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March 23, 2020

Mr. Keith Winstead
Compliance Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Subject: Annual Compliance Report – 2019
(COMPLIANCE-7)
Docket No. 08-AFC-03

Mr. Winstead,

The Marsh Landing Generating Station achieved Commercial Operation status on May 1, 2013. The legal name of the plant was recently changed and is now: Marsh Landing LLC. The plant is now owned by Clearway Energy Inc. and operated and maintained by NRG Energy Services.

Per the requirements of Revised Staff Assessment please find enclosed a copy of the Annual Compliance Report for the Commercial Operations period, January 1st – December 31st, 2019. This includes documents required for the following specific conditions: BIO-2, HAZ-1, HAZ-8, SOIL & WATER-5, SOIL & WATER-6, VIS-1, VIS-2, WASTE-7, and BIO-8.

This information is being submitted to comply with the requirements of the Energy Commission's Final Decision for this project.

Please let me know if you have any questions.
(925-779-6693 or Daniel.Leach@nrg.com)

Sincerely,

Daniel Leach

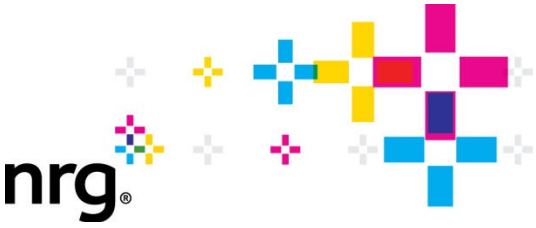
Daniel Leach
MLGS Compliance Manager

Enclosures:
1 Electronic copy on CD of ACR 2019

MARSH LANDING GENERATING STATION

ANNUAL COMPLIANCE REPORT

Report Period: January 1 – December 31, 2019



For Submittal to
California Energy Commission
Sacramento, California
08 – AFC – 3C

Annual Compliance Report

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Marsh Landing Generating Station

Annual Compliance Report

1.0 Current Compliance Matrix

Mirant Marsh Landing CEC Compliance Matrix
Based on CEC Final Decision 08 - AFC -03

Color Code Key:

Pre-Const	Construction	Commiss.	Operations	To CEC or Agency	Approved by CEC

Sort Code	Cond. #	Description of Project Owner's Responsibilities	Verification/Action/Submittal Required by Project Owner	Timeframe	Date Due to CEC CPM	Lead Party	Date sent to CEC, CBO or agency	CEC Log # and Status	Comments	Date Submitted to GenOn	Date sent to CEC, CBO or agency2	Approved
PC-1	AQ-SC1	Designate and retain an on-site AQCMM who shall be responsible for directing and documenting compliance with conditions AQ-SC3, AQ-SC4 and AQ-SC5 for the entire project site and linear facility construction. The on-site AQCMM may delegate responsibilities to one or more AQCMM delegates.	Submit to the CPM for approval the name, resume, qualifications, and contact information for the on-site AQCMM and all AQCMM delegates. The AQCMM and all delegates must be approved by the CPM before the start of ground disturbance.	60 days prior to the start of ground disturbance	1/24/11	GenOn	9/13/2010 Submittal 001	2010-1172	Approved 9/23/2010 Resume for Stephen Erickson submitted 8/15/2012 Submittal 116		9/13/2010 Resume for Stephen Erickson submitted 8/15/2012	Approved 9/23/2010 by email (On File) from CEC: J. Caswell
PC-1	AQ-SC2	Provide, for approval, an AQCMP that details the steps to be taken and the reporting requirements necessary to ensure compliance with conditions of certification AQ-SC3, AQ-SC4 and AQ-SC5.	Submit the AQCMP to the CPM for approval. The CPM will notify the project owner of any necessary modifications to the plan within 30 days from the date of receipt. The AQCMP must be approved by the CPM before the start of ground disturbance.	60 days prior to the start of any ground disturbance	1/24/11	GenOn	9/21/2010 Submittal 002	2010-1220	Approved 10/06/10		9/21/10	Approved 06/10/2010 by email (On File) from CEC: J. Caswell
CONS	AQ-SC3	The AQCMM shall submit documentation to the CPM in each monthly compliance report (MCR) that demonstrates compliance with mitigation measures a. through m. for purposes of preventing all fugitive dust plumes from leaving the project site and linear facility routes. Any deviation from the following mitigation measures shall require prior CPM.	The project owner shall include in the MCR (1) a summary of all actions taken to maintain compliance with this condition; (2) copies of any complaints filed with the air district in relation to project construction; and (3) any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.	Monthly	Include in MCR	GenOn					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
CONS	AQ-SC4	The AQCMM or an AQCMM delegate shall monitor all construction activities for visible dust plumes. Observations of visible dust plumes with the potential to be transported off the project site, 200 feet beyond the centerline of the construction of linear facilities, or within 100 feet upwind of any regularly occupied structures not owned by the project owner indicate that existing mitigation measures are not providing effective mitigation. The AQCMM or delegate shall then implement the following procedures for additional mitigation measures in the event that such visible dust plumes are observed.	The AQCMP shall include a section detailing how additional mitigation measures will be accomplished within the specified time limits.	Monthly	Include in MCR	GenOn					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
CONS	AQ-SC5	The AQCMM shall submit to the CPM, in the MCR, a construction mitigation report that demonstrates compliance with mitigation measures a. through f. for purposes of controlling diesel construction related emissions. Any deviation from the following mitigation measures shall require prior CPM notification and approval.	The project owner shall include in the MCR:(1) a summary of all actions taken to maintain compliance with this condition; (2) a list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that the equipment has been properly maintained; and (3) any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.	Monthly	Include in MCR	GenOn	Jan 19, 2012 Submittal 086				Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
CONS	AQ-SC6	The project owner shall submit to the CPM for review and approval any modification proposed by the project owner to any project air permit. The project owner shall submit to the CPM any modification to any permit proposed by the District or U.S. EPA, and any revised permit issued by the District or U.S. EPA, for the project.	submit any proposed air permit modification to the CPM within five working days of either: 1) submittal by the project owner to an agency, or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified air permits to the CPM within 15 days of receipt.	Within 5 working days of its submittal	Include in MCR	GenOn					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
PC-2	AQ-SC7	Provide emission reductions in the form of offsets or emission reduction credits (ERCs) in the quantities of at least 78.83 tons per year (tpy) NOx, 14.23 tpy VOC, 31.57 tpy PM10, and 4.96 tpy SOx emissions. The project owner shall demonstrate that the reductions are provided in the form required by the Bay Area Air Quality Management District. The project owner shall surrender the ERCs from among Bay Area Air Quality Management District Certificate Numbers 756, 831, 863, and 918, or a modified list, as allowed by this condition. If additional ERCs are submitted, the project owner shall submit a modified list including the additional ERCs to the CPM. The project owner shall request CPM approval for any substitutions, modifications, or additions to the listed credits.	Submit to the CPM records showing that the project's offset requirements have been met prior to initiating construction. If the CPM approves a substitution or modification to the list of ERCs, the CPM shall file a statement of the approval with the project owner and the Energy Commission docket. The CPM shall maintain an updated list of approved ERCs for the project.	Prior to Initiating Construction	4/1/13	GenOn	10/13/2010 Submittal 006	2010-1361	Approved 10/29/2010	10/13/2010	10/13/2010	CEC Acceptance 11/01/2010 per email from J Caswell (On File) and Additional verifications per acceptance of section 4.0 of MCR No. 14
COMM &OPS	AQ-SC8	Submit to the CPM quarterly operation reports that include operational and emissions information as necessary to demonstrate compliance with the conditions of certification. The quarterly operation report shall specifically note or highlight incidences of noncompliance.	Submit quarterly operation reports to the CPM and APCO no later than 30 days following the end of each calendar quarter. This information shall be maintained on site for a minimum of five years and shall be provided to the CPM and District personnel upon request.	Quarterly	30 days after end of quarter	NRG						
COMM	AQ-SC9	The facility shall be operated such that simultaneous commissioning of no more than two combustion turbines will occur without abatement of nitrogen oxide and CO emissions by its SCR system and oxidation catalyst system. Operation of a combustion turbine during commissioning without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR or Oxidation Catalyst Systems fully operational.	submit a monthly compliance report to the CPM during the commissioning period demonstrating compliance with this condition.	Monthly	Include in MCR	KIEWIT					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
COMM	AQ-1	Minimize emissions of carbon monoxide and nitrogen oxides from Gas Turbines to the maximum extent possible during the commissioning period.	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQSC8).	Quarterly	30 days after end of quarter	GenOn						

Mirant Marsh Landing CEC Compliance Matrix
Based on CEC Final Decision 08 - AFC -03

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Sort Code	Cond. #	Description of Project Owner's Responsibilities	Verification/Action/Submittal Required by Project Owner	Timeframe	Date Due to CEC CPM	Lead Party	Date sent to CEC, CBO or agency	CEC Log # and Status	Comments	Date Submitted to GenOn	Date sent to CEC, CBO or agency2	Approved
COMM	AQ-2	At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, shall tune the S-1, S-2, S-3 and S-4 Gas Turbines combustors to minimize the emissions of carbon monoxide and nitrogen oxides.	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQSC8).	Quarterly	30 days after end of quarter	K & N						
COMM	AQ-3	At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, install, adjust, and operate the A-1, A-3, A-5 and A-7 Oxidation Catalysts and A-2, A-4, A-6 and A-8 SCR Systems to minimize the emissions of carbon monoxide and nitrogen oxides from S-1, S-2, S-3, and S-4 Gas Turbines. (Basis: BACT, Regulation 2, Rule 2, Section 409)	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQSC8).	Quarterly	30 days after end of quarter	K&G						
COMM	AQ-4	Submit a plan to the District Engineering Division and the CEC CPM, describing the procedures to be followed during the commissioning of the gas turbines. The plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but not be limited to, the tuning of the Dry-Low-NOx combustors, the installation and operation of the required emission control systems, the installation, calibration, and testing of the CO and NOx continuous emission monitors, and any activities requiring the firing of the GT without abatement by their respective oxidation catalysts and/or SCR Systems. Do not fire any of the Gas Turbines sooner than 28 days after the District receives the commissioning plan.	Submit a commissioning plan to the CPM and APCO for approval at least four weeks prior to first firing of the gas turbine describing the procedures to be followed during the commissioning period and the anticipated duration of each commissioning activity.	Four weeks prior to first firing of GT during Commissioning	10/14/12	KIEWIT	10/17/12 Submittal 135					
COMM	AQ-5	During the commissioning period, shall demonstrate compliance with AQ-7, AQ-8, AQ-9, and AQ-10 through the use of properly operated and maintained continuous emission monitors and data recorders for the following parameters and emission concentrations:firing hours, fuel flow rates, stack gas nitrogen oxide emission concentrations, stack gas carbon monoxide emission concentrations, stack gas oxygen concentrations The monitored parameters shall be recorded at least once every 15 minutes (excluding normal calibration periods or when the monitored source is not in operation) for the Gas Turbines (S-1, S-2, S-3, and S-4). The owner/operator shall use District-approved methods to calculate heat input rates, nitrogen dioxide mass emission rates, carbon monoxide mass emission rates, and NOx and CO emission concentrations, summarized for each clock hour and each calendar day. The owner/operator shall retain records on site for at least 5 years from the date of entry and make such records available to District personnel upon request. (Basis: Regulation 2, Rule 2, Section 419)	Submit to the CPM and APCO for approval the commissioning plan as required in AQ-4.	Four weeks prior to first firing of GT during Commissioning	10/14/12	KIEWIT	10/17/12 Submittal 135					
CONS	AQ-6	Install, calibrate, and operate the District-approved continuous monitors specified in AQ-5 prior to first firing of the Gas Turbines (S-1, S-2, S-3 and S-4). After first firing of the turbines, the owner/operator shall adjust the detection range of these continuous emission monitors as necessary to accurately measure the resulting range of CO and NOx emission concentrations. The type, specifications, and location of these monitors shall be subject to District review and approval. (Basis: Regulation 2, Rule 2, Section 419)	make the site available for inspection by representatives of the District, ARB, and the Commission upon request. A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report.	As Required	As required	KIEWIT			Reports submitted quarterly.			
COMM	AQ-7	Do not fire Gas Turbine without abatement of nitrogen oxide emissions by the corresponding SCR System and/or abatement of carbon monoxide emissions by the corresponding Oxidation Catalyst for more than 232 hours each during the commissioning period. The owner/operator shall operate the facility such that simultaneous commissioning of no more than two gas turbines will occur without abatement of nitrogen oxides and carbon monoxide by its SCR system and oxidation catalyst system. Such operation of any Gas Turbine without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system and/or oxidation catalyst in place. Upon completion of these activities, provide written notice to the District Engineering and Enforcement Divisions and the unused balance of the 232 firing hours without abatement shall expire.	Submit to the CPM and APCO for approval the commissioning plan as required in AQ-4. A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).	Four weeks prior to first firing of GT during Commissioning	10/14/12	KIEWIT	10/17/12 Submittal 135		Awaiting Approval Per BAAQMD			
OPS	AQ-8	Total mass emissions of nitrogen oxides, carbon monoxide, precursor organic compounds, PM10, and sulfur dioxide that are emitted by the Gas Turbines (S-1, S-2, S-3, and S-4) during the commissioning period shall accrue towards the consecutive twelve-month emission limitations specified in AQ-22.	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQSC8).	Quarterly	30 days after end of quarter	NRG			Reports submitted quarterly.			

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OPS	AQ-9	Shall not operate the Gas Turbines (S-1, S-2, S-3, and S-4) in a manner such that the pollutant emissions from each gas turbine will exceed the following limits during the commissioning period. These emission limits shall include emissions resulting from the start-up and shutdown of the Gas Turbines (S-1, S-2, S-3, S-4). NOx (as NO2) 3,063 pounds per calendar day 188 pounds per hour. CO 33,922 pounds per calendar day 2,405 pounds per hour. POC (as CH4) 2,008 pounds per calendar day. PM10 235 pounds per calendar day. SO2 149 pounds per calendar day.	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQSC8).	Quarterly	30 days after end of quarter	NRG			Reports submitted quarterly.			
COMM	AQ-10	Within 90 days after startup of each turbine, the Owner/Operator shall conduct District and CEC approved source tests for that turbine to determine compliance with the emission limitations specified in AQ-17. The source tests shall determine NOx, CO, and POC emissions during start-up and shutdown of the gas turbines. The POC emissions shall be analyzed for methane and ethane to account for the presence of unburned natural gas. The source test shall include a minimum of three start-up and three shutdown periods. Thirty working days before the execution of the source tests, the Owner/Operator shall submit to the District and the CEC Compliance Program Manager (CPM) a detailed source test plan designed to satisfy the requirements of this Part. The District and the CEC CPM will notify the Owner/Operator of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The Owner/Operator shall incorporate the District and CEC CPM comments into the test plan. The Owner/Operator shall notify the District and the CEC CPM within seven (7) working days prior to the planned source testing date. The owner/operator shall submit the source test results to the District and the CEC CPM within 60 days of the source testing date. (Basis: Regulation 2, Rule 2, Section 419).	Submit to the CPM and APCO for approval the commissioning plan as required in AQ-4.	Thirty working days before the execution of the source tests	10/14/12	KIEWIT	10/17/12 CEC Submittal 135 Planned Source Testing dates. 2/25/13 CEC Submittal 151 Update of planned Source Testing dates. 6/25/13 CEC Submittal 164 Source Test Report Submitted					
OPS	AQ-11	Fire the Gas Turbines (S-1, S-2, S-3, and S-4) exclusively on PUC-regulated natural gas with a maximum sulfur content of 1 grain per 100 standard cubic feet. To demonstrate compliance with this limit, the operator of S-1, S-2, S-3 and S-4 shall sample and analyze the gas from each supply source at least monthly to determine the sulfur content of the gas. PG&E monthly sulfur data may be used provided that such data can be demonstrated to be representative of the gas delivered to the MLGS.	The result of the natural gas fuel sulfur monitoring data and other fuel sulfur content source data shall be submitted to the District and CPM in the quarterly operation report (AQ-SC8).	Quarterly	30 days after end of quarter	NRG			Reports submitted quarterly.			
OPS	AQ-12	Do not operate the units such that the heat input rate to each Gas Turbine (S-1, S-2, S-3, and S-4) exceeds 2,202 MMBtu (HHV) per hour.	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report.	Quarterly	30 days after end of quarter	NRG			Reports submitted quarterly.			
OPS	AQ-13	Do not operate the units such that the heat input rate to each Gas Turbine (S-1, S-2, S-3, and S-4) exceeds 52,848 MMBtu (HHV) per day.	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report.	Quarterly	30 days after end of quarter	NRG			Reports submitted quarterly.			
OPS	AQ-14	Do not operate the units such that the combined cumulative heat input rate for the Gas Turbines (S-1, S-2, S-3, and S-4) exceeds 13,994,976 MMBtu (HHV) per year.	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report.	Quarterly	30 days after end of quarter	NRG			Reports submitted quarterly.			
OPS	AQ-15	Do not operate S-1, S-2, S-3, and S-4 such that the Combined hours for all four units exceeds 7,008 hours per year (excluding operations necessary for maintenance, tuning, and testing).	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQSC8).	Quarterly	30 days after end of quarter	NRG			Reports submitted quarterly.			
OPS	AQ-16	Ensure that the each Gas Turbine (S-1, S-2, S-3,S-4) is abated by the properly operated and properly maintained Selective Catalytic Reduction (SCR) System A-2, A-4, A-6 or A-8 and Oxidation Catalyst System A-1, A-3, A-5, or A-7 whenever fuel is combusted at those sources and the corresponding SCR catalyst bed (A-2, A-4, A-6 or A-8) has reached minimum operating temperature.	Make the site available for inspection by representatives of the District, ARB, and the Commission upon request. A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).	As Required	As required	NRG			Reports submitted quarterly.			
OPS	AQ-17	ensure that the Gas Turbines (S-1, S-2, S-3, S-4) comply with requirements (a) through (i). Requirements (a) through (f) do not apply during a gas turbine start-up, combustor tuning operation or shutdown.	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report.	Quarterly	30 days after end of quarter	NRG			Reports submitted quarterly.			
OPS	AQ-18	Ensure that the regulated air pollutant mass emission rates from each of the Gas Turbines (S-1, S-2, S-3, and S-4) during a start-up or shut down does not exceed the limits established below. Startups shall not exceed 30 minutes. Shutdowns shall not exceed 15 minutes. NOx (as NO2),CO,POC(as CH4) of Maximum Emissions Per Startup: 36.4 ,216.2 , 11.9 Maximum Emissions During Hour Containing a Startup:45.1, 541.3, 28.5 Maximum Emissions Per Shutdown: 15.1, 111.5, 5.4	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQSC8).	Quarterly	30 days after end of quarter	NRG			Reports submitted quarterly.			

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OPS	AQ-19	Do not perform combustor tuning on each Gas Turbine (S-1, S-2, S-3, or S-4) more than twice every consecutive 12 month period. Each tuning event shall not exceed eight hours. Combustor tuning shall only be performed on one gas turbine per day. The owner/operator shall notify the District no later than seven days prior to combustor tuning activity. The emissions during combustor tuning from each gas turbine shall not exceed the limits established below.NOx (as NO2):80, CO:450, POC (as CH4):30	notify both the District and CPM at least 7 days prior to the combustor tuning. A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8) This does not include Initial Construction Tunings	7 days prior to combustor tuning	11/1/12	NRG			Reporting on as needed basis.			
OPS	AQ-20	Do not allow total combined emissions from the Gas Turbines (S-1, S-2, S-3, and S-4), including emissions generated during gas turbine start-ups, and shutdowns to exceed the following limits during any calendar day (except for days during which combustor tuning events occur: (a) 2,468 pounds of NOx (as NO2) per day (Basis: Cumulative Increase) (b) 4,858 pounds of CO per day (Basis: Cumulative Increase) (c) 476 pounds of POC (as CH4) per day (Basis: Cumulative Increase) (d) 864 pounds of PM10 per day (Basis: Cumulative Increase) (e) 596 pounds of SO2 per day (Basis: Cumulative Increase)	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQSC8).	Quarterly	30 days after end of quarter	NRG			Reports submitted quarterly.			
OPS	AQ-21	Do not allow cumulative combined emissions from the Gas Turbines (S-1, S-2, S-3, and S-4), including emissions generated during gas turbine start-ups, combustor tuning, shutdowns, and malfunctions to exceed the following limits during any consecutive twelve-month period: (a) 2,941 pounds of NOx (as NO2) per day (Basis: Cumulative Increase) (b) 8,378 pounds of CO per day (Basis: Cumulative Increase)(c) 693 pounds of POC (as CH4) per day (Basis: Cumulative Increase)(d) 864 pounds of PM10 per day (Basis: Cumulative Increase)(e) 596 pounds of SO2 per day (Basis: Cumulative Increase)	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQSC8).	Quarterly	30 days after end of quarter	NRG			Reports submitted quarterly.			
OPS	AQ-22	not allow cumulative combined emissions from the Gas Turbines (S-1, S-2, S-3, and S-4), including emissions generated during gas turbine start-ups, combustor tuning, shutdowns, and malfunctions to exceed the following limits during any consecutive twelve-month period: (a) 78.57 tons of NOx (as NO2) per year (Basis: Offsets)(b) 138.57 tons of CO per year (Basis: Cumulative Increase)(c) 14.21 tons of POC (as CH4) per year (Basis: Offsets)(d) 31.54 tons of PM10 per year (Basis: Cumulative Increase)(e) 4.94 tons of SO2 per year (Basis: Cumulative Increase)	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQSC8).	Quarterly	30 days after end of quarter	NRG			Reports submitted quarterly.			
OPS	AQ-23a	Do not allow the maximum projected annual toxic air contaminant emissions (per AQ-26) from the Gas Turbines combined to exceed the following limits: formaldehyde 7,785 pounds per year, benzene 202 pounds per year, Specified polycyclic aromatic hydrocarbons (PAHs) 1.98 pounds per year unless the following requirement is satisfied: (1)Perform a health risk assessment to determine the total facility risk using the emission rates determined by source testing and the most current Bay Area Air Quality Management District approved procedures and unit risk factors in effect at the time of the analysis. Submit the risk analysis to the District and the CEC CPM . May request that the District and the CEC CPM revise the carcinogenic compound emission limits specified above. Demonstrates to the satisfaction of the APCO that these revised emission limits will not result in a significant cancer risk, the District and the CEC CPM may, at their discretion, adjust the carcinogenic compound emission limits listed above.	Source test results obtained through compliance with AQ-26 and AQ-30 shall confirm the toxic air contaminant emission rates or submit an updated health risk assessment.	With/in 60 days of initial source testing and Annually.	4/1/11	NRG			Iniitial Source Test submitted 6/18/13. Annual testing required.			
OPS	AQ-23b	Perform a health risk assessment to determine the total facility risk using the emission rates determined by source testing and the most current Bay Area Air Quality Management District approved procedures and unit risk factors in effect at the time of the analysis.	Submit the risk analysis to the District and the CEC CPM . May request that the District and the CEC CPM revise the carcinogenic compound emission limits specified above. Demonstrates to the satisfaction of the APCO that these revised emission limits will not result in a significant cancer risk, the District and the CEC CPM may, at their discretion, adjust the carcinogenic compound emission limits listed above.	Every 24 months submit with/in 60days of test	As required	NRG						
OPS	AQ-24	Demonstrate compliance with AQ-12 through AQ-15, AQ-17(a) through AQ-17(e), AQ-18 (NOx, and CO limits), AQ-19 (NOx and CO limits), AQ-20(a), AQ-20(b), AQ-21(a), AQ-21(b), AQ-22(a) and AQ- 22(b) by using properly operated and maintained continuous monitors (during all hours of operation including gas turbine start-up, combustor tuning, and shut down periods). The owner/operator shall monitor for all of the following a. through k.	Make the site available for inspection by representatives of the District, ARB and the Commission to verify the continuous monitoring and recordkeeping system is properly installed and operational.	As Required	As required	NRG						

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OPS	AQ-25	Demonstrate compliance with AQ-17(f), AQ-17(g), AQ-17(h), AQ-17(i), AQ-20(c), AQ-20(d), AQ-20(e), AQ-21(c), AQ-21(d), AQ-21(e), AQ-22(c), AQ-22(d), AQ-22(e), the owner/operator shall calculate and record on a daily basis, the precursor organic compound (POC) mass emissions, fine particulate matter (PM10) mass emissions (including condensable particulate matter), and sulfur dioxide (SO2) mass emissions from each power train. The owner/operator shall use the actual heat input rates measured pursuant to AQ-24, actual Gas Turbine start-up times, actual Gas Turbine shutdown times, and CEC and District-approved emission factors developed pursuant to source testing under AQ-28 to calculate these emissions. The owner/operator shall present the calculated emissions in the following format:(a) For each calendar day, POC, PM10, and SO2 emissions, summarized for each power train (Gas Turbine) and S-1, S-2, S-3, and S-4 combined. (b) on a monthly basis, the cumulative total POC, PM10, and SO2 mass emissions, for each year (12-month rolling average) for S-1, S-2, S-3, and S-4 combined.(Basis: Offsets, Cumulative Increase)	Make the site available for inspection by representatives of the District, ARB and the Commission to verify the calculation and record keeping system is properly installed and operational.	As Required	As required	NRG						
OPS	AQ-26	Demonstrate compliance with AQ-23, the owner/operator shall calculate and record on an annual basis the maximum projected annual emissions of: Formaldehyde, Benzene, and Specified PAHs. The owner/operator shall calculate the maximum projected annual emissions using the maximum annual heat input rate of 13,994,976 MMBtu/year for S-1, S-2, S-3, and S-4 combined and the highest emission factor (pounds of pollutant per MMBtu of heat input) determined by the most recent of any source test of the S-1, S-2, S-3, or S-4 Gas Turbines. If the highest emission factor for a given pollutant occurs during minimum-load turbine operation, a reduced annual heat input rate may be utilized to calculate the maximum projected annual emissions to reflect the reduced heat input rates during gas turbine start-up and minimum load operation. The reduced annual heat input rate shall be subject to District review and approval.	Make the site available for inspection by representatives of the District, ARB and the Commission to verify the calculation and recordkeeping system is properly installed and operational.	As Required	As required	NRG						
COMM	AQ-27a	Conduct a District-approved source test on each corresponding exhaust pointS to determine the corrected ammonia (NH3) emission concentration to determine compliance with AQ-17(e). The source test shall be conducted over the expected operating range of the turbine (including, but not limited to, minimum and full load modes) to establish the range of ammonia injection rates necessary to achieve NOx emission reductions while maintaining ammonia slip levels.	Submit the results and field data collected during source tests to the District and CPM within 60 days of testing and according to a preapproved protocol (AQ-29).	Within 60 days of intial source testing	4/1/11	KIEWIT	6/25/13 CEC Submittal 164 Source Test Report					
OPS	AQ-27b	Repeat the source testing(AQ-27a) on an annual basis thereafter. Ongoing compliance with AQ-17(e) shall be demonstrated through calculations of corrected ammonia concentrations based upon the source test correlation and continuous records of ammonia injection rate.	Testing for steady-state emissions shall be conducted upon initial operation and at least once every 12 months.	With in 60 days of test every 12 months	As required	NRG						
OPS	AQ-28a	Testing for steady-state emissions shall be conducted upon initial operation and at least once every 12 months.	Submit the results and field data collected during source tests to the District and CPM within 60 days of testing	Annually	Include in ACR	NRG						

