of COVID infections allowed for the lifting of work restrictions in the field. However, we continued to restrict the public events and volunteer work at Antioch Dunes NWR. Contractors on the other hand were able to conduct work on the refuge without restrictions. In 2023 we hope to return to a more normal work pattern at the office and in the field, which will hopefully include more public working events, volunteers, local schools, clubs and groups.

In 2022 Clearway Energy Operating, LLC generously donated $23,707.00 to the Antioch Dunes National Wildlife Refuge on May 12th of 2022 (Table 2). This report will summarize the 2022 transactions and activities supported by the funds generously donated by Clearway Energy Operating, LLC. combined with a balance of funds previously donated. The donated funds are used by the Antioch Dunes National Wildlife Refuge in an effort to conserve the endangered Antioch Dunes evening primrose (*Oenothera deltoides howellii*), Contra Costa wallflower (*Erysimum capitatum angustatum*) depicted in Photos 1 & 2, and the Lange's metalmark butterfly (*Apodemia mormo langei*) and their habitat within the Antioch Dunes NWR.

The Antioch Dunes NWR works with the California Wildlife Foundation (CWF) in order to complete multiple priority conservation tasks. The CWF is a nonprofit organization that administers restoration of land and water projects and works with it's partners to maintain habitat for the benefit of people, plants and wildlife. The funds donated by Clearway Energy Operating LLC., have been extremely beneficial to the CWF and Antioch Dunes NWR, and have helped us both to complete our collective missions. The mission of the United States Fish & Wildlife Service (USFWS) is "Working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people". The vision statement for the Antioch Dunes NWR is "Endangered species management will be incorporated into the overall management actions that mimic natural processes, the Refuge will support self-sustaining populations of Lange's metalmark butterflies, Contra Costa wallflowers, and Antioch Dunes evening primroses, and other native species". All donated funds are used for and in support of non-native invasive plant control and native and endangered plant restoration at the Antioch Dunes NWR, including the maintenance and purchases of equipment needed to complete those tasks.

On May 12th of 2022 the Clearway Energy Operating, LLC. donation of $23,707.00 was combined with a remaining $72,138.93 held by the California Wildlife Foundation from previous donations. At that time the combined total equaled $95,845.93 for the

total budget for 2022 (Table 2). During the 2022 year $9,169.27 was used for the rental of debris boxes from Allied Waste Disposal (Republic Services). $2,733 was used to hire Vegetation Solutions, INC. to control non-native invasive plants on and around the new sand dune restoration site on the Stamm Unit (Table 1). $1,542.88 was used to pay contractor Pape Machinery to repair the damaged refuge John Deere JD2320 tractor (Photo 4). In December of 2022, $4,260.16 was used to purchase a dozer blade attachment for the refuge Bobcat skid-steer (Bobcat in Photo 5). At the end of 2022 the remaining $80,531.54 were held by the CWF for future projects and activities at the Antioch Dunes NWR in the 2023 year. All funds were used in support of restoration and conservation purposes on multiple projects ongoing at the Antioch Dunes NWR (Tables 1 & 2). The following report will describe 2022 work completed, how funds were used for contracting Invasive plant control, the rental of Allied Waste debris boxes, the repair of the refuge tractor mower, and the purchase of a dozer blade attachment for the refuge Bobcat skid-steer. Plans for 2023 project proposals will also be described (Table 3).

Invasive Plant Control Contractors:

In 2022 Antioch Dunes NWR used Clearway Energy Operating, LLC. donated funds to hire the local small business Vegetation Solutions, INC to conduct non-native invasive plant control on and around the sand dune restoration sites on the Stamm Unit. Vegetation Solutions, INC. were able control non-native invasive plants on and around the restoration sites on the Stamm Unit Management Areas 1 & 2 (Map 1). Although we were not able to get help from volunteers and students on the Refuge as we normally do, refuge staff relied more on heavy equipment and contractors in 2022. The management of the sand dune restoration site in Management Areas 1 and 2 of the Stamm Unit is a priority conservation strategy for the Antioch Dunes NWR. Since 2013 we have worked with the Port of Stockton and the Army Corp of Engineers and their contractors to acquire 68,300 cubic yards of dredged sand material onto Management Area 1, and 33,346 cubic yards of sand material in Management Area 2 of the Stamm Unit (Photo 4). The combined total of dredged sand material accumulated for sand dune restoration is now 101,687 cubic yards (Photo 3). Clearway Energy Operating funds have helped to control non-native invasive plants on and around these restored dunes and other portions of the refuge.

In 2023 the refuge will again seek help from Vegetation Solutions, INC., and/or other local contractors to help control non-native invasive plants on both sand dune restoration sites. The Antioch Dunes NWR staff is limited and in need of support from contractors in order to complete all of the priority conservation strategies outlined in our Natural Resource Management Plan. Clearway Energy Operating, LLC. funds help to support and complete some of the priority conservation strategies on the refuge, such as invasive plant management and sand dune restoration management. Controlling non-native invasive plants around the restoration sites helps to keep them from spreading onto the newly acquired dredged sand material.

Refuge Equipment Repair and Purchases:

Refuge heavy equipment tractors and skid-steer are a very valuable management tools at Antioch Dunes NWR. We use the refuge John Deere JD2320 tractor (in Photo 4) to mow grasses and other non-native invasive plants throughout the refuge. We use the refuge Bobcat 753 skid-steer (in Photo 5) to remove vegetation and place them into the rented Allied Waste dumpsters, to scrape grasses and other vegetation for habitat restoration plantings and seeding, and for clearing firebreaks and access roads. Many hours of work over the years at the Antioch Dunes NWR has taken its toll on refuge equipment. In 2022 we had to make some repairs on the JD2320 tractor in order to get it back in the field. We hired Pape Machinery to make the repairs for $1,542.88.

Near the end of 2022 we purchased a dozer blade attachment from McLaren Industries, Inc. for $4,260.16 in anticipation of the coming invasive plant control work in Spring of 2023. The new 4-way dozer blade will make it much easier for refuge staff to clear the access roads and firebreaks, to move around dredged sand material, and to prepare planting and seeding sites for habitat restoration on the refuge. Both the tractor mower and skid-steer are essential management tools at Antioch Dunes NWR.

Debris Box Rentals:

The Antioch Dunes NWR and the endangered species that it was established to protect are highly threatened by non-native invasive plants and wildfires. Non-native invasive plants directly threaten the endangered plant species and the host plant (Antioch Dunes buckwheat) for the endangered Lange's metalmark butterfly on the refuge by out competing them for water, space and sunlight. Some invasive plants, such as winter vetch (*Vacia villosa*) will climb on and smother the endangered plants and host plants, if not controlled annually. Additionally, the invasive plant vegetation dry up in the heat of the summer and act as fuel for wildfires. In the past the Antioch Dunes NWR has had relatively large wildfires that have directly impacted the populations of the endangered Contra Costa wallflower, Antioch Dunes evening primrose, the Lange's metalmark butterfly, and other common native plant and animal species. Thus, the rental and use of dumpsters to remove non-native invasive plants and dead and dried plant material is a valuable management resource for the Antioch Dunes NWR.

Dumpsters are rented from Allied Waste Disposal (Republic Services) to remove non-native invasive plant material and dried vegetation from the Antioch Dunes NWR. The dumpsters rented from Allied Waste cost $597.73 per month or per dump and vary in size from 20 to 40 cubic yards. Extra charges are incurred when the boxes exceed 1 ton. The dumpsters are filled with mostly non-native invasive plant material by refuge staff, biological technicians, interns, hired contractors, and volunteers. Non-native invasive plants, such as winter vetch, yellow star-thistle (*Centaurea solstitialis*), Russian thistle (*Salsola tragus*), and tree-of-Heaven (*Ailanthus altissima*) are pulled or cut and deposited into the dumpsters. After the dumpsters are filled, they are hauled away by Allied Waste trucks.

In 2022 $9,169.27 or 51.79% of the total expenses were spent on the rental of debris boxes from Allied Waste (Table 1 & 2). The rental and use of the debris boxes from Allied Waste remains a valuable resource needed for the control and management of non-native invasive plants on the refuge. Non-native invasive plants are controlled on and around the new sand

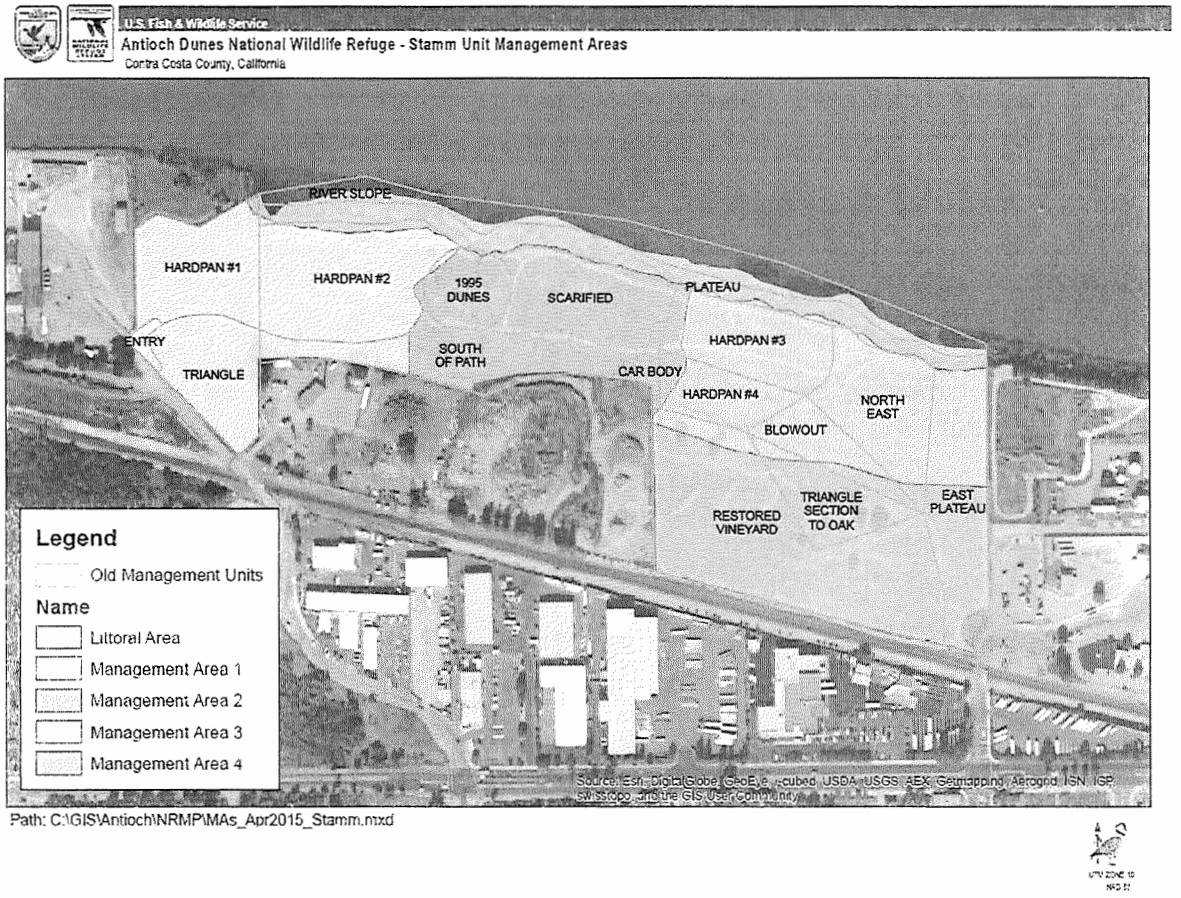
dunes restoration site on the Stamm Unit (Map1), around host plants for the endangered Lange's metalmark butterfly, and around the endangered Contra Costa wallflower and the Antioch Dunes evening primrose plants on the Sardis Unit (Map 2). Vegetation is also cleared out and removed in order to make more room for native plant restoration plantings and or seeding conducted by refuge staff and volunteers. The rental of these dumpsters supports multiple priority conservation strategies for the Antioch Dunes NWR, including sand dune restoration, invasive plant management, native plant restoration, and wildfire prevention.