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COMM &OPS	AQ-28b	conduct a District-approved source test on each corresponding exhaust point P-1, P-2, P-3 and P-4 while each Gas Turbine is operating at maximum load to determine compliance with AQ-17(a), AQ-17(b), AQ-17(c), AQ-17(d), AQ-17(f), AQ-17(g), AQ- 17(h), AQ-17(i), and while each Gas Turbine is operating at minimum load to determine compliance with AQ-17(c), and AQ-17(d) and to verify the accuracy of the continuous emission monitors required in AQ-24. The owner/operator shall test for (as a minimum): water content, stack gas flow rate, oxygen concentration, precursor organic compound concentration and mass emissions, nitrogen oxide concentration and mass emissions (as NO2), carbon monoxide concentration and mass emissions, sulfur dioxide concentration and mass emissions, methane, ethane, and total particulate matter emissions including condensable particulate matter. The owner/operator shall submit the source test results to the District and the CEC CPM within 60 days of conducting the tests.	Submit the results and field data collected during source tests to the District and CPM within 60 days of testing and according to a preapproved protocol (AQ-29).	Upon initial operation / annually	4/1/11	KIEWIT						
COMM &OPS	AQ-29	Obtain approval for all source test procedures from the District's Source Test Section and the CEC CPM prior to conducting any tests. Comply with all applicable testing requirements for continuous emission monitors as specified in Volume V of the District's Manual of Procedures. Notify the District's Source Test Section and the CEC CPM in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s).	Submit the proposed source test plan or protocol for the source tests seven days prior to the proposed source test date to both the District and CPM for approval. The project owner shall notify the District and CPM no later than seven days prior to the proposed source test date and time.	No later than seven days prior to the proposed source test date and time	1/24/11	NRG	2/25/13 CEC Submittal 151 Update of planned Source Testing dates.					
COMM	AQ-30a	conduct a District-approved source test on one of the following exhaust points P-1, P-2, P-3 or P-4 while the Gas Turbine is operating at maximum allowable operating rates to demonstrate compliance with AQ-23. The owner/operator shall also test the gas turbine while it is operating at minimum load. If three consecutive biennial source tests demonstrate that the annual emission rates calculated pursuant to AQ-26 for any of the compounds listed below are less than the BAAQMD trigger levels, pursuant to Regulation 2, Rule 5, shown, then the owner/operator may discontinue future testing for that pollutant: Benzene ≤ 3.8 pounds/year and 2.9 pounds/hour, Formaldehyde < 18 pounds/year and 0.12 pounds/hour, Specified PAHs ≤ 0.0069 pounds/year	The results and field data collected during source tests shall be submitted to the District and CPM within 60 days of testing and according to a preapproved protocol (AQ-29).	Within 60 days of initial source testing	4/1/11	KIEWIT	6/25/13 Submittal 164 Source Test Report Submitted					
OPS	AQ-30b	Testing for toxic air contaminant emissions shall be conducted upon initial operation and at least once every 24 months.	The results and field data collected during source tests shall be submitted to the District and CPM within 60 days of testing	with in 60 days of test every 24 months thereafter	As required	NRG	6/25/13 Submittal 164 Source Test Report Submitted					
OPS	AQ-31	Calculate the sulfuric acid mist (SAM) emission rate using the total heat input for the sources and the highest results of any source testing conducted pursuant to AQ-32. If this SAM mass emission limit of AQ- 33 is exceeded, the owner/operator must utilize air dispersion modeling to determine the impact (in µg/m3) of the sulfuric acid mist emissions pursuant to Regulation 2, Rule 2, Section 306.	Make the site available for inspection by representatives of the District, ARB and the Commission to verify the calculation and recordkeeping system is properly installed and operational. The quarterly operation report (AQ-SC8) shall include a determination of the impact if triggered by this condition.	As Required & Quarterly	30 days after end of quarter	NRG			Reports submitted quarterly.			
COMM	AQ-32a	Conduct a District-approved source test on two of the four exhaust points while each gas turbine is operating at maximum heat input rates to demonstrate compliance with the SAM emission rates specified in AQ-33. Test for (as a minimum) SO2, SO3, and H2SO4. Submit the source test results to the District and the CEC CPM within 60 days of conducting the tests.	Submit the results and field data collected during source tests to the District and CPM within 60 days of testing and according to a preapproved protocol (AQ-29).	Within 60 days of initial source testing and	4/1/11	KIEWIT	6/25/13 Submittal 164 Source Test Report Submitted					
OPS	AQ-32b	Testing for steady-state emissions shall be conducted upon initial operation and at least once every 12 months	Submit the results and field data collected during source tests to the District and CPM within 60 days of testing and according to a preapproved protocol (AQ-29).	with in 60 days of test every 12 months thereafter	As required	NRG	6/25/13 Submittal 164 Source Test Report Submitted					

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OPS	AQ-33	Do not allow sulfuric acid emissions (SAM) from stacks combined to exceed seven tons in any consecutive 12 month period	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQSC8).	Quarterly	30 days after end of quarter	NRG			Reports submitted quarterly.			
CONS	AQ-34	Ensure that the stack height of emission points are each at least 165 feet above grade level at the stack base	Make the site available for inspection by representatives of the District, ARB and the Commission	As Required	As required	GenOn			Kiewit to provide per email from jason Lockwood 10.19.12			
OPS	AQ-35	Submit all reports (including, but not limited to monthly CEM reports, monitor breakdown reports, emission excess reports, equipment breakdown reports, etc.) as required by District Rules or Regulations and in accordance with all procedures and time limits specified in the Rule, Regulation, Manual of Procedures, or Enforcement Division Policies & Procedures Manual	Ensure that notifications and reports, including the quarterly operation report (AQ-SC8), are prepared and submitted in compliance with this condition	As Required	As required	NRG						
OPS	AQ-36	Maintain all records and reports on site for a minimum of five years. These records shall include but are not limited to: continuous monitoring records (firing hours, fuel flows, emission rates, monitor excesses, breakdowns, etc.), source test and analytical records, natural gas sulfur content analysis results, emission calculation records, records of plant upsets and related incidents. The owner/operator shall make all records and reports available to District and the CEC CPM staff upon request.	Make the site available for inspection by representatives of the District, ARB and the Commission.	As Required	As required	NRG						
OPS	AQ-37	notify the District and the CEC CPM of any violations of these permit conditions. Notification shall be submitted in a timely manner, in accordance with all applicable District Rules, Regulations, and the Manual of Procedures. Notwithstanding the notification and reporting requirements given in any District Rule, Regulation, or the Manual of Procedures, the owner/operator shall submit written notification (facsimile is acceptable) to the Enforcement Division within 96 hours of the violation of any permit condition.	A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report.	Quarterly	30 days after end of quarter	NRG			Reports submitted quarterly.			
CONS	AQ-38	Provide adequate stack sampling ports and platforms to enable the performance of source testing. The location and configuration of the stack sampling ports shall comply with the District Manual of Procedures, Volume IV, Source Test Policy and Procedures, and shall be subject to BAAQMD review and approval, except that the facility shall provide four sampling ports that are at least 6 inches in diameter in the same plane of each gas turbine stack.	The project owner shall make the site available for inspection by representatives of the District, ARB and the Commission.	As Required	As required	GenOn			Kiewit to provide per email from jason Lockwood 10.19.12			
CONS	AQ-39	Contact the BAAQMD Technical Services Division regarding requirements for the continuous emission monitors, sampling ports, platforms, and source tests required by AQ-10, AQ-27, AQ-28, AQ-30 and AQ-32. Conduct all source testing and monitoring in accordance with the District approved procedures.	Contact the District for specifications on monitors, ports, platforms and source tests and shall submit verification of this contact to the District and CPM with the initial source test protocol	With in 180 days of Issuance of the Authority to Construct	9/25/11	KIEWIT	9/13/2011 Submittal 061 Approved by CEC 10/7/2011 Additional submittal 10/11/2011 Submittal 068		Approval received from BAAQMD bt letter from Ken Kunaniec Air Quaklity Engineering Manager Dated 4/21/2011			10/11/2012 Submittal of BAAMD Letter only . No CEC Approval required.
OPS	AQ-40	Ensure that the MLGS complies with the continuous emission monitoring requirements of 40 CFR Part 75	Submit to the CPM and District the results of audits of the monitoring system demonstrating compliance with this condition as part of the quarterly operation report.	Quarterly	30 days after end of quarter	NRG			Kiewit to provide per email from jason Lockwood 10.19.12			
OPS	AQ-41	The project owner shall not exceed 50 hours per year per engine for reliability related testing on the diesel emergency generator and diesel fire pump engines. (Basis: Title 17, California Code of Regulations, Section 93115, ATCM for Stationary CI Engines)	The project owner shall verify compliance with this Condition of Certification in each quarterly report required by COC AQ-SC8.	Quarterly	30 days after end of quarter	NRG			AQ-41 added with petition to amend approved 11/17/2014.			
OPS	AQ-42	The project owner shall operate each emergency standby engine only for the following purposes: to mitgate emergency conditions, for emission testing, or for reliability related testing on the diesel emergency generator and diesel fire pump engines. (Basis: Title 17, California Code of Regulations, Section 93115, ATCM for Stationary CI Engines)	The project owner shall verify compliance with this Condition of Certification in each quarterly report required by COC AQ-SC8.	Quarterly	30 days after end of quarter	NRG			AQ-42 added with petition to amend approved 11/17/2014.			
OPS	AQ-43	The project owner shall operate each emergency standby engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that measures the hours of operation for the engine is installed, operated and properly maintained. (Basis: Title 17, California Code of Regulations, Section 93115, ATCM for Stationary CI Engines)	The project owner shall make the site available for inspection by representatives of the District, ARB and the Commission.	As Required	As Required	NRG			AQ-43 added with petition to amend approved 11/17/2014.			

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OPS	AQ-44	Records: The project owner shall maintain the following monthly record in a District-approved log for at least 36 months from the date of entry (60 months if the facility has been issued a Titile v Major Facility Review Permit or a Synthetic Minor Operating Permit). Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff and CPM upon request. a) Hours of operation for reliability testing. b) Hours of operation for emissioin testng. c) Hours of operation for emergencies. d) For each emergency, the nature of the emergency condition. e) Fuel usage for each engine(s). (Basis: Title 17, California Code of Regulations, Section 93115, ATCM for Stationary CI Engines)	The project owner shall make the site and records available for inspection by representatives of the District, ARB and the Commission.	As Required	As Required	NRG			AQ-44 added with petition to amend approved 11/17/2014.			
OPS	AQ-45	If the emergency standby engine is located on school grounds or within 500 feet of any school ground, the following requirements shall apply. MLGS is NOT within 500 feet of any school grounds.	The project owner shall make the site and records available for inspection by representatives of the District, ARB and the Commission.	As Required	As Required	NRG			AQ-45 added with petition to amend approved 11/17/2014.			
PC-1	BIO-1	Assign a Designated Biologist to the project. The DB must meet the specified qualifications. No site or related facility activities shall commence until an approved Designated Biologist is available to be on site. Adhere to condition specification if the DB needs to be replaced	Submit the resume of the proposed DB, with at least 3 references and contact information, to the (CPM) for approval.	At least 90 days prior to the start of any site (or related facilities) mobilization	11/17/10	GenOn	9/21/2010 Submission 002 Submission 006 &012&020 2/2/2012 Submittal 088	2010-1221 Returned 10/6/2010	Approved 10/20/2010 Addntl resumes submitted 2/2/2012 Approved addntl monitors 2/24/12		9/21/2010	CEC approval per CEC Blue sheet report dated 10-06-10 (on file) Additional Verifications per implied acceptance of MCR No.2 & MCR No. 14 & MCR No.18
CONS	BIO-2	Ensure that the DB performs the specified 1. through 9. of the condition during any site (or related facilities) mobilization, ground disturbance, grading, construction, operation, and closure activities. The DB may be assisted by the approved Biological Monitor(s), but remains the contact for the project owner and CPM.	Designated Biologist must maintain written records of the tasks described in condition and provide summaries for inclusion in the MCR.	Monthly	Include in MCR	BIOLOGIST					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
CONS	BIO-3	Construction/Operation Manager shall act on the advice of the DB to ensure conformance with the biological resources Conditions of Certification. If required by the DB, Construction/ Operation Manager shall halt all activities in areas specified by the DB. The Designated Biologist shall follow the process 1. through 3 in the condition if construction is halted	Designated Biologist must notify the CPM immediately of any non-compliance activity or halt of any site mobilization, ground disturbance, grading, construction, and ops activities.	As Required	As required	BIOLOGIST						
PC-1	BIO-4a	Develop and implement a CPM-approved Worker Environmental Awareness Program (WEAP) in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or any related facilities during site mobilization, ground disturbance, grading, construction, operation, and closure are informed about sensitive biological resources associated with the project. The WEAP must have the specified 1. through 6. of the condition.	Provide to the CPM the proposed WEAP and all supporting written materials and electronic media prepared or reviewed by the DB and a resume of the person(s) administering the program.	60 days prior to the start of any site (or related facilities) mobilization	12/17/10	BIOLOGIST	10/26/2010 Submittal 009 Resubmit WEAP Handout 12/21/2010 Submittal 023 Submittal 029 Submittal 030 1/26/2011	2010-1490 2010-1790 12/3/2010	Additional Information Submitted 12/3/2010 WEAP handbook revised 1/24/2011 Submitted WEAP training video 1/26/2011 Approved (No Date Given)		10/26/10	2/4/2011 Verified MCR No.5 2/11/2011
CONS	BIO-4b	Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date.	Include a running total in MCR.	Monthly	Include in MCR	KIEWIT			Current as of MCR 24		Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
PC-1	BIO-4c	Deliver copies of final CPM approved WEAP materials to site.	Submit two copies of the CPM approved materials.	At least 10 days prior to site or related facilities mobilization	2/5/11	BIOLOGIST	1-28-11 Submittal 030 Submittal 032	2010-1490	Additional Information Submitted 12/3/2010 Approved 1/11/2011 Additional copies sent per request of Ann Crisp 1/28/2011		10/26/2010	1/11/2011 Delivery to site Verified by Project delivery records submittal to CEC no approval required
OPS	BIO-4d	Keep signed WEAP statements in project files.	During project operation, signed statements for active project operational personnel shall be kept on file for six months following the termination of an individual's employment.	As required	As required	NRG						Verified Monthly in MCR's in sections 2.05

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PC-1	BIO-5	Prepare the proposed BRMIMP (see BIO-6 for detailed requirements of the BRMIMP).	Submit two copies of the BRMIMP to the CEC CPM for review and approval and to USFWS/CDFG for review and comment	At least 60 days prior to site or related facilities mobilization	12/17/10	BIOLOGIST	10/13/2010 Submittal 006 Resub 11/18/2010 Submittal 014 & Submittal 020 Submittal 030	21010-1362 11/3/10 2010-1679 11/18/2010	Additional Information Submitted 12/3/2010 Additional copy sent per request of Ann Crisp 1/28/2011 Approved (No Date Given)		10/13/10	2/4/2011 Verified MCR No.5 2/11/2011
CONS	BIO-5b	Revise or supplement the BRMIMP to reflect any BIO permit conditions received after the original BRMIMP is accepted.	Submit any bio permits not yet received when the BRMIMP is first submitted to the CPM and HTAC	Within 5 days of receipt	As required	BIOLOGIST	Submittal 020 Submittal 030					Verified Monthly in MCR's in sections 2.04 and 2.06
CONS	BIO-5c	Any changes to the approved BRMIMP must also be approved by the CPM and submitted to the HTAC to ensure no conflicts exist.	Notify the CPM before implementing any modifications to the approved BRMIMP	Within 5 days	As required	BIOLOGIST						Verified Monthly in MCR's in sections 2.04 and 2.06
CONS	BIO-5d	Implementation of BRMIMP measures will be reported in the MCR by the DB.	Provide report for inclusion in MCR.	Monthly	Include in MCR	BIOLOGIST					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
CONS	BIO-5e	Prepare a written construction closure report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the project's site mobilization, ground disturbance, grading, and construction phases, and which mitigation and monitoring items are still outstanding.	Provide construction closure report to the CPM for review and approval.	Within 30 days after completion of construction	1/28/12	BIOLOGIST			Submittal #172		8/14/2013	
CONS	BIO-6a	Implement measures set forth in condition in a manner to avoid or minimize impacts to the local biological resources.	Provide report for inclusion in MCR.	Monthly	Include in MCR	BIOLOGIST					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
CONS	BIO-6b	Submit a written construction termination report identifying how bio mitigation measures have been completed.	Provide construction termination report to the CPM for review and approval. Provide additional copies to the CDFG and USFWS.	Within 30 days after completion of construction	1/28/12	BIOLOGIST			Submittal #172		8/14/2013	
PC-2	BIO-7	Conduct migratory bird pre-construction nest surveys as required by condition. If active nests are detected during the survey, the report shall include a map or aerial photo identifying the location of the nest and shall depict the boundaries of the no-disturbance buffer zone around the nest.	Provide the CPM a letter-report describing the findings of the pre-construction nest surveys, including the time, date, and duration of the survey; identity and qualifications of the surveyor(s); and a list of species observed. Additional copies shall be provided to CDFG.	At least 10 days prior to site or related facilities mobilization	2/5/11	BIOLOGIST	3/8/2011 Submission 038 3/13/2012 Submission 041 5/21/2013 Submittal 105 7/13/12 Submittal 112		Approved, but ongoing review required. Request to remove hawk nest submitted 3/13/2012	3/8/2011	3/8/2011	3/28/2011
OPS	BIO-8	Provide an annual Payment to Friends of San Pablo Bay. The First Annual Payment shall be at least equal to $2,693.00 + $20,000 payment of good faith	Provide written verification to the CPM, USFWS, and CDFG that first annual payment was made. Thereafter within 30 days of the each commencement anniversary date provide written verification of payment to parties above	30 days after the start of project operation	1/22/12	NRG	9/10/12 Submittal 124 Submittal 138			9/10/2012		Proof of payment submitted 9/10/2012 - No acceptance is required Email verification to C stora on 9/18/12
OPS	BIO-8 2013	Provide an annual Payment to Friends of San Pablo Bay. The First Annual Payment shall be at least equal to $2,693.00 + $20,000 payment of good faith	Provide written verification to the CPM, USFWS, and CDFG that first annual payment was made. Thereafter within 30 days of the each commencement anniversary date provide written verification of payment to parties above	30 days after the COD anniversary	1/22/12	NRG						Proof of payment submitted 5/29/2014 - via Email to C stora on 7/15/13.

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OPS	BIO-8 2014	Provide an annual Payment to Friends of San Pablo Bay. The First Annual Payment shall be at least equal to $2,693.00 + $20,000 payment of good faith	Provide written verification to the CPM, USFWS, and CDFG that first annual payment was made. Thereafter within 30 days of the each commencement anniversary date provide written verification of payment to parties above	30 days after the COD anniversary	5/31/14	NRG						Proof of payment submitted 5/30/2014 - via Email to C Remy-Obad on 9/16/16.
OPS	BIO-8 2015	Provide an annual Payment to Friends of San Pablo Bay. The First Annual Payment shall be at least equal to $2,693.00 + $20,000 payment of good faith	Provide written verification to the CPM, USFWS, and CDFG that first annual payment was made. Thereafter within 30 days of the each commencement anniversary date provide written verification of payment to parties above	30 days after the COD anniversary	5/31/15	NRG						Proof of payment submitted 5/29/2015 - via Email to C Remy-Obad on 9/16/16.
OPS	BIO-8 2016	Provide an annual Payment to Friends of San Pablo Bay. The First Annual Payment shall be at least equal to $3,036 + $20,000 payment of good faith	Provide written verification to the CPM, USFWS, and CDFG that first annual payment was made. Thereafter within 30 days of the each commencement anniversary date provide written verification of payment to parties above	30 days after the COD anniversary	5/31/16	NRG						Proof of payment submitted 5/31/2016 - via Email to C Remy-Obad on 8/11/16.
OPS	BIO-8 2017	Provide an annual Payment to Friends of San Pablo Bay. The First Annual Payment shall be at least equal to $3115 + $20,000 payment of good faith	Provide written verification to the CPM, USFWS, and CDFG that first annual payment was made. Thereafter within 30 days of the each commencement anniversary date provide written verification of payment to parties above	30 days after the COD anniversary	5/31/17	NRG						
OPS	BIO-8 2018	Provide an annual Payment to Friends of San Pablo Bay. The First Annual Payment shall be at least equal to $3,218 + $20,000 payment of good faith	Provide written verification to the CPM, USFWS, and CDFG that first annual payment was made. Thereafter within 30 days of the each commencement anniversary date provide written verification of payment to parties above	30 days after the COD anniversary	5/31/18	NRG						
OPS	BIO-8 2019	Provide an annual Payment to Friends of San Pablo Bay. The Annual Payment shall be at least equal to $3,311.00 (inflation adjusted)+ $20,000 payment of good faith.	Provide written verification to the CPM, USFWS, and CDFG that first annual payment was made. Thereafter within 30 days of the each commencement anniversary date provide written verification of payment to parties above	30 days after the COD anniversary	5/31/19	NRG						
OPS	BIO-8 2020	Provide an annual Payment to Friends of San Pablo Bay. The Annual Payment shall be at least equal to $3,311.00 (inflation adjusted)+ $20,000 payment of good faith.	Provide written verification to the CPM, USFWS, and CDFG that first annual payment was made. Thereafter within 30 days of the each commencement anniversary date provide written verification of payment to parties above	30 days after the COD anniversary	5/31/20	NRG						
PC-2	CIV-1a	Submit design of the proposed drainage structures and the grading plan.	Submit documents to the CBO for review and approval.	At least 30 days prior to the start of site grading	2/23/11	KIEWIT	2/19/2011 to CEC and CBO Submittal 37		CBO comments 3/10/11 Approved 3/29/2011	2/19/2011	To the CBO 2/18/11	3/29/2011 Verified MCR No.7 4/16/2011
PC-2	CIV-1b	Submit the erosion and sedimentation control plan.	Submit documents to the CBO for review and approval.	At least 30 days prior to the start of site grading	2/23/11	KIEWIT	2/19/2011 to CEC and CBO Submittal 37		Approved 3/28/2011	2/19/2011	To the CBO 2/18/11	3/28/2011 Verified MCR No.7 4/16/2011
PC-2	CIV-1c	Submit the storm water pollution prevention plan (SWPPP).	Submit documents to the CBO for review and approval.	At least 30 days prior to the start of site grading	3/20/11	KIEWIT	2/19/2011 to CEC and CBO Submittal 37		CBO comments 3/10/11 Approved 3/28/2011	2/19/2011	To the CBO 3/2/11	3/28/2011 Verified MCR No.7 4/16/2011

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PC-2	CIV-1d	Submit related calculations and specifications, signed and stamped by the responsible civil engineer.	Submit documents to the CBO for review and approval.	At least 30 days prior to the start of site grading	2/23/11	KIEWIT	2/19/2011 to CEC and CBO Submittal 37		CBO comments 3/10/11 Approved 3/28/2011	2/19/2011	To the CBO 2/21/11	3/28/2011 Verified MCR No.7 4/16/2011
PC-2	CIV-1e	Submit the soils, geotechnical, or foundation investigations reports required by the 2007 CBC.	Submit documents to the CBO for review and approval.	At least 30 days prior to the start of site grading	2/23/11	KIEWIT	2/19/2011 to CEC and CBO Submittal 037 Submittal 039		CBO comments 3/10/11 Approved 3/28/2011	2/19/2011	To the CBO 2/18/11	3/28/2011 Verified MCR No.7 4/16/2011
CONS	CIV-2	RE shall stop all earthwork and construction in the affected areas when the responsible soils, geotechnical, or civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. Submit modified plans, specifications and calculations to the CBO based on these new conditions. Obtain approval from the CBO before resuming earthwork and construction in affected area.	Notify the CPM within 24 hours when earthwork and construction are stopped as a result of unforeseen adverse geological conditions. Within 24 hours of the CBO's approval to resume earthwork and construction in the affected areas, provide to the CPM a copy of the CBO's approval.	Within 24 hours of construction halt due to geologic conditions	As required	KIEWIT						
CONS	CIV-3	Perform inspections in accordance with this condition (see codes referenced). If work is not being performed in accordance with approved plans, the discrepancies shall be reported immediately to the RE, CBO and CPM. EPC must prepare a written report detailing all discrepancies, non-compliance items, and proposed corrective action to the CBO/CPM.	RE shall transport to the CBO and CPM a NCR and the proposed corrective action for review and approval. Within 5 days of resolution, EPC must submit details of correction action to the CBO and CPM.	Within 5 days of discovery of any discrepancies	As required	KIEWIT	9/2/2011 Submittal 059 Submittal 060 9/13/2011 Submittal 061 9/23/2011 Submittal 063 10/14/2011 Submittal 070 10/17/2011 Submittal 071 10/24/2011 Submittal 073 2/10/2012 Submittal 089a 2/17/12 Submittal 092		9/2/2011 Submitted NCT-001, 9/13/2011 Submitted NCR-2,3,4 9/23/2011 Submitted NCR-5 Submitted additional information for NCR 3&4 10/14/2011 Submitted additional information for NCR 2 10/17/2011 Additional information for NCR 5 10/24/2011			All relavent NCR's are closed(Verified on NCR log) and submitted. No approvals are required from CEC
CONS	CIV-4	After completion of finished grading and erosion and sedimentation control and drainage facilities, the Project Owner shall obtain the CBO's approval of the final "as-graded" grading plans and final "as-built" plans for the erosion and sedimentation control facilities.	Submit to the CBO for review and approval the final grading plans (including final changes) and the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with final approved plans.	Within 30 days of completion of work	1/28/12	KIEWIT			Submittal # 175		10/23/013	
PC-1	CUL-1a	Obtain the services of a Cultural Resources Specialist (CRS), and one or more alternate CRSs, if alternates are needed	Submit resumes to the CEC CPM for review and approval.	At least 30 days prior to start of ground disturbance	2/23/11	GenOn	9/29/2010 Submittal 003	2010-1261 returned 10/4/10	Approved 10/4/2010 Approved Karin Beck as ACRS 2/24/12		9/29/2010	CEC Acceptance resumes on10/5/2010 verified by email from J Caswell (On File) Additionally verified by implied acceptance of section 4.0 of MCR's No.2 No. 14 &MCR No.18
CONS	CUL-1b	Submit the resume of the proposed new CRS to the CPM for review and approval. Also provide the new CRS with copies of the AFC, data responses, confidential reports, and maps and drawings showing the footprint of the power plant and all linear facilities.	Provide the required written documentation to the CPM.	At least 10 days prior to a termination or release of the CRS or within 10 days after the resignation of a CRS	As required	GenOn	9/20/12 Submittal 129		10/4/2010 Approval 10/12/2011 Approval of Ms. Karin Beck as an Alternate 2/14/2012		Revision submitted 9/20/2012	CEC Acceptance resumes on10/5/2010 verified by email from J Caswell (On File) Additionally verified by implied acceptance of section 4.0 of MCR's No.2 No. 14 &MCR No.19

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PC-1	CUL-1c	Provide a letter naming anticipated CRMs for the project and stating that the identified CRMs meet the minimum qualifications for cultural resources monitoring required by this Condition.	Provide the required written documentation to the CPM.	At least 20 days prior to ground disturbance	3/5/11	GenOn	10/7/2010 Submittal 004 3/30/2012 Submittal 042 8/31/11 9/13/2011 11/14/2100 Submittal 075 11/30/2011 Submittal 079 2/8/12 Submittal 089 2/10/12 Submittal 090	10/12/2010	Approved 10/12/2010 Submitted Ms. Kathleen Kubal 8/31/2011 Submitted Mr. Jay Baker 9/13/2011Submitted Alexandra Greenwald 11/14/2011,Submitted Joseph Belk 11/30/2011 Approval 10/12/2011		10/7/2010	CEC Acceptance resumes on10/5/2010 verified by email from J Caswell (On File) Additionally verified by implied acceptance of section 4.0 of MCR's No.2 No. 14 &MCR No.20
CONS	CUL-1d	Submit the resumes of the technical specialists to the CPM for review and approval.	Provide the required written documentation to the CPM.	At least 10 days prior to technical specialists beginning new tasks	As required	CULTURAL SPECIALIST	9/13/2011 Submittal 061 Approved by CEC 10/7/2011 Additional submittal 10/11/2011					CEC Acceptance resumes on 10/5/2010 verified by email from J Caswell (On File) Additionally verified by implied acceptance of section 4.0Verified MCR No.5 2/11/2011
PC-1	CUL-1e	Confirm in writing to the CPM that the approved CRS will be available for onsite work and is prepared to implement cultural resources conditions.	Provide the required written documentation to the CPM.	At least 10 days prior to the start of ground disturbance	3/15/11	GenOn	10/7/2010 Submittal 004	2010-1261	Approved (No Date Given)		10/7/10	CEC Acceptance resumes on 10/5/2010 verified by email from J Caswell (On File) Additionally verified by implied acceptance of section 4.0Verified MCR No.5 2/11/2011
PC-1	CUL-2a	Provide to the CRS, if the CRS has not previously worked on the project, copies of the AFC, data responses, confidential cultural resources reports, all supplements and the SA for the project. Also provide site maps and drawings for cultural resource planning activities.	Provide requested into to the CRS.	At least 30 days prior to the start of ground disturbance	2/23/11	GenOn	12/10/2010 Submittal 21	2010-1831	Approved (No Date Given)		12/10/10	2/4/2011 Verified MCR No.4
CONS	CUL-2b	Provide to the CRS and CPM a schedule of project activities for the following week, including the identification of area(s) where ground disturbance will occur during that week.	On a weekly basis during ground disturbance, a current schedule of anticipated project activity shall be provided to the CRS and CPM by letter, e-mail, or fax.	Weekly during construction	Weekly	KIEWIT			Current as of MCR 25			Verified by weekly Email notices
PC-1	CUL-3a	Submit the Cultural Resources Monitoring and Mitigation Plan (CRMMP), as prepared by the CRS. (See condition for specific requirements.)	Submit the entire CRMMP to the CEC CPM for review and approval.	At least 30 days prior to ground disturbance	2/23/11	CULTURAL SPECIALIST	10/26/2010 Submittal 010 Revised 11/2/2010 Submittal 030	2010-1485 2010-1566	Approved 1/11/2011		10/26/10	1/11/2011 Verified MCR No.5 2/11/2011
PC-1	CUL-3b	Agree to pay curation fees for any materials collected as a result of the archaeological investigations (survey, testing, data recovery)	Provide the required written documentation to the CPM.	At least 30 days prior to ground disturbance	2/23/11	GenOn	10/26/2010 Submittal 007	2010-1485	Approved 1/11/2011		10/26/10	1/11/2011 Verified MCR No.5 2/11/2011
CONS	CUL-4a	If any archaeological monitoring or data recovery activities are conducted during project construction, submit a final Cultural Resources Report (CRR).	Provide the required written documentation to the CPM for review and approval.	Within 90 days after completion of landscaping	3/28/12	CULTURAL SPECIALIST			Submittal # 173		9/4/2013	
CONS	CUL-4b	If cultural materials requiring curation were collected, provide to the CPM a copy of an agreementor other written commitment form.	Provide the required written documentation to the CPM.	Within 90 days after completion of landscaping	3/28/12	CULTURAL SPECIALIST			Confirmation email		9/4/2013	
CONS	CUL-4c	Provide documentation to the CPM confirming that copies of the final CRR have been provided to the SHPO, the CHRIS, the curating institution, if archaeological materials were collected, and to the Tribal Chairpersons of any Native American groups requesting copies of project-related reports.	Provide the required written documentation to the CPM.	Within 10 days after CPM approval of CRR	CEC Dependant	CULTURAL SPECIALIST						
CONS	CUL-4d	If the project is suspended, submit a draft CRR to the CPM for review and approval.	Provide the required written documentation to the CPM for review and approval.	Within 30 days after requesting a suspension	As required	CULTURAL SPECIALIST			Project is not suspended			Nothing required at this time

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PC-1	CUL-5a	The CRS shall prepare a WEAP that addresses all issues specified in Condition and provided training to all new workers within their first week of employment at the project site, laydown areas, and along the linear facilities routes.	Provide the draft text and graphics for the training program to the CPM for review and approval.	At least 30 days prior to ground disturbance	2/23/11	CULTURAL SPECIALIST	10/26/2010 Submittal 007 Submittal 023 Submittal 029 Submittal 032 1/26/2011	2010-1362	Approved 12/10/2010 Submitted WEAP training Video 1/26/2010 Final version sent with the word DRAFT removed 1/28/2011		10/26/2010	12/10/2010 Approved by Email (on file) from J Caswell CEC
CONS	CUL-5b	Provde the WEAP Training Acknowledgement forms of workers who have completed the training in the prior month and a running total of all persons who have completed training to date.	Include a running total in MCR.	Monthly	Include in MCR	KIEWIT					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
CONS	CUL-6a	Ensure that CRS, alternate CRS or CRMs monitor full time all ground disturbances at project site along the linear facilites routes, and laydown areas, roads, and other ancillary areas. And Ensure that the CRMs kee a daily log of any monitering	As long as no cultural resources are found, Provide daily a statement that "no cultural resources over 50 years of age were discovered" to the CPM as an e-mail	Daily	Daily	CULTURAL SPECIALIST						Verified in Monthly reports in section 2.12. Requirement complete with suspension Approval received per teleconferance and verified by email 9.14.12
CONS	CUL-6b	Submit monthly monitoring summary reports of cultural resources related monitoring, created by the CRS as required by the condition.	Include in each MCR a copy of the monthly summary report of cultural resources-related monitoring prepared by the CRS and attach any new DPR 523 A forms completed	Monthly	Include in MCR	CULTURAL SPECIALIST					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
CONS	CUL-6c	Notify CEC prior to changing or eliminatinating monitoring.	Provide letter or email to CPM for review and approval detailing justification for changing or eliminating monitoring.	At least 24 hours prior to changing level	As required	CULTURAL SPECIALIST	9/10/12 Submittal 123		Notice given Submittal 123			Requirement complete with suspension Approval received per teleconferance and verified by email 9.14.12
CONS	CUL-6d	A Native American monitor shall be obtained to monitor ground disturbance in areas and at depths, if any, where the CUL-1 geoarchaeological study identified the potential for buried prehistoric archaeological deposits and anywhere else that if Native American artifacts are encountered during ground disturbance.	Provide the required written documentation to the CPM.	No later than 30 days after discovery	As required	CULTURAL SPECIALIST			As Required in Monthly Reports included in section 2.12		As Required in Monthly Reports included in section 2.12	Requirement complete with suspension Approval received per teleconferance and verified by email 9.14.12
CONS	CUL-6e	Submit any comments or information provided by Native Americans in response to the project owner's transmittals of information.	Provide the required written documentation to the CPM.	Within 15 days of receipt	As required	GenOn			As Required in Monthly Reports included in section 2.12		As Required in Monthly Reports included in section 2.12	Requirement complete with suspension Approval received per teleconferance and verified by email 9.14.12
PC-1	CUL-7a	Grant authority to halt construction to the CRS, alternate CRS and the CRMs in the event previously unknown cultural resource sites or materials are encountered, or if known resources may be impacted in a previously unanticipated manner (discovery).	Provide the CPM and CRS with a letter confirming that the CRS, alternate CRS and CRMs have the authority to halt construction activities in the vicinity of a cultural resource discovery, and that the project owner shall ensure that the CRS notifies the CPM within 24 hours of a discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning.	At least 30 days prior to ground disturbance	2/23/11	GenOn	10/26/2010 Submittal 007	2010-1487	Approved 1/11/2011		10/26/10	1/11/11
CONS	CUL-7b	Ensure the CRS notifies all Native American groups that expressed a desire to be notified in the event of a discovery and complete a DPR 523 forms as specified in the condition	Unless discovery is treated presciptiibley, Submitt completed DPR 523 forms to CPM for review and approval	Within 24 hours of discovery (48 to notify Native American groups)	As required	CULTURAL SPECIALIST			Nothing required at this time			Verified in Monthly reports in section 2.12. Requirement complete with suspension Approval received per teleconferance and verified by email 9.14.12
CONS	CUL-8	If soils must be acquired from a non commercial borrow site, the CRS shall survey the borrow site for cultural resources and record on DPR 523 forms and that are identified and convey the results and recommendation for further action to the CPM	Notify the CRS and CPM as soon as it is known that non commercial borrow site will be used and provide documentation of previous archaeological surveys. If none available site must be surveyed 30 days before any soil borrow activates and submit the survey and recommendation to the CPM.	At least 30 days prior to and non commercial site borrow activities	As required	CULTURAL SPECIALIST			Nothing required at this time			Verified in Monthly reports in section 2.12. Requirement complete with suspension Approval received per teleconferance and verified by email 9.14.12

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CONS	ELEC-1	Prior to the start of any increment of electrical construction for electrical equipment and systems 480 volts and higher, with the exception of underground duct work and any physical layout drawings and drawings not related to code compliance and life safety, submit for CBO design review and approval the proposed final design, specifications and calculations.	Submit to the CBO for design review and approval the items listed in this condition	At least 30 days prior to start of construction of each increment of electrical construction	As required	KIEWIT			Nothing required at this time			Verified in Monthly reports in section 2.13.
CONS	GEN-1	Design, construct, and inspect the project in accordance with the codes listed in the condition.	The project owner shall submit to the CPM and the CBO a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation, and inspection requirements of the applicable LORS and the Energy Commission's decision have been met in the area of facility design. The project owner shall provide the CPM a copy of the certificate of occupancy within 30 days of receipt from the CBO.	Five (5) days prior to requesting the issuance of the certificate of occupancy	2/24/13	KIEWIT						
PC-2	GEN-2a	Furnish the CPM and the CBO with a schedule of facility design submittals, and master drawings and master specifications list. The master drawings and master specifications list shall contain a list of proposed submittal packages of designs, calculations, and specifications for major structures, systems, and equipment. The schedule shall contain the planned date of each submittal to the CBO.Provide specific packages to the CPM upon request. Also plans and calculations for all construction work shall be submitted to the CBO for approval.	Submit to the CBO and to the CPM the schedule, and the master drawings and master specifications list of documents to be submitted to the CBO for review and approval.	At least 60 days prior to the start of rough grading	1/24/11	KIEWIT	11/19/2010 Submittal 016 1/4/11 to the CBO	2010-1726	Approved 12/15/2010	11/18/2010	11/19/2010	CEC Acceptance Per email from J Caswell on 12/15/10 (TN2010-1726) Additionaly Verified on MCR No. 4
CONS	GEN-2b	Furnish the CPM and the CBO with an updated schedule of facility design submittals	Provide schedule updates in the monthly compliance report	Monthly	Include in MCR	KIEWIT					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
CONS	GEN-3	Make payments to the CBO for design review, plan check and construction inspections based upon a reasonable fee schedule to be negotiated between NCPA and the CBO.	Send copy of CBO's receipt of payment to CPM in next MCR indicating applicable fees have been paid.	Monthly	Include in MCR	GenOn					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
PC-2	GEN-4	Assign a California registered architect, or a structural or civil engineer as the resident engineer (RE) in charge of the project.	Submit to the CBO for review and approval, the resume and registration number of the RE and any other delegated engineers assigned to the project. Notify the CPM of the CBO's approvals of the RE and other delegated engineer(s) within five days of the approval.	At least 30 days prior to start of rough grading	2/23/11	KIEWIT	12/3/2010; To CBO 1-26-11 Submittal 019 Submittal 036	2010-1785	Approved (No Date Given)	11/19/10	12/3/10	2/4/2011 Verified on MCR No. 5 2/11/2011
PC-2	GEN-5	Assign at least one of each of the following California registered engineers to the project: a civil engineer; a soils, geotechnical, or civil engineer experienced and knowledgeable in the practice of soils engineering; and an engineering geologist, a design engineer who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; a mechanical engineer; and an electrical engineer.	Submit to the CBO for review and approval, resumes and registration numbers of the responsible engineers. Notify the CPM of the CBO's approvals of the responsible engineers within five days of the approval.	At least 30 days prior to start of rough grading	2/23/11	KIEWIT	To CBO 1/17/11 To CEC 2/16/2011 Submittal 036 6/28/2011 addtnl Submittal 052 Submittal 057		CBO Approved 2-16-11 CEC Approved 3/16/2011 Submitted Tharu Nadaraj (Electrical) and Chad Enders (Civil) for approval 6/28/2011 Mr. Nadaraj and Mr. Enders resumes approved 8/12/11 Submitted Gen Amrhein, Chad Enders and Shong Liu for Design Engineer 8/15/2011	11/30/10	1/17/11	2/16/2011 Verified through CBO Returns and MCR No.7 4/16/2011
CONS	GEN-6	Assign to the project, qualified and certified special inspector(s) who shall be responsible for the special inspections required by the 2007 CBC.	Submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the certified weld inspector(s), or other certified special inspector(s) assigned to the project	At least 15 days prior to start of an activity requiring special inspection	As required	KIEWIT	To CBO 2/2/11 Sent to CE 9/23/2011 Submittal 064 Submittal 065		CBO Approved 2-24-11 9/23/2011 Sent Quals to CEC for Jay Locatelli, Micah Ek, Jeffrey Brooks, Jason Burris, Ryan Doyel, and Laura Johnson. Also sent CBO approvals for Jahn Sasser, Stanley Silva, and Anselmo De Haro. CEC approval 10/5/11.		2/2/11	2/24/2011 Verified MCR No.7 4/16/2011
CONS	GEN-7	If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend required corrective actions.	Transmit a copy of the CBO's approval of any corrective action taken to resolve a discrepancy to the CPM in the next monthly compliance report. If any corrective action is disapproved, the project owner shall advise the CPM, within five days, of the reason for disapproval and the revised corrective action to obtain CBO's approval.	Monthly	Include in MCR	KIEWIT					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report

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CONS	GEN-8	Obtain the CBO's final approval of all completed work that has undergone CBO design review and approval. Request the CBO to inspect the completed structure and review the submitted documents. Notify the CPM after obtaining the CBO's final approval. Retain one set of approved engineering plans, specifications, and calculations (including all approved changes) at the project site or at another accessible location during the operating life of the project. Electronic copies of the approved plans, specifications, calculations, and marked-up as-builts shall be provided to the CBO for retention by the CPM.	Submit to the CBO, with a copy to the CPM, in the next monthly compliance report, (a) a written notice that the completed work is ready for final inspection, and (b) a signed statement that the work conforms to the final approved plans.	Within 15 days of completion of any work	As required Include in MCR	KIEWIT			Submittal as available in Monthly reports in Section 2.20			Currently No noted issues with any Monthly report
PC-2	GEO-1	Specifically include in the Soils and Engineery Report, laboratory test data, associated geotechnical engineering analyses, and a thorough discussion of the potential for liquefaction and associated lateral spread, and dynamic compaction. The report should also include recommendations for ground improvement and/ or foundation systems necessary to mitigate these potential geologic hazards, if present.	Include in the application for a grading permit a copy of the Soils Engineering Report which address the potential for liquefaction and associated lateral spread; settlement due to compressible soils, dynamic compaction; and the possible presence of expansive clay soils, and a summary of how the results of the analysis were incorporated into the project foundation and grading plan design of review and comment by the Chief Building Official (CBO)	At least 30 days prior to the start of grading	2/23/11	KIEWIT	2/19/2011 to CEC and CBO Submittal 037		Approved 3/28/2011	2/18/11	2/19/11	3/28/2011 CEC agrees that all HAZ submittals made to date have been approved excepting HAZ-8 per email verification 8/24/12
OPS	HAZ-1	Do not use any hazardous material in any quantity or strength not listed in Appendix B unless approved in advance by the CEC CPM.	Provide to the CPM, in the Annual Compliance Report, a list of hazardous materials contained at the facility.	Annually	Include in the ACR	NRG	6/25/13 Submittal 165 O&M HMBP to the CEC					
CONS	HAZ-2	Concurrently provide and updated Business Plan, and updated Spill Prevention Control, and Countermeasure Plan, and an updated Risk Management Plan to CCCHSD-HMP) and the CPM for review. Reflect all changes in doc and provide copies to CCCHSD-HMP, CCCFPD and the CPM	Provide a copy of the final updated Business Plan and Updated SPCC plan to CPM for approval. Provide the final RMP to CCHSD-HMP and the CCFPD for information and to the CPM for approval	At least 30 days prior to receiving any hazardous material on site	10/14/12	GenOn	7/11/12 Submittal 111 8/17/12 Submittal 118 9/17/12 Submittal 126		Draft RMP sent to the CEC on 7/11/2012 Updated construction SPCC and HMBP plans submitted to the CEC. 8/17/2012	9/17/12		Per teleconferance on 8/23/12 Kiewit plan is acceptable through construction CEC agrees that all HAZ submittals made to date have been approved excepting HAZ-8 per email verification 8/24/12
CONS	HAZ-3	Develop and implement a Safety Management Plan (SMP) for the delivery of aqueous ammonia and other liquid hazmat by tanker truck.	Submit the plan to the CPM for review and approval.	At least 30 days prior to delivery of any hazardous material to the facility	9/30/12	GenOn	10/9/2012 Submittal 131					CEC agrees that all HAZ submittals made to date have been approved excepting HAZ-8 per email verification 8/24/12
CONS	HAZ-4	Design ammonia storage facility to either ASME Pressure Vessel Code and ANSI K61.6 or to API 620. Tanks shall be protected by a secondary containment basin capable of holding 125% of the storage volume	Submit final design drawings and specifications for the ammonia storage tank and secondary containment basin to the CPM for review and approval	At least 60 days prior to delivery of aqueous ammonia	8/31/11	GenOn - Tank Kiewit- Secondary containment	6/19/2012 Submittal 108 110					Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
CONS	HAZ-5	Direct all vendors delivering aqueous ammonia to the site to use only tanker truck transport vehicles that meet or exceed the specifications of DOT Code MC-307.	Submit copies of notification letter to supply vendors indicating the transport vehicle specs to the CPM for review and approval.	At least 30 days prior to reciept of aqueous ammonia on site	10/1/12	GenOn	8/3/2012 Submittal 113					Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
CONS	HAZ-6	Direct all vendors delivering any hazardous material to the site to use only the route approved by the CPM.Obtain approval of the CPM if an alternate route is desired.	Submit copies of the required transportation route limitation direction to the CPM for review and approval.	At least 60 days prior to reciept of any hazardous material on site	9/1/13	GenOn	8/3/2012 Submittal 113					Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
PC-2	HAZ-7	Prepare a site-specific construction security plan for the construction phase which addresses the items in the Condition.	Notify the CPM that a site-specific construction security plan is available for review and approval.	At least 30 days prior to start of construction	4/1/13	KIEWIT	11/24/2010 Submittal 017	2010-1731	Approved (No Date Given)	11/30/10	11/24/10	2/4/2011 CEC agrees that all HAZ submittals made to date have been approved excepting HAZ-8 per email verification 8/24/12
CONS	HAZ-8a	Prepare a site-specific security plan for the commissioning and operational phases which addresses all the items in the Condition.	Notify the CPM that a site-specific operations site security plan is available for review and approval.	At least 30 days prior to reciept of hazardous materials on site	10/1/12	GenOn	8/23/2012 Submittal 121 9/17/12 Submittal 126		Letter only due to security needs and FOI requests.		8/22/12	August 22 2012 letter submitted and plan is on file
OPS	HAZ-8b	Include a statement that all current project employee and appropriate contractor background investigations have been performed, and that updated certification statements have been appended to the operations security plan. Also include a statement that the operations security plan includes all current hazardous materials transport vendor certifications for security plans and employee background investigations.	Provide information for inclusion in annual compliance report.	Annually	Include in the ACR	NRG			Reports submitted annually.			

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CONS	MECH-1a	MAJOR PIPING & PLUMBING SYSTEMS: Submit for CBO design review and approval the proposed final design, specifications and calculations for each plant major piping and plumbing system listed in the CBO approved master drawing and master specification list.	Submit to the CBO for design review and approval the final plans, specs, and calcs for each major plant piping and plumbing system listed in Facility Design Table 2. including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with LORS	At least 30 days prior to the start of any piping or plumbing construction	As required	KIEWIT					MCR	Approved in monthly installments included in Monthly reports under section 2.21
CONS	MECH-1b	Upon completion of construction of any such major piping or plumbing system, the project owner shall request the CBO's inspection approval of that construction.	Provide the required written documentation to the CPM.	Monthly	Include in MCR	KIEWIT					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
CONS	MECH-2a	PRESSURE VESSELS: Submit for CBO design review and approval the proposed final design, specifications and calculations for each plant pressure vessel listed in the CBO approved master drawing and master specification list.	Submit to the CBO for design review and approval the final plans, specs, and calcs, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with LORS	At least 30 days prior to start of onsite fabrication or installation of any pressure vessel	As required	KIEWIT					MCR	Approved in monthly installments included in Monthly reports under section 2.22
CONS	MECH-2b	Upon completion of construction of pressure vessels, the project owner shall request the CBO's inspection approval of that construction.	Provide the required written documentation to the CPM.	Monthly	Include in MCR	KIEWIT					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
CONS	MECH-3	HVAC SYSTEMS: Submit for CBO design review and approval the proposed final design, specifications and calculations for each HVAC system listed in the CBO approved master drawing and master specification list.	Submit the calcs, plans, and specs to the CBO, including a copy of the signed and stamped statement from the responsible mech engr certifying compliance with CBC and other applicable codes, with a copy of transmittal to CPM.	At least 30 days prior to start of construction of any HVAC or refrig system	As required	KIEWIT					MCR	Approved in monthly installments included in Monthly reports under section 2.22
PC-1	NOISE-1	Notify all residents within one mile of the site and one-half mile of the linear facilities, by mail or other effective means, of the commencement of project construction. Establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project and include that telephone number in the above notice. The telephone number shall be posted at the project site during construction in a manner visible to passersby and maintained until project has been operational for one year.	Transmit to the CPM a statement, signed by the project owner's project manager, stating that the above notification has been performed and describing the method of that notification, verifying that the telephone number has been established and posted at the site, and giving that telephone number.	At least 15 days prior to the start of ground disturbance	3/10/11	GenOn	12/14/2010 Submittal 22	2010-1903	Approved (No Date Given)		12/14/10	2/4/2011 Verified as accepted in MCR MCR No.4 MCR 17 MCR No. 21
CONS	NOISE-2	Throughout the construction and operation of the project, document, investigate, evaluate, and attempt to resolve all project-related noise complaints. Noise Complaint Resolution process will be used.	File a Noise Complaint Resolution Form with the City and the CPM documenting resolution of the compliant.	Within 5 days of receiving a noise compliant	As required	K&G	2/4/2011 Submittal 034		Received noise complaint 1/31/2011. Submited form to the CEC 2/4/2011			
PC-1	NOISE-3	Submit a noise control program and statement signed by project manager verifying that noise control program will be implemented throughout construction of the project. The noise control program must comply with applicable OSHA and Cal-OSHA standards.	Submit a noise control program and project manager's verification letter to the CEC CPM for review and approval.	At least 30 days prior to ground disturbance	2/23/11	KIEWIT	11/19/2010 Submittal 016 1/4/11 to the CBO	2010-1727	Approved 12/15/2010		11/19/2010	CEC acceptance per email (TN2010-1727) 12/15/2010 Also Verified as accepted MCR No.4
COMM	NOISE-4a	Project design will include noise mitigation measures to ensure that noise levels due to operation of the project alone will not exceed an hourly average of 54 dBA at or near LT-1 and 45 dBA at or near LT-2; No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints.	Conduct a community noise survey at monitoring location LT-1, LT-2, or at a closer location acceptable to the CPM. This survey during the power plant's full-load operation shall also include measurement of one-third octave band sound pressure levels.Conduct a survey of noise at monitoring locations.	Within 30 days of project's first achieving a sustained output of 85% or greater of rated capacity	1/22/12	KIEWIT	7/8/13 CEC Submittal 167					
COMM	NOISE-4b	Submit a summary report of the survey to the CPM. Included in the survey report shall be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limit, and a schedule, subject to CPM approval, for implementing these measures. When these measures are in place, the project owner shall repeat the noise survey.	Submit required info to the CPM.	Within 15 days after completing noise survey	2/6/12	KIEWIT	7/8/13 CEC Submittal 167					
COMM	NOISE-5	Conduct an occupational noise survey to identify the noise hazardous areas in the facility when plant reaches 85% of rated capacity or greater	Prepare a report of the survey results and, if necessary, identify proposed mitigation measures that will be employed to comply with the applicable California and federal regulations.	Within 30 days after completing survey	2/21/12	KIEWIT	7/8/13 CEC Submittal 168					