Proposed Projects for the 2023:

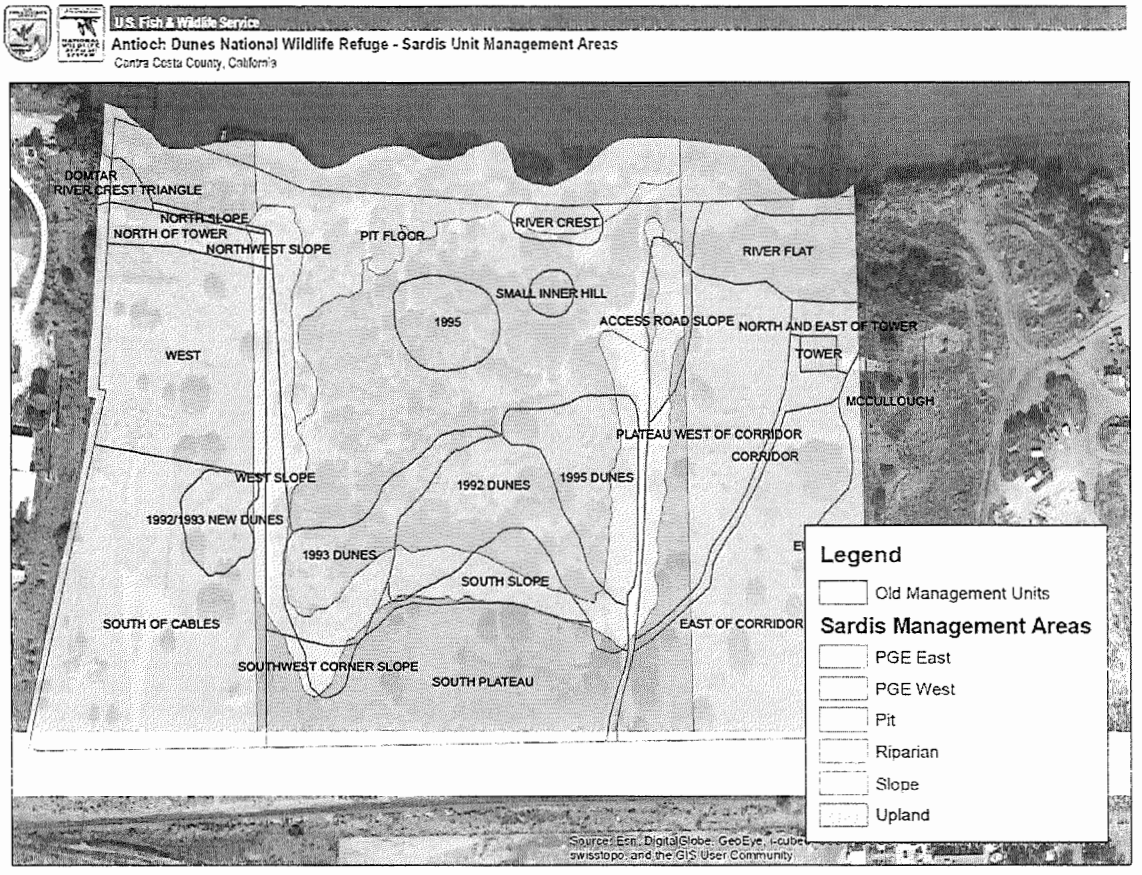
The following is a general proposal for the remaining funds donated by Clearway Energy Operating, LLC., including funds saved from previous donations. The remaining funds added up to $80,531.54 at the end of December 2022. Table 3 displays the proposed projects or tasks and the estimated expenses for the 2023 calendar year. Proposed projects include $10,000 used to hire a biological technician through HR Options for technical support for the Refuge Biologist and for resource management support. Approximately $10,000.00 will be used to rent large debris boxes from Allied Waste for non-native invasive plant and dead vegetation disposal and for the removal of cement debris. Approximately $35,000.00 will be used to hire local contractors to help control non-native invasive plants throughout the Antioch Dunes NWR. Non-native invasive plant control work will include manual labor, mechanical control and herbicide applications. In 2023 we plan on using approximately $5,000 to purchase heavy equipment attachments for a Bobcat skid-steer (Photo 5). We plan on purchasing a new flail mower attachment for the Bobcat skid-steer to help mow non-native invasive plants. Total estimated expenses in 2023 is approximately $60,000.00. We plan on holding the remaining $20,531.54 for the 2024 project year. Some of these remaining funds may be used for field supplies and equipment for biological technicians, volunteers and staff. Actual cost will vary throughout the 2023 year.

On behalf of the Antioch Dunes National Wildlife Refuge staff, we would like to thank our partners at Clearway Energy Operating, LLC. and the California Wildlife Foundation for their continued support and partnership. We would especially like to thank Clearway Energy Operating, LLC., for their generous donations to the Antioch Dunes National Wildlife Refuge. These donations to the Antioch Dunes NWR continue to help conserve the critically endangered Antioch Dunes evening primrose, Contra Costa wallflower, and Lange's metalmark butterfly and their habitats, as well as numerous other native plant and animal wildlife that use the Antioch Dunes NWR.

Donations from Clearway Energy Operating, LLC. are not only a tremendous benefit to the Lange's metalmark butterfly, Contra Costa wallflower, the Antioch Dunes evening primrose, and the Antioch Dunes NWR; but are also indirectly beneficial for environmental education programs, recreational purposes and for the general wellbeing of the local community. Thank you very much for your continued support at the Antioch Dunes National Wildlife Refuge.



Map 1. Antioch Dunes NWR Stamm Unit Map. New Sand Dunes located on western end of Stamm Unit in MA1 & MA2



Map 2. Antioch Dunes NWR Sardis Unit.