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PC-1	NOISE-6	Heavy equipment operation and noisy construction work relating to any project features, including pile driving, shall be restricted to the times delineated below, unless a waiver has been issued by the City of Antioch for alternative construction hour limitations (specified to be Monday through Saturday 6:00 a.m. to 7:00 p.m., and Sundays and holidays 9:00 a.m. to 5:00p.m.): Mondays through Fridays: 7:00 a.m. to 6:00 p.m. Weekends and holidays: 9:00 a.m. to 5:00 p.m. Haul trucks and other engine-powered equipment shall be equipped with adequate mufflers. Haul trucks shall be operated in accordance with posted speed limits. Truck engine exhaust brake use shall be limited to emergencies.	Transmit to the CPM a statement, signed by the project owner's project manager, acknowledging that the above restriction will be observed throughout the the constucito of the project. If waiver is issued by the city it should be provided to the CPM for review and approval. also verified MCR No.4 MCR 17 MCR No. 21	Prior to Ground Distrubance	2/23/11	KIEWIT	11/19/2010 Submittal 016 5/5/2011 Submittal 047 5/19/2011 Submittal 049 12/29/2011 Submittal 083 April 27, 2012 Submittal 099	2010-1728	Approved 12/15/2010 4/22/2011 Submitted request for Waiver for well drilling and foundation pours. 5/19/2011 Submitted request for waiver for well drilling in July and Aug. Submitted hours for 0700-2400 12/29/2011 Apprvd 1/9/12. Submitted Addntl work hour request 4/27/2011. Approved 5/4/2012.		11/19/2010	Approved by CEC 12/15/10 by email from J Caswell (TN2010-1728) also 5/4/2012. with suspension Approval received per teleconferance and verified by email 9.14.12 Also verified MCR No.4 MCR 17 MCR No. 21
PC-1	PAL-1a	Provide the CPM with the resume and qualifications of the Paleontological Resource Specialist (PRS) for review and approval.	Submit the resume, references, and statement of availability to the CPM for review and approval.	At least 60 days prior to ground disturbance	1/24/11	GenOn	9/29/2010 Submittal 003 4/22/2011	2010-1260 10/5/2010	Approved 9/30/2010 New Monitor Annette Conrelius 8/12/2011 submitted resume for Teresa Butler.		9/29/2010	11/29/2010 Email acceptance from CEC (On File) Also Verified as accepted per Section 4.0 in MCR No.2 with suspension Approval received per teleconferance and verified by email 9.14.12
PC-1	PAL-1b	Provide a letter with resumes naming anticipated monitors stating they meet mimimum quals for monitoring.	Submit the requested info to the CPM .	At least 20 days prior to ground disturbance	3/5/11	GenOn	11/2/2010 Submittal 003 Submittal 010 Submittal 045 Submittal 056	2010-1565	Approved (No Date Given)		11/2/2010	11/29/2010 Email acceptance from CEC (On File) also per section 4.0 MCR No.5 on 2/4/2011 & 2/11/2011 with suspension Approval received per
PC-1	PAL-2	Provide to the PRS and the CPM, for approval, maps and drawings showing the footprint of the power plant, construction laydown areas and all related facilities.	Provide maps and drawings to the PRS and CEC CPM	At least 30 days prior to ground disturbance	2/23/11	GenOn	12/2/2010 Sumbittal 21		Approved (No Date Given)		12/2/2010	2/4/2011 Verified as accepted MCR No.5 2/11/2011 with suspension Approval received per teleconferance and verified by email 9.14.12
PC-1	PAL-3	The PRS shall prepare and submit a Paleontological Resources Monitoring and Mitigation Plan (PRMMP) to identify general and specific measures to minimize potential impacts to significant paleontological resources.	Provide the PRMMP to the CEC CPM, including an affidavit of authorship by the PRS and acceptance of the PRMMP by the project owner evidenced by a signature.	At least 30 days prior to ground disturbance	2/23/11	PRS	11/4/2010 Submittal 011 Final 12/14/2010 Submittal 022	2010-1577	Ammended 7/26/10 Affidavit not required. Approved 12/21/2010		11/4/2010	CEC Acceptance by Email from J Caswell 11/29/2010 (On File) Additional Verificationper acceptances of section 4.0 of MCR No. 3 with suspension Approval received per teleconferance and verified by email 9.14.12
PC-1	PAL-4	If deemed needed, the PRS shall prepare and conduct weekly CPM-approved training for all project managers, construction supervisors and workers who are involved with or operate ground disturbing equipment or tools.	Provide the WEAP materials to the CPM including: brochure, reporting procedures, script, and final video.	At least 30 days prior to ground disturbance	2/23/11	PRS	10/26/2010 Submittal 008 Submittal 023 Submittal 029 Submittal 032 1/26/2011	2010-1489	APPROVED ON GOING 11/29/2010 Submitted WEAP training video 1/26/2011 Unapproved with combination of all 3 ology sections into one booklet. 2/1/2011 Returned for uniformity reasons and a request to include section on local laws and ordinances. Approved 2/8/2011		10/26/2010	CEC Acceptance by Email from J Caswell 11/29/2010 (On File) Additional Verificationper acceptances of section 4.0 of MCR No. 3 with suspension Approval received per teleconferance and verified by email 9.14.12

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CONS	PAL-5	Ensure that the PRS and PRM(s) monitor consistently with the PRMMP, all construction-related grading, excavation, trenching, and auguring in areas where potentially fossil-bearing materials have been identified.	Paleo monitors shall provide monthly summaries for inclusion in MCR.	Monthly	Include in MCR	PRS	8/9/12 Submittal 117		Letter Submitted 8/15/2012 requesting closure to monitoring due to age of fossils already recovered.		Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
CONS	PAL-6	Through the designated PRS, ensure that all components of the PRMMP are adequately performed (see list of activities included in Condition).	Maintain in compliance file copies of signed contracts or agreements with the designated PRS and other qualified research specialists. Maintain these files for a period of three years after completion and approval of the CPM-approved PRR required bu PAL-07.	As required	As required	PRS						Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
CONS	PAL-7	Ensure preparation of a Paleontological Resources Report (PRR) by the designated PRS to be completed following completion of ground disturbing activities.	Submit the PRR under confidential cover to the CPM.	Within 90 days after completion of ground disturbing activities	3/28/12	PRS			Submittal # 174		9/4/2013	
PC-2	SOCIO-1	Pay the one-time statutory school development fee to the Antioch Unified School District as required by Education Code Section 17620	Provide the CPM proof of payment of the fee	At least 30 days prior to start of project construction	4/1/13	GenOn	2/4/2011 Submittal 034 2/2/2012 Submittal 087		Approved (No Paperwork Given) Submited additional payment 2/2/2012	2/4/2011	2/4/2011	2/9/2011 Verified MCR No.6 3/14/2011
PC-1	Soil & Water 1a	Coordinate with the Water Board as necessary develop and implement a construction SWPPP	Submit to the CPM copies of all correspondence with the Water Control Board regarding the SWPPP within 10 days of receipt.	No later than 30 days prior to start of site mobilization	1/16/11	KIEWIT	1/5/2011 Submittal 025		Approved (No Date Given)		1/5/2011	2/4/2011 Verified MCR No.6 3/14/2011
PC-1	Soil & Water 1b	Develop and implement a Storm Water Pollution Prevention Plan (construction SWPPP) for the LEC site, laydown areas, and on-site linear facilities. Submit to the CPM a copy of the construction SWPPP. Info should include a copy of the Notice of Intent for Compliance with the General NPDES permit	Submit to the CPM a copy of the NOTICE OF INTENT FOR COMPLIANCE with the General NPDES permit.	No later than 60 days prior to site mobilization	12/17/10	KIEWIT	1/5/11		Approved (No Date Given)	12/1/2010	1/5/2011	2/4/2011 Verified MCR No.6 3/14/2011
PC-1	Soil & Water 2a	Obtain CPM approval for a site- specific Drainage, Erosion, and Sedimentation Control Plan (DESCP)	Submit a copy of the DESCP to the CPM along with evidence from Contra Costa County that the DESCP meets the requirements of Contra Costa Clean Water Program.	No later than 30 days prior to the start of site mobilization	1/16/11	KIEWIT	1/24/2011 Submittal 028	2011-0158	Approved (No Paperwork Given)	12/1/2010	1/24/2011	2/4/2011 Verified MCR No.6 3/14/2011
PC-2	Soil & Water 2b	Coordinate with Contra Costa County to ensure that the DESCP meets local requirements for a post-construction Storm Water Control Plan.	The DESCP shall meet local requirements for a post-construction Storm Water Control Plan.	No later than 30 days prior to the start of construction.	3/20/11	KIEWIT	2/19/2011 Submittal 37		Approved 3/28/2011	11/29/2010	2/19/2011	3/28/2011 Verified MCR No.7 4/16/2011
CONS	Soil & Water 2c	Monitor and Maintain effective drainage, erosion and sediment control measures during construction	Provide Analysis of effectiveness of drainage, erosion and sediment control measures and the results of monitoring and maintain activities in MCR	Monthly	Include in MCR	KIEWIT					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
CONS	Soil & Water 3	If groundwater is encountered during construction or operation: comply with the requirements of the CVRWQCB Order NO. R5-2008-0081 for Waste Discharge Requirements for Dewatering and Other Low threat Discharges to Surface Waters.	Submit a complete Notice of Intent (NOI) to obtain coverage under CVRWQCB Order No. R5-2008-0081. Submit copies to the CPM of all correspondence between the project owner and the CVRWQCB regarding Order No. R5-2008-0081 within 10 days of its receipt or submittal.	Prior to any groundwater discharge or dewatering activities	As required	KIEWIT	11/9/2011 Submittal 074 11/23/2011 Submittal 077 1/5/2012 Submittal 084 5/10/12 Submittal 101		Provided NOI from RWB 11/9/2011. Addnl 11/23/2011		11/9/11, 11/23/11, 5/10/12	Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
CONS	Soil & Water 4	Comply with the requirements of the General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Storm Water Associated with Industrial Activity (WQO 97-03-DWQ).	Develop andsubmit an Industrial SWPPP for the operation of the MLGS. Submit copies to the CPM of all correspondence between the project owner and the Central Valley Regional Water Quality Control Board regarding the industrial SWPPP within 10 days of its receipt or submittal.	Prior to commercial ops	12/23/11	GenOn	4/25/2013 Submittal 161					

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CONS	Soil & Water-5a	Provide 2 copies of the executed Waste Water Discharge Agreement with DDSD for the long term discharge of all watewater streams for the MLGS to DDSD wastewater treatment facilites. Shall specify Peak dischage rate of 118 gpm. Do not connect to City of Antioch's wastewater pipline along Wilbur Ave w/o the final agreement in place and submitted to CPM	Submit 2 copies of the of the executed agreement for the discharge of wastewater form the MLGS	No later than 60 days prior to connection the DDSD wastewater pipline	9/1/11	GenOn	3/12/2012 Submittal 094 3/20/2013 Submittal 154		Approved by CEC per email response	3/12/2012	3/12/2012 Submitted 2 copies of signed Permit on 3/20/2013	Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
OPS	Soil & Water-5b	During operation an monitoring reports providied to DDSD shall also be provided to the CPM.	Submit any wasterwater quality monitoring reports required by DDSD, and a full explanation of corrective actions taken if a violation occurs to the CPM in the annual compliance report	Annually	Include in the ACR	NRG			Reports submitted annually.			
OPS	Soil & Water-5c	Notify the CPM of any violations of discharge limits	Submit any notice of violations from DDSD to the CPM and fully explain the corrective actions taken in the annual compliance report	Within 10 days of receipt of violation	As required	NRG						
CONS	Soil & Water-6a	Install and Maintain metering devices as part of the water supply and distribution system to monitor and record in gallons per the volume of ground water and potable water supplied to the MLGS.	Submit Evidence to the CPM that metering devices have been installed and are operational on groundwater wells, potable eater and recycled water (if applicable) pipelines serving the project.	At least 60 days prior to use of any water source for operation	9/30/11	KIEWIT	9/21/12 Submittal 130					Submittal evidentury only no approval required
OPS	Soil & Water-6b	Monitor and track the water use by operating the water metering devices for the life of the project. Differentiate between groundwater, potable water, and recycled water. Water use should not exceed 50 AFY from any source	Provide (1)a report on the service testing and calibration of the metering devices, (2)a water use summary report which is based on and distinguished between groundwater, potable water and recycled water, (3) Copies of meter records for the City of Antioch documented the volume of potable water supplied over the previous year as specified (4) Brackish groundwater sample laboratory test results (in years where ground water is used) (5) data or info describing the water conservation program w/ estimates of the annual water saved in the ACR	Annually	Include in the ACR	NRG			Reports submitted annually.			
CONS	Soil & Water-6c	Provide evidence to the CPM that the City has agreed to supply emergency backup water to the project in sufficient quantities to meet the projects needs at a flow rate comparable with the flow rate provide by one on site well	Submit to the CPM evidence that city water meters are installed and are operational. And proof that the City can deliver alternative water the site in the event of an emergency interruption at a flow rate of 420gpm	No later than 30 days prior to installing a connection to the City of Antioch potable water main	9/1/11	GenOn	9/29/2011 Submittal 067 Additional submittal 10/11/2011 Submittal 069		Provided copies of correspondence regarding supply of city water.			Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
CONS	Soil & Water-6d	If Primary Alternative water source is approved by CPM to be City of Antioch Fresh Water Supply. (1)Pay fee equal to no more than $1,000/ AF of City of Antioch Water consumed annually. (2) A payment of $15,000 shall be made to the city to offset water used during construction.	Provide evidence that brackish groundwater is environmentally undesirable or economical unsound. Provide proof that the initial water conservation fee of $15,000 was paid to the city of Antioch.	Prior to site operations	4/1/13	GenOn	9/29/2011 Submittal 067		Provided evidence of $15,000 payement to the city.	9/18/2012	Sent by Email to CEC PM C Strora 9/18	9/1912 Email confirmation to Dawn confirmation
OPS	Soil & Water-6e	If Primary Alternative water source (City of Antioch Water) is being used in operation, Pay an annual fee of $1,000/ AF of City of Antioch Water consumed annually	Calculate the annual use payment at the rate of $1,000/ AF of fresh water reported annual in in the ACR. Pay the amount confirmed by the CPM	No later than 60 days following the approval of the ACR	As required	NRG			Paid annually in May.			
CONS	STRUC-1a	Prior to the start of any increment of construction, submit to the CBO for design review and approval the proposed lateral force procedures for project structures and equipment identified in the CBO-approved master drawing and master specification list. Must include items within this condiditon	Construction of any structure or component shall not begin until the CBO has approved the lateral force procedures to be employed in designing that structure or component. Submit to the CBO the final design plans, specs and calcs with a copy of the transmittal letter to the CPM.	At least 60 days prior to start of any structure or component listed in Facility Design Table 2 of GEN-2	As required	KIEWIT						Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
CONS	STRUC-1b	Submit to the CPM a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and comply with the requirements set forth in applicable engineering LORS.	Submit required info to the CPM.	Monthly	Include in MCR	KIEWIT					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
CONS	STRUC-2	Submit to the CBO the required number of sets of the documents related to work that has undergone CBO design review and approval related to concrete cylinder strength test reports and pour sign-off sheets, bolt torque and field weld inspection reports, and other reports covering structural activities requiring special inspections in accordance with CBC.	If discrepancies are found, within 5 days the Project Owner shall prepare and submit an NCR to the CBO with a copy of the transmittal letter to the CPM. Within 5 days of resolution, the Project Owner shall submit a copy of the correction action to the CBO and CPM. The CBO's approval or disapproval shall be submitted to the CPM within 15 delays.	As required	As required	KIEWIT						Verified by CBO approvals and documented in Monthly reports section 2.26
CONS	STRUC-3	Submit to the CBO design changes to the final plans required by the CBC, including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes, and shall give to the CBO prior notice of the intended filing.	Notify the CBO of the intended filing of design changes, and notify the CPM in the MCR of the CBO's approval of the revised plans.	Monthly	Include in MCR	KIEWIT			No inpending changes		Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report

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CONS	STRUC-4	Tanks and vessels containing quantities of toxic or hazardous materials exceeding amounts specified in the 2007 CBC shall, at a minimum, be designed to comply with the requirements of that chapter.	Submit to the CBO for design review and approval the final plans, specs, and calcs, including a copy of the signed and stamped statement from the responsible engineer certifying compliance with LORS	At least 30 days prior to the start of installation of the tanks or vessels	As required	GenOn - Ammonia Tank KIEWIT - All Other						Verified by CBO approvals and documented in Monthly reports section 2.28
CONS	TLSN-1	Construct the proposed transmission line according to the requirements of California Public Utility Commission's GO-95, GO-52, GO-131-D, Title 8, and Group 2, High Voltage Electrical Safety Orders, Sections 2700 through 2974 of the California Code of Regulations, and Pacific Gas and Electric's EMF-reduction guidelines.	Submit to the CPM a letter signed by a CA registered EE affirming that the line will be constructed according to the requirements set forth in the Condition.	At least 30 days prior to starting construction of proposed new lines	4/1/12	KIEWIT	4/13/12 Submittal 097				4/13/2012	Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
CONS	TLSN-2	Every reasonable effort will be made to identify and correct, on a case-specific basis, any complaints of interference with radio or TV signals from operation of the proposed line and associated switchyard.	Submit to the CPM a letter signed by a CA registered EE affirming the project owners intention to comply with this requirment.	At least 30 days before starting operation of either line option	8/22/12	KIEWIT	8/21/2012 Submittal 120				8/21/2012	Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
CONS	TLSN-3	Use a qualified individual to measure the strengths of the electric and magnetic fields from the line at the points of maximum intensity along the proposed route. The measurements shall be made before and after energization according to ANSI/IEEE standard procedures. These measurements shall be completed not later than six months after the start of operations.	File copies of the pre-and post-energization measurements with the CPM.	Within 60 days after completion of measurements	11/12/12	KIEWIT	7/12/13 CEC Submittal 169					
CONS	TLSN-4	Ensure that the rights-of-way of the proposed transmission line are kept free of combustible material, as required under the provisions of Section 4292 of the Public Resources Code and Section 1250 of Title 14 of the California Code of Regulations.	Transmit to the CPM a letter affirming the intention to comply with this condition.	At least 30 days before the start of operations	8/24/2012 Submittal	GenOn	8/22/2012 Submittal 122				8/22/2012	Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
CONS	TLSN-5	Ensure that all permanent metallic objects within the right-of-way of the project-related lines are grounded according to industry standards regardless of ownership.	Transmit to the CPM a letter confirming compliance with this condition.	At least 30 days before lines are energized	8/22/12	KIEWIT	8/20/2012 Submittal 119				8/21/2012	Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
PC-1	TRANS-1	In coordination with Contra Costa County Public Works Department, develop and implement a construction traffic control plan to include the items specified within the condition	Provide CCCPW and the city of Antioch Engineering Department for review and comment the construction traffic control plan. Provide to the CPM the construction control plan and the CCPW and the City of Antioch Engineering Departments comments for review and approval.	At least 60 days prior to the start of site mobilization	12/17/10	KIEWIT	11/18/2010 Submittal 015 1/5/2011 Submittal 024 Submittal 031 Submittal 033 1/31/2011	2010-1685 2011-0219	Returned for addional Informatio 12/13/2010. Resubmitted 1/5/2011 Resubmitted additional information 1/31/2011 Resubmitted the plan in the CEC suggested format 2/1/2011	11/18/2010	11/18/2010	2/8/2011 Verified by Email from C Stora on 9/18/2012
PC-1	TRANS-2a	Prepare a mitigation plan for Wilbur Ave should it be damaged by project construction. Should ensure that if damage occurs it will be repaired to original condition. The plan include the condition specified items (Photographic/videotape evidence of pre construction condition is req)	Submit a mitigation plan focused on restoring the local identified roads to is pre-project condition to the City of Antioch for review and comment and to the CPM for Review and approval.	At least 90 days prior to the start of any site (or related facilities) mobilization	11/17/10	KIEWIT	11/18/2010 Submittal 015	2010-1686	Approved 2/4/2011 No Paperwork Given		11/18/2010	2/4/2011 Verified MCR No.6 3/14/2011
CONS	TRANS-2b	Restore any area of Wilbur Ave that were damaged during construction to their original condition.	Provide photo/ videotape documentation to the CCCPW and the City of Antioch Engineering Department and the CPM that any damaged areas have been restored.	Within 90 days following the completion of construction	3/28/12	KIEWIT	3/15/2013 Submittal 176					
CONS	TSE-1	Provide the CPM and CBO with a schedule of transmission facility design submittals, a master drawing list, a master specifications list, and a major equipment and structure list as indicated in the condition.	Provide info to CBO and CPM.	At least 60 days prior to start of transmission line construction.	3/2/12	KIEWIT	10/21/2011 Submittal 082					Submittal requirement only no approvals requested, updates for schedule are provided in Monthly reports

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PC-2	TSE-2	Assign an electrical engineer and at least one of each of the following: a civil engineer; geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering; a design engineer who is either a structural engineer or a civil engineer and fully competent and proficient in the design of power plant structures and equipment supports; or a mechanical engineer.	Prior to the start of rough grading, the project owner shall submit to theCBO for review and approval, the names, qualifications, and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify theCPM of the CBO's approvals of the engineers within five days of the approval.If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five daysof the approval	Prior to start of rough grading	2/23/11	KIEWIT	To CBO 1-27-11 To CEC 2/16/2011 Submittal 036 8/15/2011 Submittal 057 9/29/2011 Submittal 066	Verballty approved (C.H.)	CBO Approved 2-16-11 CEC Approved 3/16/2011 Submitted Reid Strain for Design Engineer and Richard Jacober for Electrical Engineer 8/16/2011 9/29/2011 submitted Daren Phelps as EE. CEC Approved 10/5/11.	11/30/10	1/27/2011	3/16/11
CONS	TSE-3	If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend corrective action. The discrepancy documentation shall become a controlled document and shall be submitted to the CBO for review and approval and refer to this condition of certification.	Submit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy to the CPM.	Within 15 days of receipt	As required	KIEWIT	3/2/12 Submittal 093				3/2/2012	Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
CONS	TSE-4	For the power plant switchyard, outlet line and termination, construction shall not begin until plans for that increment of construction have been approved by the CBO. These plans, together with design changes and design change notices, shall remain on the site for one year after completion of construction.	Submit to the CBO for review and approval the final design plans, specifications and calculations	Before the start of each increment of construction	As required	K&G	9/20/12 Submittal 127			9/20/2012	9/20/2002	Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
CONS	TSE-5a	Design, construct, and operate the proposed transmission facilitiesin conformance with all applicable LORS, and the requirements listed in the condition.	Submit to the CBO: a) Design drawings, specifications, and calculations conforming with CPUC General Order 95 or National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the *High Voltage Electric Safety Orders* , CA ISO standards, National Electric Code (NEC) and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, grounding systems, and major switchyard equipment;	Prior to start to start of construction of the transmission facilities	5/1/12	KIEWIT	3/12/12				3/12/2012	Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
CONS	TSE-5b	Provide electrical one-line diagrams signed and sealed by the registered professional electrical engineer in charge, a route map, and an engineering description of the equipment and configurations covered by requirements TSE-5 a) through j),	b) For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions"1 and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the *High Voltage Electric Safety Orders* , California ISO standards, National Electric Code (NEC), and related industry standards;	Prior to start to start of construction of the transmission facilities	5/1/12	KIEWIT	9/20/12 Submittal 128			3/12/2012 9/20/2012	3/12/2012 9/20/2012	Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
CONS	TSE-5c	Provide the final Detailed Facility Study (DFS) including a description of facility upgrades, operational mitigation measures, and/or special protection system sequencing and timing if applicable.	c) Electrical one-line diagrams signed and sealed by the registered professional electrical engineer in charge, a route map, and an engineering description of the equipment and configurations covered by requirements **TSE-5** a) through f);	Prior to start to start of construction of the transmission facilities	5/1/12	KIEWIT	3/12/12				3/12/2012	Verified By email from(CEC) C Stora on 9/4/12
CONS	TSE-5d	Provide the executed project owner and California ISO facility interconnection agreement.	d) The Special Protection System (SPS) sequencing and timing if applicable shall be provided concurrently to the CPM.	Prior to start to start of construction of the transmission facilities	5/1/12	GenOn	10/1/13		See email from CEC C Stora			
CONS	TSE-5e	Provide evidence showing coordination with the affected agencies and utilities including but not limited to Western Area Power Administration and Lodi Electric Utility.	e) A letter stating that the mitigation measures or projects selected by the transmission owners for each reliability criteria violation, for which the project is responsible, are acceptable.	Prior to start to start of construction of the transmission facilities	5/1/12	GenOn	10/1/13		See email from CEC C Stora			
CONS	TSE-5f	Inform the CPM and CBO of any impending changes which may not conform to the requirements of TSE-05 and request approval to implement such changes.	f) The final Phase II Interconnection Study, including a description of facility upgrades, operational mitigation measures, and/or special protection system sequencing and timing if applicable, and.	Prior to start to start of construction of the transmission facilities	5/1/12	GenOn	3/2/12			3/2/2012	3/2/2012	Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012

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CONS	TSE-5g	Provide a copy of the executed LGIA signed by the California ISO and the Project Owner.	g) A copy of the executed LGIA signed by the California ISO and the project owner. Prior to the start of construction of or modification of transmission facilities, the project owner shall inform the CBO and the CPM of any anticipated changes to the design that are different from the design previously submitted and approved and shall submit a detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change to the CPM and CBO for review and approval.	Prior to start to start of construction of the transmission facilities	5/1/12	GenOn	3/2/12			3/2/2012	3/2/2012	Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
CONS	TSE-5h	Inform the CPM and CBO of any impending changes which may not conform to the requirements of TSE-05 and request approval to implement such changes.	Inform the CBO and CPM of any impending changes.	Prior to start to start of construction of the transmission facilities	As required	KIEWIT			No inpending changes			
CONS	TSE-6	Provide notice to the Cal-ISO prior to synchronizing the facility with the California transmission system:	Provide notice to the Cal-ISO prior to synchronizing the facility with the California transmission system:	One week prior to initial synchronization w/ the grid	11/1/12	GenOn						
CONS	TSE-7	Inspect the transmission facilities during and after project construction, and for any subsequent CPM- and CBO-approved changes, to ensure conformance with CPUC General Order 95 or National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the High Voltage Electric Safety Orders, California ISO standards, National Electric Code (NEC) and related industry standards.	Transmit to the CPM and CBO: "As built" engineering description(s) and one-line drawings of the electrical portion of the facilities signed and sealed by the registered electrical engineer in charge; a statement verifying conformity with the standards set forth in Condition; "as built" engineering description of the mechanical, structural, and civil portion of the transmission facilities signed and sealed by the registered engineer in charge or an acceptable alternative verification; and a summary of inspections of the completed transmission facilities, and identification of any nonconforming work and corrective actions taken, signed and sealed by the registered engineer in charge.	Within 60 days after first synchronization to the grid	1/20/13	KIEWIT			Submitted to Steve Erickson January 2013			
CONS	VIS-1a	Develop a treatment plan for the surfaces of all project structures and buildings visible to the public as specified in the condition.	Submit the proposed treatment plan to the CPM for review and approval and simultaneously to the CCC or responsible jurisdiction for review and comment. Any modifications must be sent to the CPM for approval	At least 90 days prior to specifying the vendor the colors and finishes of the first structures or building that are surface treated during manufacturing	12/1/10	K&M	5/19/2011 Submittal 049 6/6/2011 Submittal 050		Submitted plan per Condition on 5/19/2011 Submitted Hard Copies to Dawn Owens for submission to the City and County on 5/19/2011. Based on comments from the CEC resubmitted on 6/6/2011. Verbal approval received on Vis-1 approval around 6/15/2011.			
CONS	VIS-1b	Treat the surfaces of all project structures and buildings visible to the public as specified in the condition.	Notify the CPM that the surface treatment of all listed structures and buildings has been completed and is ready for inspection and submit electronic color photographs taken from the same KOPs.	Prior to start of commerical operation	12/23/11	KIEWIT	Email from Christine Stora of the CEC dated 3/15/13 conditionally accepting the surface treatments.					
OPS	VIS-1c	Ensure proper treatment maintenance for the life of the project.	Provide a status report regarding surface treatment maintenance in the ACR which specifies the items in the condition	Annually	Include in the ACR	NRG			Reports submitted annually.			
CONS	VIS-2a	Develop a landscaping plan which would Provide landscaping that reduces the visibility of the power plant structures and complies with local policies and ordinances	Submit landscaping plan to the CPM for review and approval and simultaneously to CCC for review and comment.	At least 90 days prior to installation	12/1/12	GenOn	2/25/13 Submittal 150					
CONS	VIS-2b	Provide landscaping that reduces the visibility of the power plant structures and complies with local policies and ordinances.	Simultaneously notify the CPM and CCC after the completion of the landscaping that the site is ready for inspection.	Within 7 days after completing landscaping	3/1/13	GenOn			3/12/2014: DJH contacting Zion to make repairs prior to scheduling an inspection.			