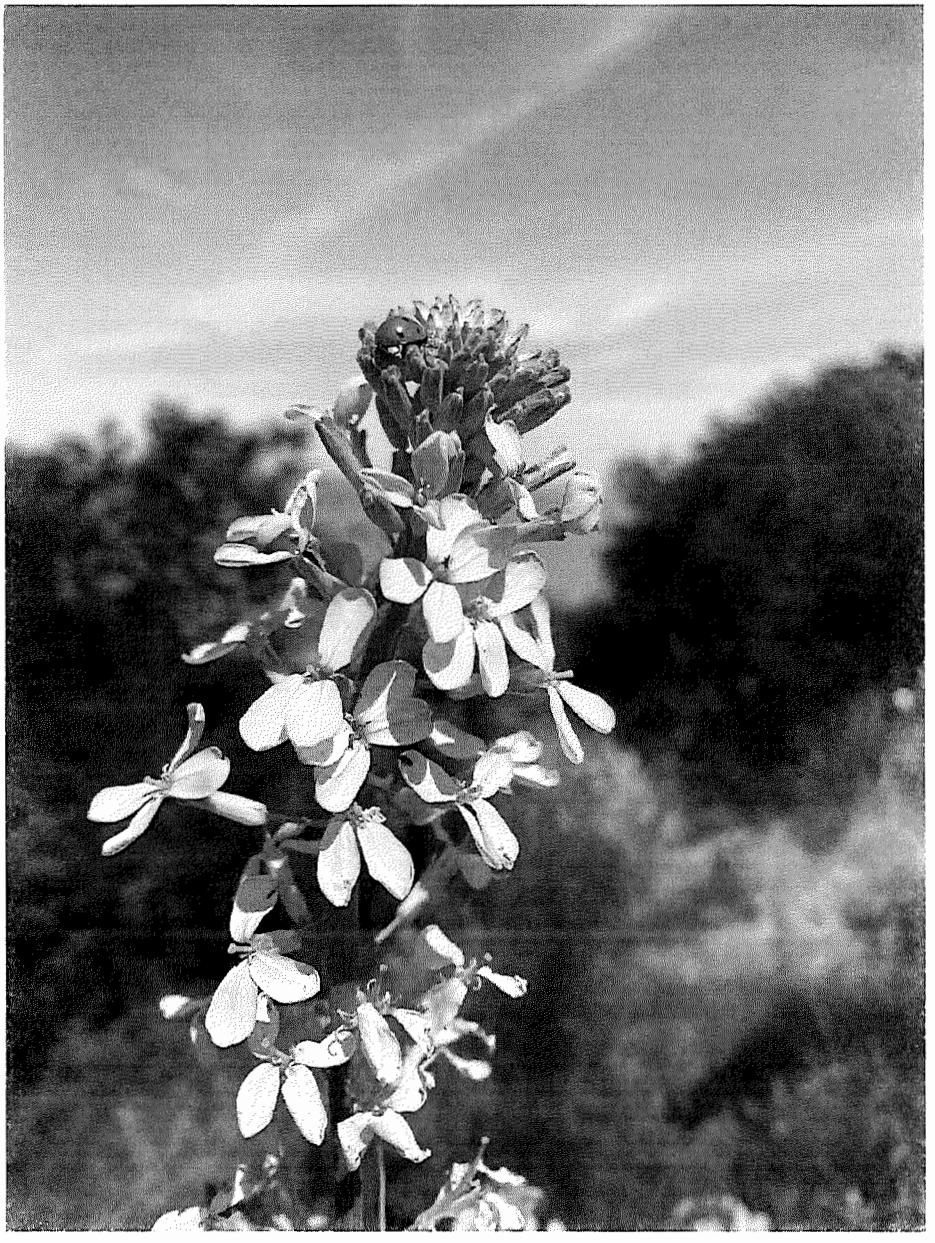


Photo 1. Endangered Contra Costa wallflower (Erysimum capitatum angustatum)

Photo 2. Antioch Dunes refuge staff counting the Contra Costa wallflower

Photo 3. Pipe pumping dredged sand material from the San Juaquin River into Management Area 2 of the Stamm Unit.

Photo 4. Refuge tractor stuck in the sand at Antioch Dunes NWR

Photo 5. Refuge Bobcat 753 skid-steer at Antioch Dunes NWR with bucket attachment

Table 1. Jan 2022 - Dec 2022 Expended Funds Summary

Project / Partner	$ Cost	% of Total
Allied Waste Dumpsters	$9,169.27	51.79%
Dozer Blade Attachment	$4,260.16	24.06%
Tractor Repair	$1,542.88	8.71%
Invasive Plant Control	$2,733.00	15.44%
Total Funds Expended	**$17,705.31**	100%

Table 2. Jan 2022 – Dec 2022 Funds Activity

Date	Action	Name	Memo	Transaction	Balance
	Balance	**2022 Balance**	**Balance Remaining from 2022**		**$74,529.85**
Jan 13 2022	Charge	Allied Waste	Dumpster rental for invasive plants	$597.73	$73,932.12
Feb 10 2022	Charge	Allied Waste	Dumpster rental for invasive plants	$597.73	$73,334.39
Mar 10 2022	Charge	Allied Waste	Dumpster rental for invasive plants	$597.73	$72,736.66
Apr 14 2022	Charge	Allied Waste	Dumpster rental for invasive plants	$597.73	$72,138.93
May 12 2022	**Deposit**	**Clearway Energy Operating, LLC**	**Clearway Energy Operating, LLC. 2022 Donation**	**$23,707.00**	$95,845.93
May 12 2022	Charge	Allied Waste	Dumpster rental for invasive plants	$597.73	$95,248.20
May 24 2022	Charge	Vegetation Solutions, INC.	Invasive plant control / herbicide application	$2,733.00	$92,515.20
June 21 2022	Charge	Allied Waste	Dumpster rental for invasive plants	$597.73	$91,917.47
July 14 2022	Charge	Allied Waste	Dumpster rental for invasive plants	$597.73	$91,319.74
Aug 04 2022	Charge	Pape Machinery	Tractor Repair	$1,542.88	$89,776.86
Aug 11 2022	Charge	Allied Waste	Dumpster rental for invasive plants	$597.73	$89,179.13
Sept 08 2022	Charge	Allied Waste	Dumpster rental for invasive plants	$535.49	$88,643.64
Oct 13 2022	Charge	Allied Waste	Dumpster rental for invasive plants	1,515.11	$87,128.53
Nov 10 2022	Charge	Allied Waste	Dumpster rental for invasive plants	$1,053.61	$86,074.92
Dec 15 2022	Charge	Allied Waste	Dumpster rental for invasive plants	$1,283.22	$84,791.70
Dec 30 2022	Charge	McLaren Industries, Inc.	Purchase of dozer blade attachment	$4,260.16	$80,531.54
			Total Expended Jan 2022 - Dec 2022	$17,705.31	
			Total Remaining as of Dec 31, 2023		**$80,531.54**

Table 3. Clearway Energy Operating, LLC. 2023 Funds Proposal.

Task/Name	Est. Cost	Task Description
Starting Balance for 2022	**$80,531.54**	Balance remaining from 2022
Allied Waste / Republic Service	$10,000.00	Dumpster rentals for vegetation and cement removal
HR Options	$10,000.00	Biological Technician hired by CWF by HR Options
Contractors	$35,000.00	Invasive Plant Control / Herbicide Spraying
Skid-Steer Attachments	$5,000	Purchase of flail mower attachment for Skid-Steer
Total Proposed Expenditures	$60,000.00	Total proposed for 2023
Proposed Remaining Balance	$20,531.54	Remaining balance to be held by the CWF

4.0 Approved Changes to Conditions of Certification – Cumulative List

Condition of Certification	Date Change was Approved
PAL-3	September 26, 2010
AQ-SC7	May 15, 2012
BIO-8	May 15, 2012
BIO-8 Verification modified	October 3, 2016
AQ-41 Through AQ-52 (Added with BESS)	February 2019
Application Modifications	Date Change was Approved
Emergency Diesel Generator	December 3, 2014
Fire Pump System(including diesel pump)	December 3, 2014
Modular Building – Simulator/Library	March 13, 2015
Paving Project	May 9, 2017
Black Start – Battery Energy Storage System	March 12, 2019

5.0 Submittal Deadlines Missed

1. No submittal deadlines were missed during 2022.

6.0 Other Governmental Agency Filings and Permits Issued

Permit Required	Date of Approval Given
1. Annual Permit to Operate by BAAQMD, Plant # 19169	9/1/22 Actual
2. Clean Air Act Title IV Permit by BAAQMD (Acid Rain Permit)	9/9/2019 Actual
3. Clean Air Act Title V Permit by BAAQMD (to be obtained within 12 months after commencing operation)	9/9/2019 Actual
4. BAAQMD issued authority to construct black start equipment on Units 3 and 4 (Extended)	4/29/21
5. Application filed with the BAAQMD to change facility name filed on 11/8/18.	12/1/2019
6. Application filed with BAAQMD to renew Title V and Acid Rain permits. Renewal of Title V included a request to change permit conditions: 27, 28, 32	3/26/2020 & 4/22/2020, respectively.
7. Additional Governmental Approvals Identified in the CEC Decision or otherwise required in the ordinary course of business, including the following:	
a. Other CBO approvals to be obtained as specified in the CEC Decision	Ongoing
b. Notice of Termination, General National Pollutant Discharge Elimination System Permit for Discharges of Storm Water Associated with Construction Activity, and California Statewide General Industrial Storm Water Permits (State Water Resources Control Board Order No. 97-03-DWQ)	7/1/18 Actual
c. Certification to Store Hazardous Materials (Hazardous Materials Business Plan) by Contra Costa County Health Services Department (to be obtained at least 30 days prior to receiving hazardous materials on site)	5/2/2013 Actual
d. Compliance with certification, verification and other requirements specified in California Public Utilities Commission General Order 167 (to be provided when the MLGS Project is interconnected and capable of operating in parallel with the electric system)	2/2/2015 Actual
e. DDSD Industrial Wastewater Discharge Permit	5/25/2019 Actual
f. Emergency Diesel Generator – Initial Permit to Operate. Here in incorporated in the Facility Wide Permit to Operate, #1 above.	11/4/2015 Actual

g. Diesel Fire Pump – Initial Permit to Operate. Here in incorporated in the Facility Wide Permit to Operate, #1 above.	3/20/2019 Actual
h. Construction General Permit for Storm Water (NPDES)	3/12/21 Actual

Permit Required	**Date of Approval Given**
8. Department of Transportation Hazardous Materials Certificate of Registration Effective: 07-01-2021, Expires: 06-30-2022	7/01/2021 Actual
9. San Joaquin Regional Water Quality Control Board – Request to rescind the Industrial General Permit for Storm Water. The board agreed.	5/03/2017 Actual
10. CUPA Hazardous Material Storage Certificate for 2021/2022	7/01/2021 Actual
11. Department of Transportation Hazardous Materials Certificate of Registration Effective: 07-01-2022, Expires: 06-30-2023	7/01/2022 Actual
12. CUPA Hazardous Material Storage Certificate for 2022/2023	7/01/2022 Actual

7.0 Project Compliance Activity Schedule for 2022

Compliance Activity	Schedule
Calibrate Met Station	Q2 & Q4
RATA and Emission Compliance Testing	Q4
Calibrate Water Flow Meters (3)	Q1
Calibrate Gas Flow Meters	Q1

8.0 Additions to the On-Site Compliance File

The following items were added to the compliance file since the April 2013 Monthly Report:

MLGS Sub #	Conditions Submitted	Date of Submission
161	Soil & Water-4	April 24, 2013
162	Soil & Water-4 and Soil & Water-5	May 1, 2013
163	Monthly Compliance Report No. 32 for April 2013	May 14, 2013
164	AQ-10, AQ-30, and AQ-32	June 25, 2013
165	HAZ-1	June 25, 2013
166	WASTE-5	June 26, 2013
167	NOISE-4	July 8, 2013

MLGS Sub #	Conditions Submitted	Date of Submission
168	NOISE-5	July 8, 2013
169	TSLN-3	July 12, 2013
170	Quarterly Compliance Report for Q2-2013	July 30, 2013
171	WASTE-5	August 5, 2013
172	BIO-6	August 14, 2013
173	CUL-4a	August 22, 2013
174	PAL-7	August 22, 2013
175	CIV-4	October 23, 2013
	Quarterly Compliance Report for Q3-2013	October 25, 2013
	Quarterly Compliance Report for Q4-2013	January 29, 2014
176	TRANS-2b	November 15, 2013