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OPS	VIS-2c	Maintain landscaping, including any needed irrigation and annual or semi annual debris removal for the life of the project	Report landscaping maintence activites, including replacement of dead or dying vegetation for the previous year of operation in the ACR	Annually	Include in the ACR	NRG			Reports submitted annually.			
CONS	VIS-3a	Design and install all permanent exterior lighting such that (a) lamps and reflectors are not visible from beyond the project site, including any off-site security buffer areas; (b) lighting does not cause excessive reflected glare; (c) direct lighting does not illuminate the nighttime sky; (d) illumination of the project and its immediate vicinity is minimized, and (e) the plan complies with local policies and ordinances.	Contact the CPM to discuss the documentation required in the lighting mitigation plan. The project owner shall not order any exterior lighting until receiving CPM approval of the lighting mitigation plan.	At least 90 days prior to ordering any permanent exterior lighting	2/1/13	KIEWIT	3/26/2012 Submittal 096		The following participated on the call on 3/7/12: Scott Kennedy, Tharu Nadarajah, Greg Zullig, Kelly Zullig (all PKS), David Frandsen (GenOn), David Flores and Chrstine Stora (CEC) Drawing documentation to follow.		3/7/2012	3/7/2012 Verified in MCR No. 21
CONS	VIS-3b	Prepare a lighting mitigation plan that includes the specific info set forth in the condition.	Submit to the CPM for review and approval and simultaneously to the Contra Costa County for review and comment a lighting mitigation plan.	At least 60 days prior to ordering any permanent exterior lighting	3/1/13	KIEWIT	3/26/2012 Submittal 096 4/16/12 Submittal 098				4/16/2012	5/3/2012 Verified in MCR No. 21
CONS	VIS-3c	Notify the CPM that the permanent exterior lighting has been completed and is ready for inspection.	Set up an inspection appointment.	Prior to start of commercial operation	12/29/11	KIEWIT	David Flores of the CEC performed the inspection with Raja on 4/2/13					
CONS	VIS-3d	Notify the CPM of any complaints re: lighting.	Submit a complaint resolution form to the CPM record each lighting complaint and document resolution of that complaint.	Within 48 hours after receiving a complaint	As required	KIEWIT- During Construction GenOn -			No Complaints			
PC-1	WASTE-1a	Comply with BAAQMD Regulation 11, rule 2 req for management and disposal of asbestos contain material removed during project demolition.	Provide to the CPM copies of the BAAQMD notification materials, acknowledgment letter and job number assigned by the BAAQMD for review and approval	No less than 10 day prior to commencement of project related demolition	1/7/11	K&G	1/24/2011 Submittal 028		Approved 1/31/2011 No Paperwork		1/24/2011	1/31/2011 Verified MCR No. 5 2/11/2011
CONS	WASTE-1b	Manage asbestos waste during demolition to comply with BAAQMD regulation 11, rule 2	Provide summary report(s) to the CPM on asbestos waste management via MCR to include items specified w/in the condition	Monthly	Include in MCR	K&G					Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
PC-1	WASTE-2	Complete a lead-based paint survey of all structures to be demolished and ensure that project related demolition debris contain lead based paint is properly managed and disposed of in accordance with all applicable LORS	Verification: At least 30 days prior to the start of project-related demolition, the project owner shall submit to the CPM for review and approval a copy of the lead-based paint survey conducted for the project site. The project manager shall also provide to the CPM a description of the procedures to be employed during demolition to ensure that lead-based paint debris and wastes are managed in accordance with all applicable LORS.	At least 30 days prior to the start of project-related demolition	1/16/11	GenOn	1/5/2011 Submittal 025	2011-0137	Approved 1/31/2011 No Paperwork		1/5/2011	1/31/2011 Verified in MCR No. 21
PC-1	WASTE-3	Provide the resume of a Registered PE or Geologist, who shall be available for consultation during site characterization (if needed), excavation and grading activities.	Submit resume to CPM for approval. Provide to the CPM a copy of the contract with the approved professional Engineer/Geologist prior to start of project related demolition	At least 30 days prior to site mobilization	1/16/11	KIEWIT	11/24/2010 Submittal 017	2010-1730	Approved 1/18/2011	12/1/2010	11/24/2010	1/18/2011 Verified in MCR No. 21

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CONS	WASTE-4	If potentially contaminated soil is identified during site characterization, excavation, or grading at either the proposed site or linear facilities, as evidenced by discoloration, odor, detection by handheld instruments, or other signs, the Professional Engineer or Professional Geologist shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and provide a written report to the project owner, representatives of DTSC, and the CPM stating the recommended course of action.	Submit any final reports filed by the Professional Engineer or Professional Geologist to the CPM. Project owner must notify the CPM within 24 hours of any orders issued to halt construction.	Within 5 days of their receipt	As required	KIEWIT	4/15/2011 Submittal 046 4/26/2011 10/14/2011 11/23/2011 Submittal 078 12/14/2011 Submittal 081 4/27/12 Submittal 100 5/18/2012 Submittal 104 5/23/12 Submittal 106 5/25/12 Submittal 107 6/05/2012		Oily dirt - East side Oily dirt-Middle of Power Block, 11/23/2011 addnl oil on East Side. Dec. 14 DTSC correspondence	4/15/11, 4/26/11, 10/14/11, 11/23/11, 12/14/11, 5/1/12, 5/18/12, 6/5/2012	4/15/11, 4/26/11, 10/14/11, 11/23/11, 12/14/11, 5/1/12, 5/18/12, 6/5/2012	Verified as accepted per Email notice from CEC MS. C Stora on 9/4/2012
PC-1	WASTE-5a	Comply with all applicable provisions of the city of Antioch's Construction and Demolition Debris Recycling Ordinance No. 1018- C-S., including preparation of a Construction and Demolition Debris Recycling Ordinance Waste Management Plan for all wastes generated during project demolition and construction activities.	At least 45 days prior to the start of project-related demolition, the project owner shall submit to the city a draft Construction and Demolition Debris Recycling Ordinance Waste Management Plan for review and comment. Submit to the CPM for review and approval the draft Waste Management Plan and any comments on the plan provided by the city	Not less than 15 days prior to the start of project-related demolition	4/16/13	KIEWIT	12/02/2010 Submittal 013 to City 12/03/2010 to CEC Resubmit to CEC 12/21/2010 Submittal 19 Submittal 023	2010-1784 2010-1927	Approved 1/31/2011 No Paperwork	11/18/2010	12/2/2010	1/31/2011 Verified MCR No.5 2/11/2011
CONS	WASTE-5b	Require all project contractors and subcontractors to adhere to the city's waste diversion requirements and provide to the project owner adequate documentation of the types and volumes of wastes generated, how the wastes were managed, and volumes of wastes diverted	Submit documentation to the city of Antioch, with copies to the CPM, demonstrating compliance with th diversion program requirements. The required documentation shall include a final completed Waste Management Plan (as set forth by the city ordinance) and all necessary receipts or records of measurement from entities receiving project wastes.	Not later than 30 days after completion of project construction	1/28/12	KIEWIT	Loaded recycle receipts to the City of Antioch FTP site on 6/26/2013, and set an email to Julie Haas-Wajdowicz asking for confirmation.		Submittal # 171		8/21/2013	
CONS	WASTE-5c	Comply with all applicable provisions of the city of Antioch's Construction and Demolition Debris Recycling Ordinance No. 1018- C-S	Provide documentation to the CPM that the project has satisfactorily complied with the city of Antioch Ordinance No. 1018-C-S	Prior to start of project Operation	12/23/11	KIEWIT	Submittal 166 sent to CEC on 6/26/2013		Submittal # 171		8/21/2013	
PC-1	WASTE-6a	Obtain a hazardous waste generator identification number from the United States Environmental Protection Agency prior to generating any hazardous waste during construction.	Keep a copy of the identification number on file at the project site and provide the number to the CPM.	Prior to start of construction	5/1/13	K&M	11/16/2010 Submittal 013 Submittal 054	2010-1665	Approved 7/22/2011		11/16/2010	CEC Acceptance 11/18/2010by J Caswell Re-Verified By Email from C Stora on 9/18/12
CONS	WASTE-6b	Obtain a hazardous waste generator identification number from the United States Environmental Protection Agency prior to generating any hazardous waste during operations.	Keep a copy of the identification number on file at the project site and provide the number to the CPM.	At least 30 days prior to commercial operation.	1/22/12	NRG	11/16/10		Approved 7/22/2011			
COMM	WASTE-7a	Prepare an Operation Waste Management Plan for all wastes generated during operation of the facility	Submit the plan to the CPM for review and approval. The plan shall contain, at a minimum the items in the condition. submit any required revisions to the CPM within 20 days of notification from the CPM that revisions are necessary.	No less than 30 days prior to the start of project operation	11/23/11	GenOn	Submittal 152 sent to the CEC on 3/2/13				3/2/2013	
OPS	WASTE-7b	Update the Operation Waste Management Plan as necessary to address current waste generation and management practices.	Document in each ACR 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 Operation Waste Management Plan	Annually	Include in the ACR	NRG			Reports submitted annually.			
OPS	WASTE-8	Ensure that all spills or releases of hazardous substances, hazardous materials, or hazardous waste are documented and cleaned up and that wastes generated from the release/spill are properly managed and disposed of, in accordance with all applicable federal, state, and local requirements.Document management of all unauthorized releases and spills of hazardous substances, hazardous materials, or hazardous wastes that occur on the project property or related linear facilities as specified in the condition	Provided to the CPM unauthorized release/spill documentation	Within 30 days of the date the release was discovered.	As required	NRG						
OPS	WASTE-9	Notify the CPM of any impending waste management-related enforcement action by any local, state, or federal authority taken or proposed to be taken against the project itself, or against any waste hauler or disposal facility or treatment operator with which the owner contracts that may be related to management of project wastes	Notify the CPM in writing and provide a description and timeline for steps to be taken to address the action.	Within 10 days of becoming aware of an impending enforcement action	As required	NRG						

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PC-1	WASTE-10	Ensure that the Marsh Landing Generating Station site is properly characterized so as to be able to identify hazardous wastes present at the project site. The project owner shall work closely with PG&E and Ensure that PG&E follows any and all directives issued by the California EPA Department of Toxic Substances Control (DTSC) to characterize, assess, and remediate the project site. No soil excavation or grading shall commence until the CPM gives approval	Provide the CPM for review and approval all project-related plans, results, and assessments provided by PG&E to DTSC and all obtainable project-related written correspondence between DTSC and PG&E	At least thirty (30) days prior to the start of any soil excavation or grading	2/23/11	GenOn	11/29/2010 Submittal 018 Submittal 024 Submittal 038 6/28/2011 Submittal 052 Submittal 053 Submittal 054	2010-1738 returned 12/3/2010 2011-0144	Pending DTSC approval of plan letter. Additional correspondence provided 1/5/2011 (Not plan letter.) Approved 2/7/2010 Addtnl sent 6/28/2011 Approved Corrective Measures Completion Report and Final Revision 7/27/2011		11/29/2010	2/7/2011 Verified MCR No.6 3/14/2011
PC-2	WORKER SAFETY-1	Submit a copy of the Project Construction Safety and Health Program containing the following construction plans: PPE, Exposure Monitoring, IIPP,EAP, and FPP. provide a copy of a letter to the CPM from the CCC Fire Protection District stating the fire department's comments on the Construction Fire Prevention Plan and Emergency Action Plan.	The Safety Program, PPE, IIPP, and Exposure Monitoring Program shall be submitted to the CEC CPM for review and approval; the EAP and FPP shall be submitted to the CCC Fire Protection District for review and comment prior to submittal to the CPM for approval.	At least 30 days prior to start of construction	4/1/13	KIEWIT	1/11/2011 Submittal 026	2011-0111	Approved (No Paperwork Given)	11/19/2010	1/11/2011	2/7/2011 Verified MCR No.6 3/14/2011
COMM	WORKER SAFETY-2	Prepare and submit an O&M Safety & Health Plan containing: an IIPP, EAP, HMMP, FPP, and PPE.	The Operations IIPP, EAP, PPE shall be submitted to the CEC CPM for review and comment; the EAP and FPP shall also be submitted to the CCC Fire Protection District for review and comment. Provide a copy of a letter to the CPM from the CCC Fire Protection District stating the fire department's comments on the Operations Fire Prevention Plan and Emergency Action Plan.	At least 30 days prior to first fire or commissioning	9/7/12	GenOn	10/9/12 Submittal 132 10/10/12 Submittal 133					
PC-1	WORKER SAFETY-3a	Provide a site Construction Safety Supervisor (CSS) who, by way of training and/or experience, is knowledgeable of power plant construction activities and relevant laws, ordinances, regulations, and standards; is capable of identifying workplace hazards relating to the construction activities; and has authority to take appropriate action to assure compliance and mitigate hazard	Submit to the CPM the name and contact information for the Construction Safety Supervisor (CSS). The contact information of any replacement CSS shall be submitted to the CPM within one business day.	At least 30 days prior to the start of construction	3/20/11	KIEWIT	11/18/2010 Submittal 13 Kiewit Submittal 015		CEC approval per email from J Caswell on 11/16/10		11/18/2010	2/4/2011 Verified MCR No.6 3/14/2011
CONS	WORKER SAFETY-3b	The CSS shall prepare and submit a monthly safety inspection that includes the info specified in the verification language of the condition.	Submit required info to the CPM.	Monthly	Include in MCR	KIEWIT			CEC approval per email from J Caswell on 11/16/10		Monthly 10th Busness day of each month	Currently No noted issues with any Monthly report
PC-2	WORKER SAFETY-4	Make payments to the CBO for the services of a Safety Monitor (in addition to the other services provided by the CBO). Safety monitor shall be responsible for verifying that the construction safety supervisor implements all required Cal/OSHA and CEC safety requirements.	Provide proof of agreement to fund the safety monitor services to the CPM for review and approval.	Prior to the start of construction	4/1/13	GenOn	1/31/2011 Submittal 031	2011-0220	Provided CBO letter confirming service were covered by GenOn 1/31/2011 Approved 4/2/2011	1/31/2011	1/21/2011	2/4/2011 Verified MCR No.6 3/14/2011
PC-1	WORKER SAFETY-5a	Ensure that a portable automatic external defibrillator (AED) is located on site during demolition & construction, and shall implement a program to ensure that workers are properly trained in its use and that the equipment is properly maintained and functioning at all times.	Submit to the CPM proof that a portable automatic external defibrillator (AED) exists on site and a copy of the training and maintenance program for review and approval.	At least 30 days prior to the start of construction	12/2/10	KIEWIT	11/24/2010 Submittal 013 and 017 Kiewit		CEC approval per email from J Caswell on 11/16/10	11/30/2010	11/24/2010	2/4/2011 Verified MCR No.6 3/14/2011

2.0 Project Operating Status Summary

MLGS began commercial operations May 1, 2013.

The Units ran throughout the year when called upon by CAISO/PG&E. There were no significant operating status changes to the facility during the year.

A one week Summer Readiness outage was performed on each unit during March. Preventative Maintenance tasks were also performed.

3.0 Documents Required by Specific Conditions

The following table lists the Conditions of Certification that require annual input.

Condition of Certification	Description	Items Included	Subsection
BIO-2	Designated Biologist Duties & WEAP Training.	YES	3.1
HAZ-1	List of hazardous materials contained at the facility.	YES	3.2
HAZ-8	Site specific security plan statements.	YES	3.3
SOIL & WATER-5	Waste water reporting to DDSD.	YES	3.4
SOIL & WATER-6	Potable water usage.	YES	3.5
VIS-1	Surface treatment of structures and buildings	YES	3.6
VIS-2	Landscaping activities	YES	3.7
WASTE-7	Waste management plan	YES	3.8
BIO-8 *	CWF Annual Report	YES	3.9

Note: * added subsection starting with the 2016 ACR.

3.1 BIO-2

There were required Biological Resources Monitoring Reports for 2019 related to the Fire Pump System project. Report sent separately.

Marsh Landing Generating Station

Trainer: David Franzen

Date: April 1, 2019

Training: _____

(for office use only)

WORKER ENVIRONMENTAL AWARENESS PROGRAM
WORKER TRAINING ATTENDANCE RECORD

I have attended the Marsh Landing Generating Station Project **Worker Environmental Awareness Program Worker Training** and understand and agree to comply with all environmental requirements presented. I understand that I am accountable for my actions and that failure to comply with the requirements may be grounds for immediate removal from the project and/or legal action.

	Signature	Print Name	Company	Date
1.		Chase Cassity	NRG	4/1/19
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				

3.2 HAZ-1

See the latest attached copy of the list of Hazardous Materials contained at the facility.

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **AMMONIA CONTAINMENT SLAB**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
Corrosive, Toxic	**AMMONIUM HYDROXIDE** CAS No 1336-21-6 Map: 2 Grid: D2	**Gallons** State Liquid Type Mixture	**21200** Storage Container Aboveground Tank Days on Site: 365	**21200**	12200 Pressue > Ambient Temperature Ambient	Waste Code	- Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity	Anhydrous Ammonia Water	19 % 81 %		7664-41-7 7732-1-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **BACK PULSE AIR FILTER COMPRESSORS**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	COMPRESSOR OIL	**Gallons**	**8**	**3**	8		- Health Hazard	Base Oil	90 %		
	CAS No	State: Liquid	Storage Container: Other		Pressue: Ambient	Waste Code	Not Otherwise Classified	Dialkyl Thiophosphate Ester	1 %		268567-32-4
								Alkaryl amine	2 %		68411-46-1
	Map: 2 Grid: G3-G8	Type: Mixture	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **BATTERIES THROUGHOUT SITE (5kV BLDG, SWITCHYARD, ELECTRICAL PACKAGES, ADMIN BLDG)**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Water Reactive, Class 2, Toxic, Oxidizing, Class 1	**LEAD ACID BATTERIES** CAS No ✓EHS Map: 2 Grid: I6, G4-8, C4 State: Liquid Type: Mixture Storage Container: Other Days on Site: 365	**Pounds**	**9617**	**58**	9617 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Physical Explosive - Physical Corrosive To Metal - Health Carcinogenicity - Health Acute Toxicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity	Sulfuric Acid	40 %	✓	7664-93-9

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **CEMS SHELTERS UNITS 1-4**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**NITROGEN** CAS No 7727-37-9 Map: 2 Grid: E3-E8	**Cu. Feet** State Gas Type Pure	**3600** Storage Container Cylinder Days on Site: 365	**300**	3000 Pressue > Ambient Temperature Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant				
	NITROGEN, CARBON MONOXIDE CAS No Map: 2 Grid: E3-8	**Cu. Feet** State Gas Type Mixture	**750** Storage Container Cylinder Days on Site: 365	**150**	600 Pressue > Ambient Temperature Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant	NITROGEN CARBON MONOXIDE	100 %		7727-37-9 630-08-0
	NITROGEN, NITRIC OXIDE CAS No Map: 2 Grid: E3-E8	**Cu. Feet** State Gas Type Mixture	**3000** Storage Container Cylinder Days on Site: 365	**150**	1800 Pressue > Ambient Temperature Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant	NITROGEN NITRIC OXIDE NITROGEN OXIDES	100 %	✓	7727-37-9 10102-43-9 10102-44-0
	NITROGEN, NITRIC OXIDE, CARBON MONOXIDE CAS No Map: 2 Grid: E3-E8	**Cu. Feet** State Gas Type Mixture	**3000** Storage Container Cylinder Days on Site: 365	**150**	1800 Pressue > Ambient Temperature Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant	NITROGEN NITRIC OXIDE CARBON MONOXIDE NITROGEN OXIDES	100 %	✓	7727-37-9 10102-43-9 630-08-0 10102-44-0
	NITROGEN, OXYGEN, CARBON MONOXIDE CAS No Map: 2 Grid: E3-8	**Cu. Feet** State Gas Type Mixture	**3750** Storage Container Cylinder Days on Site: 365	**150**	3150 Pressue > Ambient Temperature Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Reproductive Toxicity - Health Simple Asphyxiant	NITROGEN OXYGEN CARBON MONOXIDE	89 % 10 % 0 %		7727-37-9 7782-44-7 630-08-0

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **COMPRESSOR BUILDING**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Unstable (Reactive), Class 2, Flammable Gas	**ACETYLENE** CAS No 74-86-2 Map: 2 Grid: C6	**Cu. Feet** State Gas Type Pure	**764** Storage Container Cylinder Days on Site: 365	**382**	764 Pressue > Ambient Temperature Ambient	Waste Code	- Physical Flammable - Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant				
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 2	**OXYGEN** CAS No 7782-44-7 Map: 2 Grid: C6	**Cu. Feet** State Gas Type Pure	**843** Storage Container Cylinder Days on Site: 365	**281**	800 Pressue > Ambient Temperature Ambient	Waste Code	- Physical Gas Under Pressure - Physical Oxidizer				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **CONTROL OIL RESERVOIRS**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
	LUBE OIL	**Gallons**	**420**	**140**	420		- Health Hazard Not Otherwise Classified				
	CAS No	State: Liquid	Storage Container: Other		Pressue: Ambient	Waste Code					
	Map: 2 Grid: F3-F7	Type: Mixture	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **DAIS UNIT AIR COMPRESSORS**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	COMPRESSOR OIL	**Gallons**	**100**	**30**	80		- Health Hazard	Base Oil	90 %		
	CAS No	State: Liquid	Storage Container: Other		Pressue: Ambient	Waste Code	Not Otherwise Classified	Dialkyl Thiophosphate Ester	1 %		268567-32-4
	Map: 2 Grid: F3-F8	Type: Mixture	Days on Site: 365		Temperature: Ambient			Alkaryl amine	2 %		68411-46-1
	ULTRA COOLANT	**Gallons**	**60**	**15**	60		- Health Hazard	Polypropylene glycol	65 %		
	CAS No	State: Liquid	Storage Container: Other		Pressue: Ambient	Waste Code	Not Otherwise Classified	Pentaerythritol ester	27 %		
	Map: 2 Grid: F3-F8	Type: Mixture	Days on Site: 365		Temperature: > Ambient			Alkylated diphenylamine	5 %		68411-46-1
								Barium dinonyl-naphthalene sulfonate	0 %		25619-56-1

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **EMERGENCY GENERATOR**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II	**DIESEL FUEL NO. 2** CAS No 68476-34-6 Map: 2 Grid: G6	**Gallons** State Liquid Type Mixture	**1100** Storage Container Aboveground Tank Days on Site: 365	**1100**	800 Pressue Ambient Temperature Ambient	Waste Code	- Physical Flammable - Health Carcinogenicity - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Specific Target Organ Toxicity - Health Aspiration Hazard	DIESEL FUEL NO. 2 RENEWABLE DIESEL FATTY ACID METHYL ESTERS NAPHTHALENE	98 % 10 % 3 % 0 %		68476-34-6 91-20-3

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **FIRE PUMP BUILDING**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II	**DIESEL FUEL NO. 2** CAS No 68476-34-6 Map: 2 Grid: C2 State: Liquid Type: Mixture Storage Container: Tank Inside Building Days on Site: 365 Pressue: Ambient Temperature: Ambient Waste Code	**Gallons**	**359**	**359**	280		- Physical Flammable - Health Carcinogenicity - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Specific Target Organ Toxicity - Health Aspiration Hazard	DIESEL FUEL NO. 2 RENEWABLE DIESEL FATTY ACID METHYL ESTERS NAPHTHALENE	98 % 10 % 3 % 0 %		68476-34-6 91-20-3
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Water Reactive, Class 2, Toxic, Oxidizing, Class 1	**LEAD ACID BATTERIES** CAS No ✔EHS Map: 2 Grid: C2 State: Liquid Type: Mixture Storage Container: Other Days on Site: 365 Pressue: Ambient Temperature: Ambient Waste Code	**Pounds**	**100**	**50**	100		- Physical Flammable - Physical Explosive - Physical Corrosive To Metal - Health Carcinogenicity - Health Acute Toxicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity	Sulfuric Acid	40 %	✔	7664-93-9

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **FUEL GAS CHROMATOGRAPH**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**COMPRESSED AIR ZERO** CAS No Map: 2 Grid: C6	**Cu. Feet** State: Gas Type: Mixture	**600** Storage Container: Cylinder Days on Site: 365	**300**	300 Pressue: > Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure				
DOT: 2.2 - Nonflammable Gases	**HELIUM** CAS No 7440-59-7 Map: 2 Grid: C6	**Cu. Feet** State: Gas Type: Pure	**600** Storage Container: Cylinder Days on Site: 365	**300**	600 Pressue: > Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant				
DOT: 2.1 - Flammable Gases Flammable Gas	**HYDROGEN** CAS No 1333-74-0 Map: 2 Grid: C6	**Cu. Feet** State: Gas Type: Pure	**600** Storage Container: Cylinder Days on Site: 365	**300**	300 Pressue: > Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant				
DOT: 2.1 - Flammable Gases Flammable Gas	**METHANE MIXTURE CHROMATOGRAPH CAL GAS** CAS No Map: 2 Grid: C6	**Cu. Feet** State: Gas Type: Mixture	**500** Storage Container: Cylinder Days on Site: 365	**250**	250 Pressue: > Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant	ETHANE METHANE PROPANE NITROGEN	100 % 100 % 100 % 10 %		74-84-0 74-82-8 74-98-6 7727-37-9
DOT: 2.2 - Nonflammable Gases	**NITROGEN** CAS No 7727-37-9 Map: 2 Grid: C6	**Cu. Feet** State: Gas Type: Pure	**600** Storage Container: Cylinder Days on Site: 365	**300**	300 Pressue: > Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **FUEL GAS COMPRESSORS**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	LUBE OIL	**Gallons**	**315**	**105**	315		- Health Hazard Not Otherwise Classified				
	CAS No	State: Liquid	Storage Container: Aboveground Tank		Pressue: Ambient	Waste Code					
	Map: 2 Grid: C6	Type: Mixture	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **FUEL GAS CONDITIONING SKID AND FILTER/SEPARATOR**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	NATURAL GAS CONDENSATE	**Gallons**	**561**	**211**	5		- Physical Flammable - Health Carcinogenicity - Health Acute Toxicity - Health Specific Target Organ Toxicity - Health Aspiration Hazard - Health Germ Cell Mutagenicity	Propane	50 %		74-98-6
	CAS No	State: Liquid	Storage Container: Aboveground Tank		Pressue: Ambient	Waste Code		Ethane	30 %		74-84-0
	Map: 2 Grid: C6	Type: Mixture	Days on Site: 365		Temperature: Ambient			n-Pentane	15 %		109-66-0
								n-Hexane	8 %		110-54-3
								Heptane	6 %		142-82-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **FUEL GAS DEW POINT HEATERS**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
	PROPYLENE GLYCOL 30%	**Gallons**	**18932**	**9466**	18932		- Health Hazard	PROPYLENE GLYCOL	96 %		57-55-6
	CAS No 57-55-6	State Liquid	Storage Container Aboveground Tank		Pressue Ambient	Waste Code	Not Otherwise Classified	WATER	4 %		7732-18-5
	Map: 2 Grid: D6	Type Mixture	Days on Site: 365		Temperature > Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **GENERATOR AIR COMPRESSOR, SHOP COMPRESSOR**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	COMPRESSOR OIL	**Gallons**	**5**	**2**	5		- Health Hazard	Base Oil	90 %		
	CAS No	State: Liquid	Storage Container: Other		Pressue: Ambient	Waste Code	Not Otherwise Classified	Dialkyl Thiophosphate Ester	1 %		268567-32-4
	Map: 2 Grid: G3-G8, C3	Type: Mixture	Days on Site: 365		Temperature: Ambient			Alkaryl amine	2 %		68411-46-1

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **HAZARDOUS MATERIALS STORAGE**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	COMPRESSOR OIL CAS No Map: 2 Grid: H12	**Gallons** State: Liquid Type: Mixture	**15** Storage Container: Plastic Bottle or Jug Days on Site: 365	**5**	7 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Hazard Not Otherwise Classified	Base Oil Alkaryl amine Dialkyl Thiophosphate Ester	90 % 2 % 1 %		 68411-46-1 268567-32-4
	LUBRICATING AND HYDRAULIC OILS CAS No Map: 2 Grid: H12	**Gallons** State: Liquid Type: Mixture	**275** Storage Container: Steel Drum, Plastic/Non-metalic Drum Days on Site: 365	**55**	275 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Hazard Not Otherwise Classified				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II	**PAINT** CAS No 8052-41-3 Map: 2 Grid: H12	**Gallons** State: Liquid Type: Mixture	**8** Storage Container: Can Days on Site: 365	**5**	4 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Carcinogenicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **HAZARDOUS WASTE STORAGE**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	OILY RAGS AND SPILL DEBRIS CAS No Map: 2 Grid: C4	**Pounds** State: Solid Type: Waste	**1000** Storage Container: Steel Drum, Box Days on Site: 365	**500**	250 Pressue: Ambient Temperature: Ambient	1900 Waste Code: 352	- Physical Flammable - Physical SelfHeating - Health Carcinogenicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity - Health Germ Cell Mutagenicity				
	USED OIL CAS No Map: 2 Grid: C4	**Gallons** State: Liquid Type: Waste	**110** Storage Container: Steel Drum Days on Site: 365	**55**	30 Pressue: Ambient Temperature: Ambient	1000 Waste Code: 221	- Health Carcinogenicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity - Health Aspiration Hazard - Health Germ Cell Mutagenicity	Lubricating Oils, used Water/Solids	90 % 10 %		70514-12-4 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **LAYDOWN YARD**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**NITROGEN** CAS No 7727-37-9 Map: 2 Grid: C11	**Cu. Feet** State Gas Type Pure	**3000** Storage Container Cylinder Days on Site: 365	**500**	2000 Pressue > Ambient Temperature Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **MACHINE SHOP**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II	**DIESEL FUEL NO. 2** CAS No 68476-34-6 Map: 2 Grid: C4	**Gallons** State Liquid Type Mixture	**10** Storage Container Other Days on Site: 365	**5**	10 Pressue Ambient Temperature Ambient	Waste Code	- Physical Flammable - Health Carcinogenicity - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Specific Target Organ Toxicity - Health Aspiration Hazard	DIESEL FUEL NO. 2 RENEWABLE DIESEL FATTY ACID METHYL ESTERS NAPHTHALENE	98 % 10 % 3 % 0 %		68476-34-6 91-20-3
	LUBRICATING AND HYDRAULIC OILS CAS No Map: 2 Grid: C4	**Gallons** State Liquid Type Mixture	**40** Storage Container Plastic Bottle or Jug Days on Site: 365	**5**	35 Pressue Ambient Temperature Ambient	Waste Code	- Health Hazard Not Otherwise Classified				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **MAIN AIR COMPRESSORS**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	COMPRESSOR OIL	**Gallons**	**14**	**5**	12		- Health Hazard	Base Oil	90 %		
	CAS No	State: Liquid	Storage Container: Other		Pressue: Ambient	Waste Code	Not Otherwise Classified	Dialkyl Thiophosphate Ester	1 %		268567-32-4
								Alkaryl amine	2 %		68411-46-1
	Map: 2 Grid: D6	Type: Mixture	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **OIL WATER SEPARATORS NEAR U1 SWITCHYARD & NORTH OF UNITS 2&3**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
	OILY WATER	**Gallons**	**3000**	**2000**	3000		- Health Carcinogenicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity - Health Aspiration Hazard - Health Germ Cell Mutagenicity				
	CAS No	State: Liquid	Storage Container: Other		Pressue: Ambient	Waste Code					
	Map: 2 Grid: D6, H4	Type: Mixture	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **PORTABLE TANKS AT COVERED PARKING LOT AND TURBINES (as needed)**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
	CLEANBLADE GTC 1000	**Gallons**	**575**	**400**	50		- Health Carcinogenicity	FATTY ALCOLHOL ALKOXYLATE	15 %		69227-21-0
	CAS No	State: Liquid	Storage Container: Tank Wagon		Pressue: Ambient	Waste Code	- Health Reproductive Toxicity	PROPYLENE GLYCOL N-BUTYL ETHER	5 %		5131-66-8
	Map: 2 Grid: D12, F3-F8	Type: Mixture	Days on Site: 365		Temperature: Ambient		- Health Skin Corrosion Irritation	SEBACIC ACID	2 %		70103-35-4
							- Health Respiratory Skin Sensitization	DIETHANOLAMINE	1 %		111-42-2
							- Health Serious Eye Damage Eye Irritation				
							- Health Specific Target Organ Toxicity				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **REFUELING TRUCK**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II	**DIESEL FUEL NO. 2** CAS No 68476-34-6 Map: 2 Grid: D12	**Gallons** State Liquid Type Mixture	**50** Storage Container Other Days on Site: 365	**50**	25 Pressue Ambient Temperature Ambient	Waste Code	- Physical Flammable - Health Carcinogenicity - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Specific Target Organ Toxicity - Health Aspiration Hazard	DIESEL FUEL NO. 2 RENEWABLE DIESEL FATTY ACID METHYL ESTERS NAPHTHALENE	98 % 10 % 3 % 0 %		68476-34-6 91-20-3
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B	**GASOLINE (Unleaded)** CAS No Map: 2 Grid: D12	**Gallons** State Liquid Type Mixture	**50** Storage Container Other Days on Site: 365	**50**	25 Pressue Ambient Temperature Ambient	Waste Code	- Physical Flammable - Health Carcinogenicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity - Health Aspiration Hazard - Health Germ Cell Mutagenicity	GASOLINE TOLUENE XYLENE PENTANE BUTANE	100 % 20 % 8 % 7 % 6 %		86290-81-5 108-88-3 1330-20-7 540-84-1 106-97-8

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **SPARE TRANSFORMER NORTH OF WAREHOUSE**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**NITROGEN** CAS No 7727-37-9 Map: 2 Grid: G11	**Cu. Feet** State Gas Type Pure	**300** Storage Container Cylinder Days on Site: 365	**150**	150 Pressue > Ambient Temperature Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **SWITCHYARD**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	HYDRAULIC OIL CAS No Map: 2 Grid: H3-H7	**Gallons** State: Liquid Type: Mixture	**90** Storage Container: Aboveground Tank Days on Site: 365	**15**	90 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Acute Toxicity - Health Skin Corrosion Irritation - Health Aspiration Hazard	Gas Oils Butylated hydroxytoluene	85 % 0 %		64742-79-6 128-37-0
DOT: 2.2 - Nonflammable Gases	**SULFUR HEXAFLUORIDE** CAS No 2551-62-4 Map: 2 Grid: H3-H7	**Cu. Feet** State: Gas Type: Pure	**3015** Storage Container: Other Days on Site: 365	**503**	3015 Pressue: > Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **TA FANS**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	LUBE OIL	**Gallons**	**864**	**108**	680		- Health Hazard Not Otherwise Classified				
	CAS No	State: Liquid	Storage Container: Other		Pressue: Ambient	Waste Code					
	Map: 2 Grid: E3-E7	Type: Mixture	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **Transformers Throughout (GSU, AUX, and SPARE)**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
	MINERAL OIL, HYTRANS 61	**Gallons**	**87893**	**15224**	87893		- Health	DISTILLATES, PETROLEUM	99 %		64742-53-6
	CAS No	State: Liquid; Storage Container: Other			Pressue: Ambient	Waste Code	Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Aspiration Hazard	2, 6-DI-BUTYL-P-CRESOL (BHT)	1 %		128-37-0
	Map: 2 Grid: G3-G7, G11	Type: Mixture; Days on Site: 365			Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **TURBINES**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	LUBE OIL	**Gallons**	**26000**	**7244**	22000		- Health Hazard Not Otherwise Classified				
	CAS No 64742-54-7	State Liquid	Storage Container Other		Pressue Ambient	Waste Code					
	Map: 2 Grid: F4-F8	Type Mixture	Days on Site: 365		Temperature Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **TURBINES AND ELECTRICAL PACKAGES**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	FM 200 FIRE SUPPRESSION CAS No 431-89-0 Map: 2 Grid: G3-G8	**Pounds** State Gas Type Pure	**5376** Storage Container Cylinder Days on Site: 365	**562**	5376 Pressue > Ambient Temperature Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant	1,1,1,2,3,3,3-HEPTAFLUROPROPANE NITROGEN	100 %		431-89-0 7727-37-9

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **TURNING GEAR LUBE OIL**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
	LUBE OIL	**Gallons**	**76**	**19**	76		- Health Hazard Not Otherwise Classified				
	CAS No	State: Liquid	Storage Container: Other		Pressue: Ambient	Waste Code					
	Map: 2 Grid: G3-G8	Type: Mixture	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **Various Air Receivers**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**AIR** CAS No 132259-10-0 Map: 2 Grid: C3-G8	**Cu. Feet** State Gas Type Pure	**3753** Storage Container Aboveground Tank Days on Site: 365	**2115**	2369 Pressue > Ambient Temperature Ambient	Waste Code	- Physical Gas Under Pressure				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **WAREHOUSE**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**HELIUM** CAS No 7440-59-7 Map: 2 Grid: H12	**Cu. Feet** State Gas Type Pure	**1200** Storage Container Cylinder Days on Site: 365	**300**	600 Pressue > Ambient Temperature Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant				
DOT: 2.1 - Flammable Gases Flammable Gas	**HYDROGEN** CAS No 1333-74-0 Map: 2 Grid: H12	**Cu. Feet** State Gas Type Pure	**900** Storage Container Cylinder Days on Site: 365	**300**	600 Pressue > Ambient Temperature Ambient	Waste Code	- Physical Flammable - Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Water Reactive, Class 2, Toxic, Oxidizing, Class 1	**LEAD ACID BATTERIES** CAS No ✓EHS Map: 2 Grid: H12	**Pounds** State Liquid Type Mixture	**300** Storage Container Other Days on Site: 365	**300**	300 Pressue Ambient Temperature Ambient	Waste Code	- Physical Flammable - Physical Explosive - Physical Corrosive To Metal - Health Carcinogenicity - Health Acute Toxicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity	Sulfuric Acid	40 %	✓	7664-93-9

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **WAREHOUSE**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Flammable Gas	**METHANE MIXTURE CHROMATOGRAPH CAL GAS** CAS No Map: 2 Grid: H12	**Cu. Feet** State: Gas Type: Mixture	**500** Storage Container: Cylinder Days on Site: 365	**150**	250 Pressue: > Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant	ETHANE METHANE PROPANE NITROGEN	100 % 100 % 100 % 10 %		74-84-0 74-82-8 74-98-6 7727-37-9
DOT: 2.2 - Nonflammable Gases	**NITROGEN** CAS No 7727-37-9 Map: 2 Grid: H12	**Cu. Feet** State: Gas Type: Pure	**12000** Storage Container: Cylinder Days on Site: 365	**500**	5500 Pressue: > Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant				
	NITROGEN, CARBON MONOXIDE CAS No Map: 2 Grid: H12	**Cu. Feet** State: Gas Type: Mixture	**750** Storage Container: Cylinder Days on Site: 365	**150**	450 Pressue: > Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant	NITROGEN CARBON MONOXIDE	100 %		7727-37-9 630-08-0
	NITROGEN, NITRIC OXIDE CAS No Map: 2 Grid: H12	**Cu. Feet** State: Gas Type: Mixture	**3750** Storage Container: Cylinder Days on Site: 365	**150**	2700 Pressue: > Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant	NITROGEN NITRIC OXIDE NITROGEN OXIDES	100 %	✓	7727-37-9 10102-43-9 10102-44-7
	NITROGEN, NITRIC OXIDE, CARBON MONOXIDE CAS No Map: 2 Grid: H12	**Cu. Feet** State: Gas Type: Mixture	**3000** Storage Container: Cylinder Days on Site: 365	**150**	1500 Pressue: > Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Simple Asphyxiant	NITROGEN NITRIC OXIDE CARBON MONOXIDE NITROGEN OXIDES	100 %	✓	7727-37-9 10102-43-9 630-08-0 10102-44-0
	NITROGEN, OXYGEN, CARBON MONOXIDE CAS No Map: 2 Grid: H12	**Cu. Feet** State: Gas Type: Mixture	**3300** Storage Container: Cylinder Days on Site: 365	**150**	2250 Pressue: > Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive - Health Reproductive Toxicity - Health Simple Asphyxiant	NITROGEN OXYGEN CARBON MONOXIDE	89 % 10 % 0 %		7727-37-9 7782-44-7 630-08-0
DOT: 2.2 - Nonflammable Gases	**ULTRA ZERO COMPRESSED AIR** CAS No Map: 2 Grid: H12	**Cu. Feet** State: Gas Type: Mixture	**1200** Storage Container: Cylinder Days on Site: 365	**300**	900 Pressue: > Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Physical Explosive				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **WAREHOUSE FLAMMABLE CABINET**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II	**DIESEL FUEL NO. 2** CAS No 68476-34-6 Map: 2 Grid: H12	**Gallons** State Liquid Type Mixture	**10** Storage Container Other Days on Site: 365	**5**	10 Pressue Ambient Temperature Ambient	Waste Code	- Physical Flammable - Health Carcinogenicity - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Specific Target Organ Toxicity - Health Aspiration Hazard	DIESEL FUEL NO. 2 RENEWABLE DIESEL FATTY ACID METHYL ESTERS NAPTHALENE	100 % 10 % 3 % 0 %		68476-34-6 91-20-3
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B	**GASOLINE (Unleaded)** CAS No Map: 2 Grid: H12	**Gallons** State Liquid Type Mixture	**20** Storage Container Can Days on Site: 365	**5**	20 Pressue Ambient Temperature Ambient	Waste Code	- Physical Flammable - Health Carcinogenicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity - Health Aspiration Hazard - Health Germ Cell Mutagenicity	GASOLINE TOLUENE XYLENE PENTANE BUTANE	100 % 20 % 8 % 7 % 6 %		86290-81-5 108-88-3 1330-20-7 540-84-1 106-97-8
	ULTRA COOLANT CAS No Map: 2 Grid: H12	**Gallons** State Liquid Type Mixture	**16** Storage Container Plastic Bottle or Jug Days on Site: 365	**5.3**	11 Pressue Ambient Temperature Ambient	Waste Code	- Health Hazard Not Otherwise Classified	Polypropylene glycol Pentaerythritol ester Alkylated diphenylamine Barium dinonyl-naphthalene sulfonate	65 % 27 % 5 % 0 %		 68411-46-1 25619-56-1

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Marsh Landing Generating Station**
Facility Name **Marsh Landing Generating Station**
3201C Wilbur Ave, Antioch 94509

Chemical Location **WATER TREATMENT BUILDING**

CERS ID **10480876**
Facility ID **07-000-774528**
Status **Draft**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	RO-505 CAS No Map: 2 Grid: C4	**Gallons** State: Liquid Type: Mixture	**350** Storage Container: Tote Bin Days on Site: 365	**350**	190 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation - Health Aspiration Hazard	2-Propenoic acid, homopolymer Polyoxalkylenes, C4-6, propoxylated 2 Propenoic acid, telomer	14 % 20 % 8 %		9003-01-4 68918-96-7 97953-25-8
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Highly Toxic	**SODIUM BISULFITE 35% - 40%, BWT-104** CAS No 7631-90-5 Map: 2 Grid: C4	**Gallons** State: Liquid Type: Mixture	**350** Storage Container: Tote Bin Days on Site: 365	**350**	200 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	SODIUM BISULFITE			7631-90-5
	SODIUM HYPOCHLORITE 12.5% CAS No Map: 2 Grid: C4	**Gallons** State: Liquid Type: Mixture	**325** Storage Container: Tote Bin Days on Site: 365	**325**	100 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	SODIUM HYPOCHLORITE SODIUM HYDROXIDE	13 % 1 %		7681-52-9 1310-73-2

3.3 HAZ-8

The site specific security plan has been reviewed and updated and is available on site for viewing.

- All current project employees and appropriate contractor background investigations have been performed and a certification statement has been appended to the operations security plan.
- The operation security plan includes all current hazardous material transport vendor certifications for security plans and employee background investigations.

3.4 SOIL & WATER-5

- See attached Quarterly Industrial User Compliance Reports to DDSD.

Delta Diablo

Industrial User Report Checklist And Certification Statement Form

Attn: Environmental Compliance Specialist	**Mike Auer**		
Environmental Specialist Phone	(925) 756-1900	Fax	(925) 756-1961
Industrial User Facility Name	**Marsh Landing, LLC**		
Duly Authorized Representative Name	**Joe Moura**		
Duly Authorized Representative Phone	**925-779-6685**		

This Industrial User Report Checklist and Certification Statement Form shall be submitted with all Self-Monitoring Reports (SMRs), as specified by the Wastewater Discharge Permit issued by Delta Diablo, hereinafter referred to as the District. When submitting Self-Monitoring Reports, check all that are applicable.

Self-Monitoring Reports (SMRs) (Required)

☒ Flow Discharge Summary (Review Discharge Permit.)

☒ Calibration of Effluent Flow Meters; if applicable.

☒ Monitoring Results – all required tests completed, results reviewed, results included
Quality Assurance/Quality Control (QA/QC) and Chain-of-Custody (COC) (Review Discharge Permit):

☒ pH (**field-grab**) (shall be **analyzed within 15 minutes of sample collection**).
Results, collection time, analysis time and Technician's Initials shall be reported in the comments section of the respective COC. The pH meter shall be accurate and reproducible to 0.1 pH unit with a range of 0 to 14 and equipped with a temperature–compensation adjustment (Standard methods).

☒ Cyanide samples were tested for oxidizers and preserved with Sodium Hydroxide (NaOH).
This shall be reported in the comments section on the respective COC, if applicable.

☒ Selenium lab analysis by EPA Method 200.8 by Reaction Mode: if applicable.

☒ Total Phenolics lab analysis by EPA Method 420.4: if applicable.

☒ **All sample analysis for regulatory compliance reporting** shall be completed by an ELAP certified Laboratory.

☒ Certification Statement included (see attached)

☐ Other requested data _____

Industrial User Report Checklist And Certification Statement Form

Violations (if applicable)

☐ All wastewater discharge violations are reported during this period:

☐ The District was contacted within 24- hours of becoming aware of the violation.
Date: _____

☐ A follow-up resample was completed. Date: _____

☐ Corrective actions implemented to resolve violation (Please explain in writing)

☐ Significant Non-Compliance (SNC) Status Review
Please circle the review period *: **January – June** and **July -December**.

The SIU shall conduct a SNC review for the previous completed period * prior to the Self-monitoring Report (SMR) due date. Examples: A October SMR due date, the SNC review period is **January – June** or an April SMR due date, the SNC review period is **July – December.**

The SNC definition can be found in 40 CFR 403.8.

a) Chronic SNC= >66% of a regulated parameter in violation during six-month Period *.

b) Technical Review Criteria (TRC) SNC = >33% of a regulated pollutant during a six-month period* equals or exceeds the product of the daily maximum limit or the average limit multiplied by the applicable TRC factor (1.4 for BOD, TSS and Oil/Grease and 1.2 for all other regulated pollutants except pH).

☐ Is the SIU in SNC (as defined in a and/or b) for this period*? Yes ☐, No ☐; If yes, for what period? _____ . Please report the SNC status to the District in the SMR and include corrective actions to resolve the SNC classification.

☐ Other violations – i.e., reporting, spills to sewer, or prohibited discharges

All violations will be discussed in the cover letter of the Self-Monitoring Report.

☐ Significant Changes

Anticipated changes that may alter the nature, quality, or volume of the wastewater discharged. Planned changes shall be submitted at least 90 days prior to implementation, and shall include a detailed description of this change.

Delta Diablo

Industrial User Report Checklist And Certification Statement Form

Certification Statement

Industrial User Facility Name	**Marsh Landing, LLC**
Industrial User Facility Address	**3201-C Wilbur Avenue, Antioch, CA 94509**
Duly Authorized Representative Phone	**925-779-6685**
Indicate Period Covered by This Report	**January 1-March 31, 2019**

Certification Statement:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations (40 CFR 403.6).

Duly Authorized Representative Signature	
Duly Authorized Representative Print	**Joe Moura**
Date	4/4/2019

Marsh Landing, LLC
Marsh Landing Generating Station
3201-C Wilbur Avenue (shipping)
PO Box 1687 (mailing)
Antioch, CA 94509

April 4, 2019

Mr. Mike Auer
Delta Diablo
2500 Pittsburg-Antioch Highway
Antioch, CA 94509-1373

Subject: **2019 First Quarterly (January 1-March 31) Self-Monitoring Report**
Marsh Landing, LLC, Marsh Landing Generating Station,
Industrial Wastewater Discharge Permit 0311963-S

This letter documents the transmittal of the 2019 First Quarterly Self-Monitoring Report (SMR).

Compliance Statement (choose one):

☑ There were no violations of waste discharge requirements during the reporting period.

☐ The following violation(s) of waste discharge requirements occurred during the reporting period, as described below:

Discussion:

This report is the SMR filed for the station and covers the period from January 1 through March 31, 2019. This report includes monthly flow data and quarterly, semiannual, and annual analytical data required to be collected in 2019. Data are summarized in the attached tables.

Additionally, enclosed is documentation of the flow meter calibrations performed in January 2019 for compliance with the Annual Flow Measurement Device Calibration requirement in the Industrial Wastewater Discharge Permit.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact Mr. David Frandsen, Environmental Specialist at david.frandsen@nrg.com or call 925.779-6695

Sincerely,

Joe Moura
Plant Manager
Marsh Landing, LLC
Marsh Landing Generating Station

Attachments

Table 1:	Quarterly Results for Combined Wastewater (FAC Combined)
Table 2:	Semiannual Results for Combined Wastewater (FAC Combined)
Table 3:	Annual Results for Combined Wastewater (FAC Combined)
Table 4:	January 2019 Monthly Flow Data
Table 5:	February 2019 Monthly Flow Data
Table 6:	March 2019 Monthly Flow Data

Attachment 1:	pH COC
Attachment 2:	Analytical Reports
Attachment 3:	Annual Flow Measurement Device Calibration Records

Table 1

Quarterly Results for Combined Wastewater (FAC Combined)

Industrial User Name	Marsh Landing, LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509

Sample Station Location	FAC Combined
Sample Station Description	Local Limits FAC Combined Wastewater
Reporting Period	January - March 2019
Report Type	Quarterly

Constituent	Sample Date	Permit Limit	Result	Units
Field pH	1/22/2019	6-10	6.1	S.U.
BOD	1/22/2019	-	11	mg/L
COD	1/22/2019	-	20	mg/L
Arsenic	1/22/2019	0.15	0.00053	mg/L
Cadmium	1/22/2019	0.1	ND	mg/L
Chromium	1/22/2019	0.5	ND	mg/L
Copper	1/22/2019	0.5	0.0081	mg/L
Iron	1/22/2019	-	0.110	mg/L
Lead	1/22/2019	0.5	0.00026 J	mg/L
Mercury	1/22/2019	0.003	ND	mg/L
Molybdenum	1/22/2019	-	0.001	mg/L
Nickel	1/22/2019	0.5	0.0013	mg/L
Selenium	1/22/2019	0.25	ND	mg/L
Silver	1/22/2019	0.2	ND	mg/L
Zinc	1/22/2019	1.0	0.110	mg/L
TDS	1/22/2019	-	196	mg/L
TSS	1/22/2019	-	5.30	mg/L

J = The reported concentration is an estimated value.

mg/L = Milligrams per liter

ND = Not detected at or above the laboratory Method Detection Limit or Reporting Limit.

Marsh Landing, LLC
Marsh Landing Generating Station
Permit 0311963-S

Table 2

Semiannual Results for Combined Wastewater (FAC Combined)

Industrial User Name	Marsh Landing, LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509

Sample Station Location	FAC Combined
Sample Station Description	Local Limits FAC Combined Wastewater
Reporting Period	January - July 2019
Report Type	Semiannual

Constituent	Sample Date	Permit Limit	Result	Units
Cyanide	1/22/2019	0.20	0.00011	mg/L
Total Phenolics (EPA 420.4)	1/22/2019	1.0	0.0134	mg/L
Ammonia as N	1/22/2019	200	5.7	mg/L
Oil and Grease Animal/Vegetable (HEM)	1/22/2019	300	1.5 J	mg/L
Oil and Grease Petroleum/Mineral (SGT-HEM)	1/22/2019	100	ND	mg/L
Bromodichloromethane	1/22/2019	-	*0.0015*	mg/L
Bromoform	1/22/2019	-	*0.00021 J*	mg/L
Chloroform	1/22/2019	-	*0.00079*	mg/L
Dibromochloromethane	1/22/2019	-	*0.0011*	mg/L
Toluene	1/22/2019	-	*0.000066 JB*	mg/L
Vinyl Chloride	1/22/2019	-	*0.000071 J*	mg/L
Bis (2-chloroethyl) Ether	1/22/2019	-	*0.000081 J*	mg/L
Phenol	1/22/2019	-	*0.0048*	mg/L
Total Toxic Organics	1/22/2019	2.0	0.0082	mg/L

J = The reported concentration is an estimated value and is not included in Total Toxic Organic totals.

mg/L = Milligrams per liter

ND = Not detected at or above the laboratory Method Detection Limit or Reporting Limit.

B = Analyte detected in the associated Method blank and in the sample.