	Conditions Submitted	Date of Submission
	Quarterly Compliance Report for Q1-2014 Addendum – Air Quality Reports	April 30, 2014 July 2, 2014
	Quarterly Compliance Report for Q2-2014	July 30, 2014
	Quarterly Compliance Report for Q3-2014	November 14, 2014
	Quarterly Compliance Report for Q4-2014 partial Full Report	January 30, 2015 February 2, 2015
	Quarterly Compliance Report for Q1-2015 partial Full Report	April 30, 2015 June 9, 2015
	Quarterly Compliance Report for Q2-2015	July 30, 2015
	Quarterly Compliance Report for Q3-2015	October 29, 2015
	Quarterly Compliance Report for Q4-2015	January 29, 2016
	Quarterly Compliance Report for Q1-2016	April 30, 2016
	Quarterly Compliance Report for Q2-2016	July 30, 2016
	Quarterly Compliance Report for Q3-2016	October 30, 2016

	Conditions Submitted	Date of Submission
	Quarterly Compliance Report for Q4-2016	January 30, 2017
	Quarterly Compliance Report for Q1-2017	April 28, 2017
	Quarterly Compliance Report for Q2-2017	July 30, 2017
	Quarterly Compliance Report for Q3-2017	October 30, 2017
	Quarterly Compliance Report for Q4-2017	January 30, 2018 (Partial) February 9, 2018 (Final)
	Quarterly Compliance Report for Q1-2018	April 30, 2018
	Quarterly Compliance Report for Q2-2018	July 30, 2018
	Quarterly Compliance Report for Q3-2018	October 30, 2018
	Quarterly Compliance Report for Q4-2018	January 28, 2019* corrected
	Quarterly Compliance Report for Q1-2019	April 30, 2019
	Quarterly Compliance Report for Q2-2019	July 29, 2019

	Conditions Submitted	Date of Submission
	Quarterly Compliance Report for Q3-2019	October 30, 2019
	Quarterly Compliance Report for Q4-2019	January 30, 2020
	Quarterly Compliance Report for Q1-2020	April 22, 2020
	Quarterly Compliance Report for Q2-2020	July 29, 2020
	Quarterly Compliance Report for Q3-2020	October 29, 2020
	Quarterly Compliance Report for Q4-2020	January 28, 2021
	Quarterly Compliance Report for Q1-2021	April 27, 2021
	Quarterly Compliance Report for Q2-2021	July 21, 2021
	Quarterly Compliance Report for Q3-2021	October 28, 2021
	Quarterly Compliance Report for Q4-2021	January 31, 2022
	Quarterly Compliance Report for Q1-2022	April 2, 2022

	Quarterly Compliance Report for Q2-2022	July 22, 2022
	Quarterly Compliance Report for Q3-2022	October 28, 2022
	Quarterly Compliance Report for Q4-2022	January 27, 2023

9.0 Review of Unplanned Facility Closure Plan

The on-site contingency plan for unplanned facility closure has been reviewed and updated. Plan included.

Marsh Landing LLC

Facility Closure Plan

Marsh Landing Generating Station
Antioch, California

Revision 8
January 2023

Table of Contents

PLANT MANAGER REVIEW

The Marsh Landing Facility Closure Plan has been reviewed by the Plant Manager.

Signature	
Name	Joseph Moura
Title	Plant Manager
Date	1/30/2023

PLAN REVIEW AND CHANGE LOG

Revision No.	Revision Date	Completed by	Description	Revised Pages
0	4/2013	C. Hicklin	Original Plan	NA
1	1/2016	D. Frandsen	Reviewed and revised the Plan as follows: • Added cover page and Plan Review and Change Log. • Revised text to indicate present tense instead of future tense.	All
2	1/2017	D. Frandsen	Reviewed and revised the Plan as follows: • Added Facility Manager Review, Table of Contents and Introduction. • Revised document title to be consistent with the content. • Revised project description. • Separated the elements listed in the Unplanned Temporary Closure Section for the SPCC Plan and HMBP. • Added excerpts from General Conditions COMPLIANCE 11 through 13 contained in the Commission Decision 08-AFC-03 for MLGS.	All
3	9/2018	D. Frandsen	Administrative – • Update Site Manager information. • Removed sodium hydroxide from the chemicals listed onsite.	Throughout
4	1/2019	D. Frandsen	Administrative – • Updated Plant Manager information. • Updated Water Treatment tank reserved capacity.	Throughout
5	1/2020	D. Frandsen	Reviewed and revised the Plan as follows: • Added RO Permeate Tank size information	5
6	2/2021	D. Frandsen	Reviewed and revised the Plan as follows: • Added breif discussion of black start capabilities to be provided in 2021 in the Overview. • Added breif discussions regarding the emergency generator and fire pump house in the Equipment and Systems Description. • Changed the name of the Plan to be consistent with the CEC Compliance Conditions.	4 & 5

Revision No.	Revision Date	Completed by	Description	Revised Pages
7	2/2022	D. Frandsen	Reviewed and revised the Plan as follows: • Revised description of the Battery Energy Storage System (BESS) project in the Overview. • Added breif discussion of the BESS project in the Equipment and Systems Description.	5 & 6
8	1/2023	D. Frandsen	Reviewed and revised the Plan as follows: • Added a note regarding the current status of the BESS project in the Project Description Overview. • Updated years of planned operational life remaining in the Facility Closure.	5 & 7

Marsh Landing Generating Station

INTRODUCTION

At some point in the future, the Marsh Landing Generating Station will cease operation and close down. At that time, it will be necessary to ensure that the closure occurs in such a way that public health and safety and the environment are protected from adverse impacts. The Marsh Landing Facility Closure Plan provides guidance for decommissioning activities and facility closure plan requirements as required by General Conditions COMPLIANCE 11 through 13 issued by the California Energy Commission (CEC) in Commission Decision 08-AFC-03 for MLGS.

I PROJECT DESCRIPTION

Overview

Marsh Landing Generating Station (MLGS) is located at 3201C Wilbur Avenue, Antioch, California, adjacent to the Contra Costa Generating Station (CCGS), a retired steam electric generating plant. MLGS was substantially completed in April 2013 with commercial operations commencing May 1, 2013 and is a nominal 760-MW simple cycle combustion turbine power plant designed to operate on natural gas fuel. The plant utilizes four Siemens Energy, Inc. SGT6-5000F4 combustion turbine-generators (CTGs). The site comprises an area that is a brownfield site measuring approximately 27 acres.

The MLGS is designed to provide peaking power and is expected to operate at less than 10 percent annual capacity factor and a maximum 20 percent annual capacity factor. The MLGS is ideally suited to serve the needs of California's electric system as it increasingly relies on intermittent renewable resources such as solar and wind facilities. The four simple cycle turbines are capable of fast-start operation (within about 11 minutes from cold status), and are designed to be started, ramped up and down, and shut down on an intra-day basis as needed to meet the needs of the system. In 2021 equipment was installed to allow Units 3 & 4 to become black start capable. Currently the equipment is still under commissioning.

The CEC has regulatory jurisdiction over power plants located in California rated 50 MW or above and monitors all construction, operations, and decommissioning phases. The CEC approved this project's Application for Certification on August 25, 2010.

Equipment and Systems Description

Siemens provided the CTGs and auxiliaries, generator step-up transformers (GSUs), fuel gas compressors, fuel gas conditioning equipment and start-up support. Each unit includes one CTG with dry ultra-low nitrogen oxide (NOx) combustors and inlet air evaporative coolers. In the simple cycle arrangement, fuel is fired in the combustion turbines that utilize the Brayton power cycle in which hot combustion gases are expanded through the combustion turbines, which then drives an electric generator.

Kiewit Power Constructors Co. was the Engineering, Procurement and Construction (EPC) contractor for the project. Kiewit provided all facilities and equipment not provided by Siemens, including buildings, auxiliary transformers, and oxidation catalyst and selective catalytic reduction (SCR) systems for air emissions control. Kiewit was responsible for installation and commissioning of all equipment, including the turbines. Buildings and structures include an administration/control building, a water treatment building, a warehouse building, a medium voltage electrical building, electrical enclosures in the switchyard and water treatment areas, continuous emissions monitoring system enclosures, and a fuel gas compressor enclosure.

An emergency generator capable of 500 KW was added to the site in 2014. The generator can provide emergency power to the CTGs lubricating oil pumping systems in the event the facility loses power. This will allow for the safe shutdown of the any CTGs that may have been operating at the time.

In 2018 a fire pump building was added that contains both a diesel engine and electric motor driven fire pump which allows the fire system to be independent of outside resources. Each fire pump is capable of 1,500 gallons per minute at a pressure of 110 psi.

In 2021 equipment was installed to allow Units 3 & 4 to become black start capable. Equipment includes transformers, inverters, and Fluence Gen6 Cubes containing lithium-ion battery systems and is known as the Battery Energy Storage System (BESS). Fluence Gen6 Cubes are electrical enclosures which contain battery racks, lithium-ion battery modules, solid aerosol fire suppression systems (Stat-X potassium based aerosol) and deflagration panels on the roofs.

Water Treatment Systems

Process and potable water needs are supplied with water from the City of Antioch municipal supply. Raw water for process use is stored in a 600,000 gallon raw water storage tank. The top half (300,000 gallons) of the tank is utilized for process use while the bottom half (300,000 gallons plus) is reserved for firefighting capacity. Raw water is treated prior to use in the evaporative coolers and is stored in a 170,000 gallon RO Permeate tank. In addition, demineralized water for combustion turbine compressor water washes is provided on an as needed basis via a third-party agreement with a mobile treatment vendor. Demineralized water is stored in a 10,000 gallon storage tank.

Wastewater and Storm Water Systems

Wastewater from the evaporative cooler operations, floor drains and equipment area drains with the potential to be contaminated by oil are collected and passed through an oil-water separator and pumped to a 200,000 gallon wastewater storage tank. Water treatment area wastes are also pumped to the wastewater storage tank. Stored wastewater is later discharged, along with sanitary wastes, in accordance with the facility's industrial wastewater discharge permit issued by Delta Diablo.

In addition, the facility has a bioretention facility that detains and treats storm water. Storm water is detained and treated in the surface reservoir, filtered through plants and a biologically active soil mix, and then it infiltrates into the ground. The bioretention facility contains underdrains as a preventive measure against poor drainage. Underdrains are routed to an outlet that is double valved and connects to CCGS's discharge tunnel to the River. The valves are kept closed and discharges to the River will only occur if the infiltration is inadequate to keep appropriate freeboard in the reservoir.

Gas Supply

Kiewit supplied two natural gas fired dew point heaters, filtration, and regulation systems, including fuel gas coalescing filter/separators, in accordance with Siemens's fuel gas specification.

Natural gas is supplied by Pacific Gas & Electric Company (PG&E) pursuant to the Power Purchase & Sale Agreement (PPA). The project owner and PG&E entered into a Gas Interconnection and Transportation Agreement pursuant to which PG&E constructed a short interconnection from its Line 400, a backbone gas transmission line, to the CCGS site. Kiewit designed and constructed the gas line from the outlet flange of the gas meter set on the CCGS site to the project.

Electric Interconnection

The project owner connected with the electricity network owned by PG&E and operated by the California Independent System Operator (CAISO). Electricity delivery is made to the PG&E transmission system at PG&E's Contra Costa 230 kV switchyard. The switchyard is adjacent to the MLGS site. The project

owner, PG&E and CAISO executed a Large Generator Interconnection Agreement (LGIA) under the CAISO LGIP in February 2011.

Auxiliary/Station Service Power

Power for the project's auxiliary loads is provided by two station auxiliary transformers, each supplied from the project switchyard. This electrical arrangement enables the project's load to be served directly from the transmission system when the turbines are not in service.