Table 3

Annual Results for Combined Wastewater (FAC Combined)

Industrial User Name	Marsh Landing, LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509

Sample Station Location	FAC Combined
Sample Station Description	Local Limits FAC Combined Wastewater
Reporting Period	January - December 2019
Report Type	Annual

Constituent	Sample Date	Permit Limit	Result	Units
Sulfide	1/22/2019	-	0.046 J	mg/L
Sulfate	1/22/2019	-	28	mg/L

J = The reported concentration is an estimated value.

mg/L = Milligrams per liter

Table 4
Monthly Flow Data

Industrial User Name	Marsh Landing, LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509
Sample Station Location	Outfall #4
Sample Station Description	Flow Monitoring Structure
Reporting Period	January, 2019
Report Type	Quarterly
Constituent	Flow
Sample Type	Continuous, measured by flow meter
Sample Date	1/1/2019 - 1/31/2019
Permit Limits (s.u.)	NTE 30,240 gpd. NTE 21 gpm +10% for 15 consecutive minutes or 30 minutes in a 24-hour period

Day	Total Flow (gpd)	Instantaneous Max (gpm)	Minutes per Day of Flow exceeding 21 (+10% = 23.1)
1	8,369	19.59	
2	4,666	19.62	
3	6,858	19.61	
4	420	16.43	
5	0	0.00	
6	0	0.00	
7	17,463	19.86	
8	6,682	19.58	
9	3,570	20.40	
10	11,121	19.58	
11	6,539	19.61	
12	12,386	19.59	
13	0	0.00	
14	6,269	19.61	
15	9,759	19.88	
16	6,527	19.58	
17	11,818	19.57	
18	0	0.00	
19	0	0.00	
20	744	19.76	
21	16,002	19.79	
22	25,656	20.96	
23	0	0.00	
24	0	0.00	
25	0	0.00	
26	11,266	19.82	
27	1,891	19.54	
28	0	0.00	
29	11,535	19.73	
30	4,902	19.60	
31	6,337	19.58	

Total Monthly Flow (gal)	190,778	Did flow exceed limits?	NO
Daily Max Flow (gpd)	25,656	Flow above daily max (30,240 gpd)?	NO
Average Monthly Flow (gpd)	6,154		

Table 5
Monthly Flow Data

Industrial User Name	Marsh Landing, LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509
Sample Station Location	Outfall #4
Sample Station Description	Flow Monitoring Structure
Reporting Period	February, 2019
Report Type	Quarterly
Constituent	Flow
Sample Type	Continuous, measured by flow meter
Sample Date	2/1/2019 - 2/28/2019
Permit Limits (s.u.)	NTE 30,240 gpd. NTE 21 gpm +10% for 15 consecutive minutes or 30 minutes in a 24-hour period

Day	Total Flow (gpd)	Instantaneous Max (gpm)	Minutes per Day of Flow exceeding 21 (+10% = 23.1)
1	0	0.00	
2	0	0.00	
3	4,421	18.68	
4	13,553	27.45	3
5	0	0.00	
6	12,207	19.91	
7	9,536	19.64	
8	5,785	19.60	
9	8,365	19.61	
10	0	0.00	
11	6,481	19.67	
12	9,373	19.93	
13	168	19.43	
14	19,694	19.63	
15	15,608	20.07	
16	12,809	19.61	
17	0	0.00	
18	5,471	19.95	
19	9,482	19.85	
20	4,744	19.59	
21*	8,841	19.67	
22*	6,673	20.47	
23	0	0.00	
24	0	0.00	
25	5,051	19.63	
26	8,427	19.59	
27	2,193	17.48	
28	10,000	20.40	

Total Monthly Flow (gal)	178,882	Did flow exceed limits?	NO
Daily Max Flow (gpd)	19,694	Flow above daily max (30,240 gpd)?	NO
Average Monthly Flow (gpd)	6,389		

Table 6
Monthly Flow Data

Industrial User Name	Marsh Landing, LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509
Sample Station Location	Outfall #4
Sample Station Description	Flow Monitoring Structure
Reporting Period	March, 2019
Report Type	Quarterly
Constituent	Flow
Sample Type	Continuous, measured by flow meter
Sample Date	3/1/2019 - 3/31/2019
Permit Limits (s.u.)	NTE 30,240 gpd. NTE 21 gpm +10% for 15 consecutive minutes or 30 minutes in a 24-hour period

Day	Total Flow (gpd)	Instantaneous Max (gpm)	Minutes per Day of Flow exceeding 21 (+10% = 23.1)
1	0	0.00	
2	0	0.00	
3	0	0.00	
4	6,618	19.94	
5	0	0.00	
6	0	0.00	
7	0	0.00	
8	4,644	20.83	
9	3,961	19.59	
10	0	0.00	
11	394	14.98	
12	0	0.00	
13	3,374	19.36	
14	9,906	20.76	
15	5,492	19.62	
16	3,848	18.95	
17	0	0.00	
18	0	0.00	
19	0	0.00	
20	5,291	19.62	
21	11,713	21.18	
22	6,019	19.64	
23	7,702	19.57	
24	0	0.00	
25	437	16.78	
26	12,526	21.16	
27	9,521	19.58	
28	5,751	19.60	
29	11,754	19.98	
30	0	0.00	
31	0	0.00	

Total Monthly Flow (gal)	108,949	Did flow exceed limits?	NO
Daily Max Flow (gpd)	12,526	Flow above daily max (30,240 gpd)?	NO
Average Monthly Flow (gpd)	3,514		

Marsh Landing Generating Station

Reported to:
Environmental Engineer

NPDES
Monthly Analytical Report

Sample Point	Sample Number	Sample Date (m/d/y)	Sample Collection Time	Date Analyzed (m/d/y)	pH Analysis Time	Sample Medium	Sample Type (Grab, 24-Hour Composite)	pH
							Method:	SM 4500-H+B
							Unit:	standard
							Reporting Limit:	0.18
							Method Detection Limit:	0.06
FAC Combined Waste Water	ML-19-033	1/22/19	1245	1/22/19	1245	Wastewater	Grab	6.1

SM = Standard Method; ppm = parts per million; mg/L = milligrams per liter; N/A = not applicable

Environmental Engineer David Frandsen

Signature: David Frandsen

Date: Jan. 22, 2019

Sampling Technologist: James E Robinson

Signature: James E. Robinson.

Date: 1/22/19

Reviewed By:

MICHAEL ENGEL

McCampbell Analytical, Inc.
"When Quality Counts"

Analytical Report

WorkOrder: 1901A24

Report Created for: NRG Energy, LLC

3201 Wilbur Avenue
Antioch, CA 94509

Project Contact: David Frandsen
Project P.O.: 4501679786
Project: DDSD, Quarterly

Project Received: 01/22/2019

Analytical Report reviewed & approved for release on 01/29/2019 by:

Yen Cao
Project Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: NRG Energy, LLC
Project: DDSD, Quarterly
WorkOrder: 1901A24

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: NRG Energy, LLC
Project: DDSD, Quarterly
WorkOrder: 1901A24

Analytical Qualifiers

J	Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
j1	See attached narrative.

McCampbell Analytical, Inc.
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Case Narrative

Client: NRG Energy, LLC
Project: DDSD, Quarterly

Work Order: 1901A24
January 28, 2019

Our standard ICP-MS analytical procedure is to analyze selenium using the Reaction mode.

McCampbell Analytical, Inc.
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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A24
Date Received:	1/22/19 16:56	**Extraction Method:**	SM5210B
Date Prepared:	1/22/19	**Analytical Method:**	SM5210 B-2001
Project:	DDSD, Quarterly	**Unit:**	mg/L

Biochemical Oxygen Demand (BOD)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A24-001B**	**Water**	**01/22/2019 12:45**	**WetChem**	**171820**

Analytes	Result	MDL	RL	DF	Date Analyzed
BOD	**11**	4.0	4.0	1	01/27/2019 14:39

Analyst(s): AL

McCampbell Analytical, Inc.
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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A24
Date Received:	1/22/19 16:56	**Extraction Method:**	SM5220 D-1997
Date Prepared:	1/25/19	**Analytical Method:**	SM5220 D-1997
Project:	DDSD, Quarterly	**Unit:**	mg/L

Chemical Oxygen Demand (COD) as mg O2 /L

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A24-001A**	**Water**	**01/22/2019 12:45**	**SPECTROPHOTOMETER**	**172005**

Analytes	Result	MDL	RL	DF	Date Analyzed
COD	**20**	7.2	10	1	01/25/2019 13:06

Analyst(s): RB

McCampbell Analytical, Inc.
"When Quality Counts"

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A24
Date Received:	1/22/19 16:56	**Extraction Method:**	E200.8
Date Prepared:	1/22/19	**Analytical Method:**	E200.8
Project:	DDSD, Quarterly	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A24-001E**	**Water**	**01/22/2019 12:45**	**ICP-MS3 067SMPL.D**	**171786**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Arsenic	**0.53**		0.13	0.50	1	01/23/2019 14:41
Cadmium	ND		0.066	0.50	1	01/23/2019 14:41
Chromium	ND		0.77	1.0	1	01/23/2019 14:41
Copper	**8.1**		0.55	1.0	1	01/23/2019 14:41
Iron	**110**		20	50	1	01/23/2019 14:41
Lead	**0.26**	J	0.19	0.50	1	01/23/2019 14:41
Mercury	ND		0.021	0.050	1	01/23/2019 14:41
Molybdenum	**1.0**		0.033	0.50	1	01/23/2019 14:41
Nickel	**1.3**		0.34	0.50	1	01/23/2019 14:41
Selenium	ND		0.20	0.50	1	01/23/2019 14:41
Silver	ND		0.043	0.50	1	01/23/2019 14:41
Zinc	**110**		18	25	1	01/23/2019 14:41

Surrogates	REC (%)	Limits	
Terbium	107	70-130	01/23/2019 14:41

Analyst(s): JC Analytical Comments: j1

McCampbell Analytical, Inc.
"When Quality Counts"

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A24
Date Received:	1/22/19 16:56	**Extraction Method:**	SM2540 C-1997
Date Prepared:	1/22/19	**Analytical Method:**	SM2540 C-1997
Project:	DDSD, Quarterly	**Unit:**	mg/L

Total Dissolved Solids

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A24-001C**	**Water**	**01/22/2019 12:45**	**WetChem**	**171822**

Analytes	Result	MDL	RL	DF	Date Analyzed
Total Dissolved Solids	**196**	10.0	10.0	1	01/23/2019 07:15

Analyst(s): RB

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A24
Date Received:	1/22/19 16:56	**Extraction Method:**	SM2540 D-1997
Date Prepared:	1/23/19	**Analytical Method:**	SM2540 D-1997
Project:	DDSD, Quarterly	**Unit:**	mg/L

Total Suspended Solids

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A24-001D**	**Water**	**01/22/2019 12:45**	**WetChem**	**171859**

Analytes	Result	MDL	RL	DF	Date Analyzed
Total Suspended Solids	**5.30**	1.00	1.00	1	01/23/2019 13:45

Analyst(s): AL

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A24
Date Prepared:	1/22/19	**BatchID:**	171820
Date Analyzed:	1/27/19	**Extraction Method:**	SM5210B
Instrument:	WetChem	**Analytical Method:**	SM5210 B-2001
Matrix:	Water	**Unit:**	mg/L
Project:	DDSD, Quarterly	**Sample ID:**	MB/LCS/LCSD-171820

QC Summary Report for BOD

Analyte	MB Result	MDL	RL			
BOD	ND	4.0	4.0	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
BOD	190	190	198	95	96	80-120	1.58	16

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A24
Date Prepared:	1/25/19	**BatchID:**	172005
Date Analyzed:	1/25/19	**Extraction Method:**	SM5220 D-1997
Instrument:	SPECTROPHOTOMETER	**Analytical Method:**	SM5220 D-1997
Matrix:	Water	**Unit:**	mg/L
Project:	DDSD, Quarterly	**Sample ID:**	MB/LCS/LCSD-172005 1901A24-001AMS/MSD

QC Summary Report for COD

Analyte	MB Result	MDL	RL			
COD	ND	7.2	10	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
COD	91	91	100	91	91	90-110	0	20

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
COD	1	110	110	100	20.00	88	88	80-120	0	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A24
Date Prepared:	1/22/19	**BatchID:**	171786
Date Analyzed:	1/22/19 - 1/23/19	**Extraction Method:**	E200.8
Instrument:	ICP-MS3	**Analytical Method:**	E200.8
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Quarterly	**Sample ID:**	MB/LCS/LCSD-171786

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Arsenic	ND	0.13	0.50	-	-	-
Cadmium	ND	0.066	0.50	-	-	-
Chromium	ND	0.77	1.0	-	-	-
Copper	ND	0.55	1.0	-	-	-
Iron	ND	20	50	-	-	-
Lead	ND	0.19	0.50	-	-	-
Mercury	ND	0.021	0.050	-	-	-
Molybdenum	0.035,J	0.033	0.50	-	-	-
Nickel	ND	0.34	0.50	-	-	-
Selenium	ND	0.20	0.50	-	-	-
Silver	ND	0.043	0.50	-	-	-
Zinc	ND	18	25	-	-	-
Surrogate Recovery						
Terbium	510			500	101	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Arsenic	53	52	50	105	104	85-115	0.649	20
Cadmium	53	52	50	106	104	85-115	1.75	20
Chromium	52	53	50	104	105	85-115	0.995	20
Copper	52	51	50	105	102	85-115	2.62	20
Iron	5100	5000	5000	102	101	85-115	0.831	20
Lead	53	52	50	106	105	85-115	1.44	20
Mercury	1.3	1.3	1.25	104	102	85-115	2.64	20
Molybdenum	50	49	50	100	98	85-115	2.89	20
Nickel	51	51	50	103	102	85-115	0.859	20
Selenium	54	53	50	108	106	85-115	1.74	20
Silver	51	51	50	101	101	85-115	0	20
Zinc	520	520	500	104	103	85-115	1.16	20
Surrogate Recovery								
Terbium	530	520	500	106	103	70-130	2.73	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A24
Date Prepared:	1/22/19	**BatchID:**	171822
Date Analyzed:	1/23/19	**Extraction Method:**	SM2540 C-1997
Instrument:	WetChem	**Analytical Method:**	SM2540 C-1997
Matrix:	Water	**Unit:**	mg/L
Project:	DDSD, Quarterly	**Sample ID:**	MB-171822

QC Summary Report for Total Dissolved Solids

Analyte	MB Result	MDL	RL			
Total Dissolved Solids	ND	10.0	10.0	-	-	-

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A24
Date Prepared:	1/23/19	**BatchID:**	171859
Date Analyzed:	1/23/19	**Extraction Method:**	SM2540 D-1997
Instrument:	WetChem	**Analytical Method:**	SM2540 D-1997
Matrix:	Water	**Unit:**	mg/L
Project:	DDSD, Quarterly	**Sample ID:**	MB-171859

QC Summary Report for Total Suspended Solids

Analyte	MB Result	MDL	RL			
Total Suspended Solids	ND	1.00	1.00	-	-	-

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1901A24 **ClientCode: GOA**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag
☐ Detection Summary ☐ Dry-Weight

Report to:
David Frandsen
NRG Energy, LLC
3201 Wilbur Avenue
Antioch, CA 94509
(925) 779-6665 FAX: (925) 779-6679

Email: David.Frandsen@nrg.com
cc/3rd Party: joe.moura@nrg.com; james.robinson@nrg.
PO: 4501679786
Project: DDSD, Quarterly

Bill to:
Accounts Payable
NRG
112 Telly Street
New Roads, LA 70760
invoices@nrg.com

Requested TATs: **5 days; 7 days;**

Date Received: **01/22/2019**
Date Logged: **01/22/2019**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1901A24-001	FAC Combined Wastewater	Water	1/22/2019 12:45	☐	B	A	E	C	D							

Test Legend:

1	BOD_W	2	COD_W	3	METALSMS_TTLC_W	4	TDS_W
5	TSS_W	6		7		8	
9		10		11		12	

Prepared by: Kena Ponce

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: NRG ENERGY, LLC
Client Contact: David Frandsen
Contact's Email: David.Frandsen@nrg.com

Project: DDSD, Quarterly
Comments:

Work Order: 1901A24
QC Level: LEVEL 2
Date Logged: 1/22/2019

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1901A24-001A	FAC Combined Wastewater	Water	SM5220D (COD)	2	aVOA w/ H2SO4	☐	1/22/2019 12:45	5 days	None	☐	
1901A24-001B	FAC Combined Wastewater	Water	SM5210B (BOD)	1	1L HDPE, unprsv.	☐	1/22/2019 12:45	7 days	None	☐	
1901A24-001C	FAC Combined Wastewater	Water	SM2540C (TDS)	1	500mL HDPE, unprsv.	☐	1/22/2019 12:45	5 days	None	☐	
1901A24-001D	FAC Combined Wastewater	Water	SM2540D (TSS)	1	1L HDPE, unprsv.	☐	1/22/2019 12:45	5 days	None	☐	
1901A24-001E	FAC Combined Wastewater	Water	E200.8 (Metals) <Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Zinc>	1	250mL HDPE w/ HNO3	☐	1/22/2019 12:45	5 days	None	☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

Chain of Custody

Page 1 of 2

Marsh Landing Generating Station
3201 Wilbur Avenue, P.O. Box 1687, Antioch, CA 94509
Phone: (925) 779-6500 Fax: (925) 779-6509

196 | A24

SAMPLES SUBMITTED TO		SEND INVOICE TO		PROJECT	
Laboratory:	McCampbell Analytical, Inc.	Company:	NRG Energy, Inc	Plant:	Marsh Landing
ELAP Cert. No.	1644	Attention:	David Frandsen	Title:	DDSD
Address:	1534 Willow Pass Road, Pittsburg, CA 94565-1701	Address:	112 Telly St. New Roads, LA 70760	Phase:	Quarterly
Phone/Fax:	925.252.9262/ 925.252.9269	P.O. No.:	4501868678	Manager:	David Frandsen

SAMPLE INFORMATION								CONTAINER INFORMATION				ANALYSIS REQUEST			
Sample Number	Sample Date	Sample Collection Time	Regulatory Driver	Regulatory Frequency	Sample Medium	Sample Type	Sample Description	Number	Type	Volume (each, mL)	Preserv.	COD (SM5220D)	BOD (SM 5210B)	TDS (SM 2540B)	TSS (SM 2540D)
ML-19-001	22-Jan-19	1245	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	2	Amber VOAs	43	H_2SO_4 (pH<2, 4°C)	X			
ML-19-002	22-Jan-19	1245	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	HDPE Bottle	1,000	None (ZHS, 4°C)		X		
ML-19-003	22-Jan-19	1245	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	HDPE Bottle	500	None (4°C)			X	
ML-19-004	22-Jan-19	1245	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	Poly	1,000	None				X
											HOLDING TIME:	28 days	48 hours	7 days	7 days

REPORTING		LABORATORY NOTES RE: SAMPLE RECEIPT/CONDITION	DIRECTIONS FOR LABORATORY
Original to:	David Frandsen		**STANDARDTAT (5-day).** Establish calibration standards so Minimum Level (ML) value is the lowest calibration standard, the lowest quantifiable concentration or Reporting Limit (RL). Report "Detected, but Not Quantified" (DNQ) with estimated J-flagged concentrations below the RL and include method detection limits (MDLs) in report.
Title:	Environmental Specialist/Engineer		
Address:	P.O. Box 1687 Antioch, CA 94509		***Include sample description with client sample ID.**
Phone/Fax:	925.324-3533/6509		
E-mail:	david.frandsen@nrg.com		
E-mail CC:	james.robinson@nrg.com		
E-mail CC:	joe.moura@nrg.com		

	PRINTED NAME	SIGNATURE	COMPANY	DATE	TIME
Sampled by:	James E Robinson	James E. Robin.	NRG	22-Jan-19	1245 P
Relinquished by:	James E Robinson	James E. Robin.	NRG	22-Jan-19	1656
Received by:	JULIA DANIELSSON		MAI	22-Jan-19	1656
Relinquished by:					
Received by:					
Relinquished by:					
Received by:					

2.4 C WET

Chain of Custody

Page 1 of 1

Marsh Landing Generating Station
3201 Wilbur Avenue, P.O. Box 1687, Antioch, CA 94509
Phone: (925) 779-6500 Fax: (925) 779-6509

SAMPLES SUBMITTED TO		SEND INVOICE TO		PROJECT	
Laboratory:	McCampbell Analytical, Inc.	Company:	NRG Energy, Inc	Plant:	Marsh Landing
ELAP Cert. No.	1644	Attention:	David Frandsen	Title:	DDSD
Address:	1534 Willow Pass Road, Pittsburg, CA 94565-1701	Address:	112 Telly St. New Roads, LA 70760	Phase:	Quarterly
Phone/Fax:	925.252.9262/ 925.252.9269	P.O. No.:	4501868678	Manager:	David Frandsen

SAMPLE INFORMATION								CONTAINER INFORMATION				ANALYSIS REQUEST			
Sample Number	Sample Date	Sample Collection Time	Regulatory Driver	Regulatory Frequency	Sample Medium	Sample Type	Sample Description	Number	Type	Volume (each, mL)	Preserv.	Total Metals[1] (EPA Method 200.8)			
ML-19-005	22-Jan-19	1245	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	HDPE Bottle	250	HNO3 (pH<2)	X			
											HOLDING TIME:	28 days			

REPORTING		LABORATORY NOTES RE: SAMPLE RECEIPT/CONDITION	DIRECTIONS FOR LABORATORY
Original to:	David Frandsen		**STANDARD TAT (5-day).** Establish calibration standards so Minimum Level (ML) value is the lowest calibration standard, the lowest quantifiable concentration or Reporting Limit (RL). Report "Detected, but Not Quantified" (DNQ) with estimated J-flagged concentrations below the RL and include method detection limits (MDLs) in report.
Title:	Environmental Specialist/Engineer		1. Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Mercury, Nickel, Molybdenum, Selenium (reaction mode), Silver, Zinc
Address:	P.O. Box 1687 Antioch, CA 94509		***Include sample description with client sample ID.**
Phone/Fax:	925.324-3533/6509		
E-mail:	david.frandsen@nrg.com		
E-mail CC:	james.robinson@nrg.com		
E-mail CC:	joe.moura@nrg.com		

	PRINTED NAME	SIGNATURE	COMPANY	DATE	TIME
Sampled by:	James E Robinson	James E. Robin.	NRG	22-Jan-19	1245
Relinquished by:	James E Robinson	James E. Robi	NRG	22-Jan-19	1656
Received by:	JULIA DANIELSSON		MAI	22-Jan-19	1656
Relinquished by:					
Received by:					
Relinquished by:					
Received by:					

2.4 C WET

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Sample Receipt Checklist

Client Name:	**NRG Energy, LLC**	Date and Time Received	**1/22/2019 16:56**
Project:	**DDSD, Quarterly**	Date Logged:	**1/22/2019**
		Received by:	Kena Ponce
WorkOrder №:	**1901A24** Matrix: Water	Logged by:	Kena Ponce
Carrier:	Client Drop-In		

Chain of Custody (COC) Information

Chain of custody present?	Yes	☑	No	☐		
Chain of custody signed when relinquished and received?	Yes	☑	No	☐		
Chain of custody agrees with sample labels?	Yes	☑	No	☐		
Sample IDs noted by Client on COC?	Yes	☑	No	☐		
Date and Time of collection noted by Client on COC?	Yes	☑	No	☐		
Sampler's name noted on COC?	Yes	☑	No	☐		
COC agrees with Quote?	Yes	☐	No	☐	NA	☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	NA	☑
Shipping container/cooler in good condition?	Yes	☑	No	☐		
Samples in proper containers/bottles?	Yes	☑	No	☐		
Sample containers intact?	Yes	☑	No	☐		
Sufficient sample volume for indicated test?	Yes	☑	No	☐		

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	NA	☐
Samples Received on Ice?	Yes	☑	No	☐		
(Ice Type: WET ICE)						
Sample/Temp Blank temperature	Temp: 2.4°C				NA	☐
Water - VOA vials have zero headspace / no bubbles?	Yes	☑	No	☐	NA	☐
Sample labels checked for correct preservation?	Yes	☑	No	☐		
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	Yes	☑	No	☐	NA	☐
UCMR Samples:						
pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes	☐	No	☐	NA	☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes	☐	No	☐	NA	☑

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"

Analytical Report

WorkOrder: 1901A29

Report Created for: NRG Energy, LLC

3201 Wilbur Avenue
Antioch, CA 94509

Project Contact: David Frandsen
Project P.O.: 4501868678
Project: DDSD, Semi-Annual

Project Received: 01/22/2019

Analytical Report reviewed & approved for release on 01/29/2019 by:

Heidi Fruhlinger
Project Manager

McCampbell Analytical, Inc.
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Glossary of Terms & Qualifier Definitions

Client: NRG Energy, LLC
Project: DDSD, Semi-Annual
WorkOrder: 1901A29

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: NRG Energy, LLC
Project: DDSD, Semi-Annual
WorkOrder: 1901A29

Analytical Qualifiers

B	Analyte detected in the associated Method Blank and in the sample
J	Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
a3	Sample diluted due to high organic content.
b1	Aqueous sample that contains greater than ~1 vol. % sediment

Quality Control Qualifiers

F2	LCS/LCSD recovery and/or RPD/RSD is out of acceptance criteria.

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Received:	1/22/19 16:56	**Extraction Method:**	E1664A_SG
Date Prepared:	1/28/19	**Analytical Method:**	E1664A
Project:	DDSD, Semi-Annual	**Unit:**	mg/L

Hexane Extractable Material (HEM; Oil & Grease) with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A29-001B**	**Water**	**01/22/2019 12:45**	**O&G**	**172146**

Analytes	Result	MDL	RL	DF	Date Analyzed
SGT-HEM	ND	1.2	5.6	1	01/29/2019 14:35

Analyst(s): HN

Analytical Comments: b1

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Received:	1/22/19 16:56	**Extraction Method:**	E1664A
Date Prepared:	1/25/19	**Analytical Method:**	E1664A
Project:	DDSD, Semi-Annual	**Unit:**	mg/L

Hexane Extractable Material (HEM; Oil & Grease) without Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A29-001A**	**Water**	**01/22/2019 12:45**	**O&G**	**172071**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
HEM	**1.5**	J	1.2	5.5	1	01/28/2019 15:45

Analyst(s): HN

Analytical Comments: b1

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Received:	1/22/19 16:56	**Extraction Method:**	E608/SW3620B
Date Prepared:	1/23/19	**Analytical Method:**	E608
Project:	DDSD, Semi-Annual	**Unit:**	µg/L

Organochlorine Pesticides + PCBs w/ Florisil Clean-up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	1901A29-001F	Water	01/22/2019 12:45	GC22 01241915.D	171912

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.0028	0.010	10	01/24/2019 18:06
a-BHC	ND	0.0031	0.010	10	01/24/2019 18:06
b-BHC	ND	0.0069	0.010	10	01/24/2019 18:06
d-BHC	ND	0.0014	0.010	10	01/24/2019 18:06
g-BHC	ND	0.0045	0.010	10	01/24/2019 18:06
Chlordane (Technical)	ND	0.023	0.20	10	01/24/2019 18:06
a-Chlordane	ND	0.0085	0.010	10	01/24/2019 18:06
g-Chlordane	ND	0.0015	0.010	10	01/24/2019 18:06
p,p-DDD	ND	0.0011	0.010	10	01/24/2019 18:06
p,p-DDE	ND	0.0018	0.010	10	01/24/2019 18:06
p,p-DDT	ND	0.0017	0.010	10	01/24/2019 18:06
Dieldrin	ND	0.0014	0.010	10	01/24/2019 18:06
Endosulfan I	ND	0.0011	0.010	10	01/24/2019 18:06
Endosulfan II	ND	0.0046	0.010	10	01/24/2019 18:06
Endosulfan sulfate	ND	0.0033	0.020	10	01/24/2019 18:06
Endrin	ND	0.0018	0.010	10	01/24/2019 18:06
Endrin aldehyde	ND	0.0053	0.010	10	01/24/2019 18:06
Endrin ketone	ND	0.0026	0.010	10	01/24/2019 18:06
Heptachlor	ND	0.0041	0.010	10	01/24/2019 18:06
Heptachlor epoxide	ND	0.0025	0.010	10	01/24/2019 18:06
Methoxychlor	ND	0.0012	0.010	10	01/24/2019 18:06
Toxaphene	ND	0.020	0.20	10	01/24/2019 18:06
Aroclor1016	ND	0.019	0.20	10	01/24/2019 18:06
Aroclor1221	ND	0.024	0.20	10	01/24/2019 18:06
Aroclor1232	ND	0.038	0.20	10	01/24/2019 18:06
Aroclor1242	ND	0.028	0.20	10	01/24/2019 18:06
Aroclor1248	ND	0.018	0.20	10	01/24/2019 18:06
Aroclor1254	ND	0.015	0.20	10	01/24/2019 18:06
Aroclor1260	ND	0.028	0.20	10	01/24/2019 18:06
PCBs, total	ND	NA	0.20	10	01/24/2019 18:06

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	106	14-168	01/24/2019 18:06

Analyst(s): CK Analytical Comments: a3,b1

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Received:	1/22/19 16:56	**Extraction Method:**	E624
Date Prepared:	1/23/19	**Analytical Method:**	E624
Project:	DDSD, Semi-Annual	**Unit:**	µg/L

Acrolein, Acrylonitrile, & 2-Chloroethyl Vinyl Ether

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A29-001H**	**Water**	**01/22/2019 12:45**	**GC28 01231907.D**	**171869**

Analytes	Result	MDL	RL	DF	Date Analyzed
Acrolein (Propenal)	ND	2.5	5.0	1	01/23/2019 10:51
Acrylonitrile	ND	1.0	2.0	1	01/23/2019 10:51
2-Chloroethyl Vinyl Ether	ND	0.50	1.0	1	01/23/2019 10:51