II FACILITY CLOSURE

The MLGS has a planned operational life of at least 30 years with more than 20 years remaining. During this time, there are at least three circumstances that a facility closure can take place: planned closure, unplanned temporary closure, and unplanned permanent closure. Planned closure is defined to occur when the facility is closed in an anticipated, orderly manner, at the end of its useful economic or mechanical life, or due to gradual obsolescence. Unplanned temporary closure is defined to occur when the facility is closed suddenly and/or unexpectedly, on a short-term basis, due to unforeseen circumstances such as a natural disaster or an emergency. Unplanned permanent closure is defined to occur if the owner closes the facility suddenly and/or unexpectedly, on a permanent basis. This includes unplanned closure where the owner implements the on-site contingency plan.

1) Planned Closure

Although the planned life of MLGS is 30 years, the actual life of the facility may vary for economic or other reasons. The removal of the facility from service (decommissioning) when it reaches the end of its useful life ranges from "mothballing," to the removal of all equipment and appurtenant facilities and subsequent restoration of the site. Future conditions that could affect decommissioning are largely unknown at this time. Such conditions would be presented to the CEC, Contra Costa County, and the City of Antioch when more information is available, and decommissioning is imminent.

To ensure that decommissioning will be completed in a manner that is environmentally sound, safe, and protects the public health and safety, the owner will submit a proposed facility closure plan to the CEC for review and approval at least 12 months prior to the commencement of closure activities. CEC staff proposed general conditions for decommissioning activities to be included in the facility closure plan and consist of the following:

- Identify any impacts and mitigation to address significant adverse impacts associated with proposed closure activities and to address facilities, equipment, or other project related remnants that will remain at the site.

- Identify a schedule of activities for closure of the power plant site, transmission line corridor, and all other appurtenant facilities constructed as part of the project.

- Identify any facilities or equipment intended to remain on site after closure, the reason, and any future use; and

- Address conformance of the plan with all applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of facility closure, and applicable conditions of certification.

Prior to submittal of the proposed facility closure plan, the owner will organize a meeting with the CEC for the purpose of discussing the specific contents of the plan.

2) Unplanned Temporary Closure

In the event of a temporary closure, security for the facility will be maintained in accordance with the Site Security Plan for the operational phase that was submitted to the CEC on August 22, 2012, under Condition HAZ-8. The CEC as well as other responsible agencies will be notified by telephone, fax, or email within 24 hours. If the CEC Compliance Project Manager determines that an unplanned temporary closure is likely to be permanent, or for a duration of more than 12 months, a closure plan consistent with the requirements for a planned closure shall be developed and submitted to the CEC Compliance Project Manager within 90 days of the CEC Compliance Project Manager's determination (or other period of time agreed to by the CEC Compliance Project Manager).

The Site Security Plan includes the following elements:

- Site security plan description
- Site security operating procedures that include fencing, lighting, security cameras, gates, parking and site access protocol for visitors and plant contractors
- A protocol for contacting law enforcement and the CEC Compliance Project Manager in the event of suspicious activity or emergency endangering the facility, its employees, its contractors, or the public
- IT security of the facility
- Evacuation procedures
- A protocol for hazardous materials vendors to prepare and implement security plans as per 49 CFR 172.802 and to ensure that all hazardous materials drivers are in compliance with personnel background security checks as per 49 CFR Part 1572, subparts A and B
- Measures to conduct site personnel background checks, including employee and routine onsite contractors, consistent with state and federal law regarding security and privacy

Depending on the nature and extent of the temporary closure, subsequent activities will depend on whether the temporary closure involves a release of hazardous materials. For a temporary closure in which there is the potential for a release of hazardous materials into the environment, procedures would be followed as per Condition HAZ-2:

- Risk Management Plan
- Spill Prevention Control and Countermeasure Plan
- Hazardous Material Business Plan

The Risk Management Plan includes the following elements:

- Site accidental release prevention program and chemical specific prevention steps
- Off-site consequence analysis for the worst-case scenario (WCS) accidental release of aqueous ammonia

- Emergency response actions that have been coordinated with local emergency planning and response agencies

The Spill Prevention Control and Countermeasure Plan includes the following:

- Inventory and location of oil-containing containers and equipment
- Spill prevention measures in place
- Emergency response

The Hazardous Material Business Plan includes the following:

- Business forms required by the certified unified program agency (CUPA)
- Inventory of all hazardous materials, including chemical composition, amount, and location
- Emergency response contingency plan

Once any hazardous material release is contained and cleaned up, temporary closure would proceed as described below for closure in which there is no release of hazardous materials.

A temporary closure not due to spill/release of hazardous materials can result from several unforeseen circumstances. This may include conditions such as significant disruptions to major utilities (natural gas, water, or electric transmission delivery systems), equipment failure or other factors that may force the units to be shut down temporarily. Natural disasters that can result in significant damage to the facility (earthquake, flood, or severe winter storms) may also result in temporary shutdown. For these types of temporary closure, additional security will be added as needed. Appropriate procedures will depend on the expected duration of the temporary closure and the impact involved. These procedures will be implemented in compliance with all laws, ordinances, regulations, and standards (LORS), appropriate protection of public health, safety, and the environment. All hazardous and nonhazardous wastes will be collected and disposed as described in the Operation Waste Management Plan.

Any temporary shutdown that does not involve facility damage would be kept "as is" and ready for restart when the unexpected cessation of operations event is rectified or ceases to restrict operations.

The facility will maintain an operational insurance coverage during the entire operations of the facility including during any unplanned temporary closure. The owner will perform normal maintenance activities during the entire operations of the facility.

3) Unplanned Permanent Closure

In the event of an unexpected permanent closure of the facility, the appropriate procedures during a temporary closure will be followed. The CEC as well as other responsible agencies will be notified by telephone, fax, or email within 24 hours. The project owner shall keep the CEC Compliance Project Manager informed of the status of all closure activities.

A facility closure plan, consistent with the requirements for a planned closure, will be developed and submitted to the CEC Compliance Project Manager within 90 days of the permanent closure or another

period of time agreed to by the CEC Compliance Project Manager. This plan will be implemented in compliance with LORS, appropriate protection of public health, safety, and the environment.

10.0 Complaints, Notices of Violations, Official Warnings, Citations, and Corrective Actions Taken

No Notices of Violations were issued to the facility during 2022.