Surrogates	REC (%)	Limits	
Dibromofluoromethane	95	65-165	01/23/2019 10:51

Analyst(s): JEM Analytical Comments: b1

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Received:	1/22/19 16:56	**Extraction Method:**	E624
Date Prepared:	1/27/19	**Analytical Method:**	E624
Project:	DDSD, Semi-Annual	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A29-001G**	**Water**	**01/22/2019 12:45**	**GC16 01271914.D**	**172072**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Benzene	ND		0.051	0.50	1	01/27/2019 21:36
Bromodichloromethane	**1.5**		0.20	0.50	1	01/27/2019 21:36
Bromoform	**0.21**	J	0.066	0.50	1	01/27/2019 21:36
Bromomethane	ND		0.16	0.50	1	01/27/2019 21:36
Carbon tetrachloride	ND		0.069	0.50	1	01/27/2019 21:36
Chlorobenzene	ND		0.050	0.50	1	01/27/2019 21:36
Chloroethane	ND		0.31	0.50	1	01/27/2019 21:36
Chloroform	**0.79**		0.064	0.50	1	01/27/2019 21:36
Chloromethane	ND		0.13	0.50	1	01/27/2019 21:36
Dibromochloromethane	**1.1**		0.080	0.50	1	01/27/2019 21:36
1,2-Dibromoethane (EDB)	ND		0.12	0.50	1	01/27/2019 21:36
1,2-Dichlorobenzene	ND		0.080	0.50	1	01/27/2019 21:36
1,3-Dichlorobenzene	ND		0.071	0.50	1	01/27/2019 21:36
1,4-Dichlorobenzene	ND		0.072	0.50	1	01/27/2019 21:36
1,1-Dichloroethane	ND		0.060	0.50	1	01/27/2019 21:36
1,2-Dichloroethane (1,2-DCA)	ND		0.090	0.50	1	01/27/2019 21:36
1,1-Dichloroethene	ND		0.086	0.50	1	01/27/2019 21:36
trans-1,2-Dichloroethene	ND		0.060	0.50	1	01/27/2019 21:36
1,2-Dichloropropane	ND		0.055	0.50	1	01/27/2019 21:36
cis-1,3-Dichloropropene	ND		0.090	0.50	1	01/27/2019 21:36
trans-1,3-Dichloropropene	ND		0.070	0.50	1	01/27/2019 21:36
Ethylbenzene	ND		0.050	0.50	1	01/27/2019 21:36
Methyl-t-butyl ether (MTBE)	ND		0.10	0.50	1	01/27/2019 21:36
Methylene chloride	ND		0.052	2.0	1	01/27/2019 21:36
1,1,2,2-Tetrachloroethane	ND		0.11	0.50	1	01/27/2019 21:36
Tetrachloroethene	ND		0.082	0.50	1	01/27/2019 21:36
Toluene	**0.066**	JB	0.040	0.50	1	01/27/2019 21:36
1,2,4-Trichlorobenzene	ND		0.086	0.50	1	01/27/2019 21:36
1,1,1-Trichloroethane	ND		0.050	0.50	1	01/27/2019 21:36
1,1,2-Trichloroethane	ND		0.080	0.50	1	01/27/2019 21:36
Trichloroethene	ND		0.060	0.50	1	01/27/2019 21:36
Trichlorofluoromethane	ND		0.047	0.50	1	01/27/2019 21:36
Vinyl chloride	**0.071**	J	0.070	0.50	1	01/27/2019 21:36
m,p-Xylene	ND		0.11	0.50	1	01/27/2019 21:36
o-Xylene	ND		0.060	0.50	1	01/27/2019 21:36
Xylenes, Total	ND		NA	0.50	1	01/27/2019 21:36

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Received:	1/22/19 16:56	**Extraction Method:**	E624
Date Prepared:	1/27/19	**Analytical Method:**	E624
Project:	DDSD, Semi-Annual	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A29-001G**	**Water**	**01/22/2019 12:45**	**GC16 01271914.D**	**172072**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Surrogates	**REC (%)**			**Limits**		
Dibromofluoromethane	93			81-144		01/27/2019 21:36
Toluene-d8	99			85-135		01/27/2019 21:36
4-BFB	89			63-145		01/27/2019 21:36

Analyst(s): AK Analytical Comments: b1

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Received:	1/22/19 16:56	**Extraction Method:**	E625
Date Prepared:	1/23/19	**Analytical Method:**	E625
Project:	DDSD, Semi-Annual	**Unit:**	µg/L

Semi-Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A29-001I**	**Water**	**01/22/2019 12:45**	**GC17 01231920.D**	**171767**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Acenaphthene	ND		0.11	0.21	20	01/23/2019 20:41
Acenaphthylene	ND		0.10	0.21	20	01/23/2019 20:41
Anthracene	ND		0.089	0.21	20	01/23/2019 20:41
Benzidine	ND		11	100	20	01/23/2019 20:41
Benzo (a) anthracene	ND		0.40	0.42	20	01/23/2019 20:41
Benzo (a) pyrene	ND		0.13	0.21	20	01/23/2019 20:41
Benzo (b) fluoranthene	ND		0.083	0.10	20	01/23/2019 20:41
Benzo (g,h,i) perylene	ND		0.15	0.42	20	01/23/2019 20:41
Benzo (k) fluoranthene	ND		0.13	0.21	20	01/23/2019 20:41
Benzyl Alcohol	ND		60	100	20	01/23/2019 20:41
Bis (2-chloroethoxy) Methane	ND		17	21	20	01/23/2019 20:41
Bis (2-chloroethyl) Ether	**0.081**	J	0.044	0.10	20	01/23/2019 20:41
Bis (2-chloroisopropyl) Ether	ND		0.19	0.21	20	01/23/2019 20:41
Bis (2-ethylhexyl) Adipate	ND		8.1	62	20	01/23/2019 20:41
Bis (2-ethylhexyl) Phthalate	ND		0.71	0.83	20	01/23/2019 20:41
4-Bromophenyl Phenyl Ether	ND		9.4	21	20	01/23/2019 20:41
Butylbenzyl Phthalate	ND		2.0	4.2	20	01/23/2019 20:41
4-Chloroaniline	ND		0.11	0.42	20	01/23/2019 20:41
4-Chloro-3-methylphenol	ND		11	21	20	01/23/2019 20:41
2-Chloronaphthalene	ND		12	21	20	01/23/2019 20:41
2-Chlorophenol	ND		0.18	0.42	20	01/23/2019 20:41
4-Chlorophenyl Phenyl Ether	ND		10	21	20	01/23/2019 20:41
Chrysene	ND		0.19	0.21	20	01/23/2019 20:41
Dibenzo (a,h) anthracene	ND		0.20	0.21	20	01/23/2019 20:41
Dibenzofuran	ND		7.7	21	20	01/23/2019 20:41
Di-n-butyl Phthalate	ND		0.14	0.42	20	01/23/2019 20:41
1,2-Dichlorobenzene	ND		23	42	20	01/23/2019 20:41
1,3-Dichlorobenzene	ND		25	42	20	01/23/2019 20:41
1,4-Dichlorobenzene	ND		21	42	20	01/23/2019 20:41
3,3-Dichlorobenzidine	ND		0.17	0.42	20	01/23/2019 20:41
2,4-Dichlorophenol	ND		0.13	0.21	20	01/23/2019 20:41
Diethyl Phthalate	ND		0.31	0.42	20	01/23/2019 20:41
2,4-Dimethylphenol	ND		17	21	20	01/23/2019 20:41
Dimethyl Phthalate	ND		0.23	0.42	20	01/23/2019 20:41
4,6-Dinitro-2-methylphenol	ND		37	100	20	01/23/2019 20:41
2,4-Dinitrophenol	ND		3.1	10	20	01/23/2019 20:41
2,4-Dinitrotoluene	ND		0.14	0.52	20	01/23/2019 20:41

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Received:	1/22/19 16:56	**Extraction Method:**	E625
Date Prepared:	1/23/19	**Analytical Method:**	E625
Project:	DDSD, Semi-Annual	**Unit:**	µg/L

Semi-Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A29-001I**	**Water**	**01/22/2019 12:45**	**GC17 01231920.D**	**171767**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
2,6-Dinitrotoluene	ND		0.11	0.21	20	01/23/2019 20:41
Di-n-octyl Phthalate	ND		0.42	2.6	20	01/23/2019 20:41
1,2-Diphenylhydrazine	ND		8.3	21	20	01/23/2019 20:41
Fluoranthene	ND		0.14	0.21	20	01/23/2019 20:41
Fluorene	ND		0.13	0.21	20	01/23/2019 20:41
Hexachlorobenzene	ND		0.089	0.10	20	01/23/2019 20:41
Hexachlorobutadiene	ND		0.073	0.21	20	01/23/2019 20:41
Hexachlorocyclopentadiene	ND		10	100	20	01/23/2019 20:41
Hexachloroethane	ND		0.14	0.21	20	01/23/2019 20:41
Indeno (1,2,3-cd) pyrene	ND		0.14	0.42	20	01/23/2019 20:41
Isophorone	ND		14	21	20	01/23/2019 20:41
2-Methylnaphthalene	ND		0.11	0.21	20	01/23/2019 20:41
2-Methylphenol (o-Cresol)	ND		11	21	20	01/23/2019 20:41
3 & 4-Methylphenol (m,p-Cresol)	**34**		8.5	21	20	01/23/2019 20:41
Naphthalene	ND		0.10	0.21	20	01/23/2019 20:41
2-Nitroaniline	ND		37	100	20	01/23/2019 20:41
3-Nitroaniline	ND		65	100	20	01/23/2019 20:41
4-Nitroaniline	ND		56	100	20	01/23/2019 20:41
Nitrobenzene	ND		20	21	20	01/23/2019 20:41
2-Nitrophenol	ND		50	100	20	01/23/2019 20:41
4-Nitrophenol	ND		23	100	20	01/23/2019 20:41
N-Nitrosodiphenylamine	ND		8.5	21	20	01/23/2019 20:41
N-Nitrosodi-n-propylamine	ND		14	21	20	01/23/2019 20:41
Pentachlorophenol	ND		1.1	5.2	20	01/23/2019 20:41
Phenanthrene	ND		0.11	0.42	20	01/23/2019 20:41
Phenol	**4.8**		0.18	0.42	20	01/23/2019 20:41
Pyrene	ND		0.12	0.42	20	01/23/2019 20:41
Pyridine	ND		10	21	20	01/23/2019 20:41
1,2,4-Trichlorobenzene	ND		1.9	21	20	01/23/2019 20:41
2,4,5-Trichlorophenol	ND		0.13	1.0	20	01/23/2019 20:41
2,4,6-Trichlorophenol	ND		0.10	1.0	20	01/23/2019 20:41
N-Nitrosodimethylamine	ND		58	100	20	01/23/2019 20:41

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Received:	1/22/19 16:56	**Extraction Method:**	E625
Date Prepared:	1/23/19	**Analytical Method:**	E625
Project:	DDSD, Semi-Annual	**Unit:**	µg/L

Semi-Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A29-001I**	**Water**	**01/22/2019 12:45**	**GC17 01231920.D**	**171767**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Surrogates	**REC (%)**			**Limits**		
2-Fluorophenol	67			1-92		01/23/2019 20:41
Phenol-d5	42			5-104		01/23/2019 20:41
Nitrobenzene-d5	108			4-143		01/23/2019 20:41
2-Fluorobiphenyl	106			9-134		01/23/2019 20:41
2,4,6-Tribromophenol	99			1-159		01/23/2019 20:41
Terphenyl-d14	95			5-150		01/23/2019 20:41

Analyst(s): REB Analytical Comments: b1

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Received:	1/22/19 16:56	**Extraction Method:**	E350.1
Date Prepared:	1/24/19	**Analytical Method:**	E350.1
Project:	DDSD, Semi-Annual	**Unit:**	mg/L

Ammonia As Nitrogen

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A29-001E**	**Water**	**01/22/2019 12:45**	**WC_SKALAR 012419B1_81**	**171964**

Analytes	Result	MDL	RL	DF	Date Analyzed
Ammonia, total as N	**5.7**	0.084	0.10	1	01/24/2019 14:34

Analyst(s): NM

Analytical Comments: b1

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Received:	1/22/19 16:56	**Extraction Method:**	Kelada-01
Date Prepared:	1/23/19	**Analytical Method:**	Kelada-01
Project:	DDSD, Semi-Annual	**Unit:**	µg/L

Cyanide, Total

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A29-001C**	**Water**	**01/22/2019 12:45**	**WC_SKALAR 012319A1_38**	**171884**

Analytes	Result	MDL	RL	DF	Date Analyzed
Total Cyanide	**1.1**	0.84	1.0	1	01/23/2019 12:44

Analyst(s): NM

Analytical Comments: b1

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Received:	1/22/19 16:56	**Extraction Method:**	E420.4
Date Prepared:	1/23/19	**Analytical Method:**	E420.4
Project:	DDSD, Semi-Annual	**Unit:**	µg/L

Phenolics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A29-001D**	**Water**	**01/22/2019 12:45**	**WC_SKALAR 012319A1_25**	**171887**

Analytes	Result	MDL	RL	DF	Date Analyzed
Phenolics	**13.4**	2.0	2.0	1	01/23/2019 10:01

Analyst(s): NM

Analytical Comments: b1

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/29/19	**BatchID:**	172146
Date Analyzed:	1/29/19	**Extraction Method:**	E1664A_SG
Instrument:	O&G	**Analytical Method:**	E1664A
Matrix:	Water	**Unit:**	mg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-172146

QC Summary Report for E1664A

Analyte	MB Result	MDL	RL			
SGT-HEM	ND	1.1	5.0	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
SGT-HEM	8.9	8.6	10.42	85	83	64-132	3.17	30

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/28/19	**BatchID:**	172071
Date Analyzed:	1/28/19	**Extraction Method:**	E1664A
Instrument:	O&G	**Analytical Method:**	E1664A
Matrix:	Water	**Unit:**	mg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-172071

QC Summary Report for E1664A

Analyte	MB Result	MDL	RL			
HEM	ND	1.1	5.0	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
HEM	19	18	20.83	89	86	78-114	4.12	30

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/23/19	**BatchID:**	171912
Date Analyzed:	1/24/19	**Extraction Method:**	E608/SW3620B
Instrument:	GC22	**Analytical Method:**	E608
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-171912

QC Summary Report for E608 w/ Florisil Clean-up

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Aldrin	ND	0.00028	0.0010	-	-	-
a-BHC	ND	0.00031	0.0010	-	-	-
b-BHC	ND	0.00069	0.0010	-	-	-
d-BHC	ND	0.00014	0.0010	-	-	-
g-BHC	ND	0.00045	0.0010	-	-	-
Chlordane (Technical)	ND	0.0023	0.020	-	-	-
a-Chlordane	ND	0.00085	0.0010	-	-	-
g-Chlordane	ND	0.00015	0.0010	-	-	-
p,p-DDD	ND	0.00011	0.0010	-	-	-
p,p-DDE	ND	0.00018	0.0010	-	-	-
p,p-DDT	ND	0.00017	0.0010	-	-	-
Dieldrin	ND	0.00014	0.0010	-	-	-
Endosulfan I	ND	0.00011	0.0010	-	-	-
Endosulfan II	ND	0.00046	0.0010	-	-	-
Endosulfan sulfate	ND	0.00033	0.0020	-	-	-
Endrin	ND	0.00018	0.0010	-	-	-
Endrin aldehyde	ND	0.00053	0.0010	-	-	-
Endrin ketone	ND	0.00026	0.0010	-	-	-
Heptachlor	ND	0.00041	0.0010	-	-	-
Heptachlor epoxide	ND	0.00025	0.0010	-	-	-
Methoxychlor	ND	0.00012	0.0010	-	-	-
Methoxychlor	ND	0.00012	0.0010	-	-	-
Toxaphene	ND	0.0020	0.020	-	-	-
Aroclor1016	ND	0.0019	0.020	-	-	-
Aroclor1016	ND	0.0019	0.020	-	-	-
Aroclor1221	ND	0.0024	0.020	-	-	-
Aroclor1232	ND	0.0038	0.020	-	-	-
Aroclor1242	ND	0.0028	0.020	-	-	-
Aroclor1248	ND	0.0018	0.020	-	-	-
Aroclor1254	ND	0.0015	0.020	-	-	-
Aroclor1260	ND	0.0028	0.020	-	-	-
Aroclor1260	ND	0.0028	0.020	-	-	-
PCBs, total	ND	N/A	0.020	-	-	-
Surrogate Recovery						
Decachlorobiphenyl	0.051			0.050	102	35-113

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/23/19	**BatchID:**	171912
Date Analyzed:	1/24/19	**Extraction Method:**	E608/SW3620B
Instrument:	GC22	**Analytical Method:**	E608
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-171912

QC Summary Report for E608 w/ Florisil Clean-up

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aldrin	0.042	0.045	0.050	84	90	50-103	6.55	20
a-BHC	0.045	0.048	0.050	91	97	63-131	6.51	20
b-BHC	0.039	0.043	0.050	78	86	56-112	9.24	20
d-BHC	0.040	0.045	0.050	80	91	63-132	12.3	20
g-BHC	0.043	0.046	0.050	86	92	61-135	6.96	20
a-Chlordane	0.043	0.046	0.050	85	92	54-113	8.16	20
g-Chlordane	0.044	0.047	0.050	88	95	55-117	7.86	20
p,p-DDD	0.042	0.046	0.050	83	92	56-135	9.95	20
p,p-DDE	0.044	0.047	0.050	87	95	56-131	8.55	20
p,p-DDT	0.043	0.047	0.050	86	95	47-153	10.3	20
Dieldrin	0.050	0.054	0.050	100	109	67-152	8.27	20
Endosulfan I	0.045	0.048	0.050	89	97	56-137	7.72	20
Endosulfan II	0.039	0.044	0.050	77	88	50-113	12.8	20
Endosulfan sulfate	0.035	0.040	0.050	69	80	57-121	14.9	20
Endrin	0.048	0.053	0.050	96	105	60-150	8.65	20
Endrin aldehyde	0.026	0.028	0.050	51	56	47-121	9.13	20
Endrin ketone	0.037	0.043	0.050	74	86	48-130	14.9	20
Heptachlor	0.040	0.042	0.050	80	84	46-133	4.63	20
Heptachlor epoxide	0.042	0.045	0.050	83	90	54-105	8.33	20
Methoxychlor	0.048	0.054	0.050	95	108	54-135	12.1	20
Aroclor1016	0.14	0.13	0.15	96	86	54-103	10.5	20
Aroclor1260	0.14	0.13	0.15	95	84	42-121	11.8	20
Surrogate Recovery								
Decachlorobiphenyl	0.047	0.056	0.050	95	112	35-113	17.0	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/23/19	**BatchID:**	171869
Date Analyzed:	1/23/19	**Extraction Method:**	E624
Instrument:	GC28	**Analytical Method:**	E624
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-171869

QC Summary Report for E624

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acrolein (Propenal)	ND	2.5	5.0	-	-	-
Acrylonitrile	ND	1.0	2.0	-	-	-
2-Chloroethyl Vinyl Ether	ND	0.50	1.0	-	-	-
Surrogate Recovery						
Dibromofluoromethane	24			25	96	68-160

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acrolein (Propenal)	21	20	20	104	102	71-140	1.99	20
Acrylonitrile	20	22	20	100	108	67-145	7.42	20
2-Chloroethyl Vinyl Ether	19	20	20	97	101	70-124	3.54	20
Surrogate Recovery								
Dibromofluoromethane	24	24	25	95	95	68-160	0	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/27/19	**BatchID:**	172072
Date Analyzed:	1/27/19	**Extraction Method:**	E624
Instrument:	GC16	**Analytical Method:**	E624
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-172072

QC Summary Report for E624

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Benzene	ND	0.051	0.20	-	-	-
Bromodichloromethane	ND	0.20	0.50	-	-	-
Bromoform	ND	0.066	0.50	-	-	-
Bromomethane	0.27,J	0.16	0.50	-	-	-
Carbon tetrachloride	ND	0.069	0.50	-	-	-
Chlorobenzene	ND	0.050	0.50	-	-	-
Chloroethane	ND	0.31	0.50	-	-	-
Chloroform	ND	0.064	0.50	-	-	-
Chloromethane	ND	0.13	0.50	-	-	-
Dibromochloromethane	ND	0.080	0.50	-	-	-
1,2-Dibromoethane (EDB)	ND	0.12	0.50	-	-	-
1,2-Dichlorobenzene	ND	0.080	0.50	-	-	-
1,3-Dichlorobenzene	ND	0.071	0.50	-	-	-
1,4-Dichlorobenzene	ND	0.072	0.50	-	-	-
1,1-Dichloroethane	ND	0.060	0.50	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.090	0.50	-	-	-
1,1-Dichloroethene	ND	0.086	0.50	-	-	-
trans-1,2-Dichloroethene	ND	0.060	0.50	-	-	-
1,2-Dichloropropane	ND	0.055	0.50	-	-	-
cis-1,3-Dichloropropene	ND	0.090	0.50	-	-	-
trans-1,3-Dichloropropene	ND	0.070	0.50	-	-	-
Ethylbenzene	ND	0.050	0.50	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.10	0.50	-	-	-
Methylene chloride	ND	0.052	2.0	-	-	-
Styrene	ND	0.060	0.50	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.11	0.50	-	-	-
Tetrachloroethene	ND	0.082	0.50	-	-	-
Toluene	0.047,J	0.040	0.50	-	-	-
1,2,4-Trichlorobenzene	ND	0.086	0.50	-	-	-
1,1,1-Trichloroethane	ND	0.050	0.50	-	-	-
1,1,2-Trichloroethane	ND	0.080	0.50	-	-	-
Trichloroethene	ND	0.060	0.50	-	-	-
Trichlorofluoromethane	ND	0.047	0.50	-	-	-
Vinyl chloride	ND	0.070	0.50	-	-	-
m,p-Xylene	ND	0.11	0.50	-	-	-
o-Xylene	ND	0.060	0.50	-	-	-
Xylenes, Total	ND	N/A	0.50	-	-	-

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/27/19	**BatchID:**	172072
Date Analyzed:	1/27/19	**Extraction Method:**	E624
Instrument:	GC16	**Analytical Method:**	E624
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-172072

QC Summary Report for E624

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
Dibromofluoromethane	22			25	87	82-142
Toluene-d8	25			25	101	85-137
4-BFB	2.2			2.5	88	66-144

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/27/19	**BatchID:**	172072
Date Analyzed:	1/27/19	**Extraction Method:**	E624
Instrument:	GC16	**Analytical Method:**	E624
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-172072

QC Summary Report for E624

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Benzene	11	10	10	105	103	71-120	1.70	20
Bromodichloromethane	9.9	10	10	99	101	67-120	2.11	20
Bromoform	8.7	8.9	10	87	89	59-121	1.98	20
Bromomethane	4.4	4.5	10	44	45	44-175	0.779	20
Carbon tetrachloride	10	10	10	104	102	73-117	1.79	20
Chlorobenzene	9.8	9.7	10	98	97	73-119	1.37	20
Chloroethane	11	11	10	111	108	60-144	2.49	20
Chloroform	11	11	10	109	107	72-120	1.35	20
Chloromethane	12	11	10	116	108	28-145	6.78	20
Dibromochloromethane	8.8	9.0	10	88	90	66-122	1.65	20
1,2-Dibromoethane (EDB)	8.7	8.9	10	87	89	68-117	1.35	20
1,2-Dichlorobenzene	9.5	9.3	10	95	93	70-121	1.75	20
1,3-Dichlorobenzene	10	10	10	105	102	69-125	2.21	20
1,4-Dichlorobenzene	9.7	9.5	10	97	95	67-123	1.83	20
1,1-Dichloroethane	11	11	10	109	107	72-121	2.15	20
1,2-Dichloroethane (1,2-DCA)	10	10	10	104	104	64-120	0	20
1,1-Dichloroethene	11	11	10	108	105	76-123	2.57	20
trans-1,2-Dichloroethene	11	10	10	107	104	74-124	2.31	20
1,2-Dichloropropane	10	10	10	101	102	70-120	0.374	20
cis-1,3-Dichloropropene	9.4	9.4	10	94	94	69-121	0	20
trans-1,3-Dichloropropene	9.8	9.9	10	98	99	70-121	0.851	20
Ethylbenzene	10	10	10	101	100	75-116	1.26	20
Methyl-t-butyl ether (MTBE)	10	10	10	100	103	64-121	2.74	20
Methylene chloride	9.9	9.7	10	99	97	66-115	2.33	20
Styrene	9.2	9.6	10	92	96	69-118	3.48	20
1,1,2,2-Tetrachloroethane	9.2	9.2	10	92	92	58-123	0	20
Tetrachloroethene	9.2	8.9	10	92	89	72-118	2.77	20
Toluene	10	9.8	10	100	98	73-111	2.19	20
1,2,4-Trichlorobenzene	8.6	8.3	10	86	83	66-128	4.13	20
1,1,1-Trichloroethane	10	10	10	105	103	72-118	1.59	20
1,1,2-Trichloroethane	8.9	9.0	10	89	90	66-118	1.12	20
Trichloroethene	9.6	9.5	10	96	95	71-121	1.39	20
Trichlorofluoromethane	11	11	10	107	106	59-125	0.940	20
Vinyl chloride	13	12	10	127	120	60-138	5.42	20
m,p-Xylene	20	20	20	98	99	74-118	1.11	20
o-Xylene	10	10	10	101	103	73-119	2.26	20
Xylenes, Total	30	30	30	99	101	74-118	1.50	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/27/19	**BatchID:**	172072
Date Analyzed:	1/27/19	**Extraction Method:**	E624
Instrument:	GC16	**Analytical Method:**	E624
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-172072

QC Summary Report for E624

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Surrogate Recovery								
Dibromofluoromethane	23	23	25	91	92	82-142	1.62	20
Toluene-d8	25	25	25	100	99	85-137	1.32	20
4-BFB	2.3	2.4	2.5	94	94	66-144	0	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/22/19	**BatchID:**	171767
Date Analyzed:	1/22/19	**Extraction Method:**	E625
Instrument:	GC17	**Analytical Method:**	E625
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-171767

QC Summary Report for E625

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acenaphthene	ND	0.0051	0.010	-	-	-
Acenaphthylene	ND	0.0050	0.010	-	-	-
Acetochlor	ND	0.49	2.0	-	-	-
Anthracene	ND	0.0043	0.010	-	-	-
Benzidine	ND	0.55	5.0	-	-	-
Benzo (a) anthracene	ND	0.019	0.020	-	-	-
Benzo (a) pyrene	ND	0.0064	0.010	-	-	-
Benzo (b) fluoranthene	ND	0.0040	0.0050	-	-	-
Benzo (g,h,i) perylene	ND	0.0071	0.020	-	-	-
Benzo (k) fluoranthene	ND	0.0063	0.010	-	-	-
Benzyl Alcohol	ND	2.9	5.0	-	-	-
1,1-Biphenyl	ND	0.012	0.050	-	-	-
Bis (2-chloroethoxy) Methane	ND	0.84	1.0	-	-	-
Bis (2-chloroethyl) Ether	ND	0.0021	0.0050	-	-	-
Bis (2-chloroisopropyl) Ether	ND	0.0089	0.010	-	-	-
Bis (2-ethylhexyl) Adipate	ND	0.39	3.0	-	-	-
Bis (2-ethylhexyl) Phthalate	ND	0.034	0.040	-	-	-
4-Bromophenyl Phenyl Ether	ND	0.45	1.0	-	-	-
Butylbenzyl Phthalate	ND	0.097	0.20	-	-	-
4-Chloroaniline	ND	0.0051	0.020	-	-	-
4-Chloro-3-methylphenol	ND	0.55	1.0	-	-	-
2-Chloronaphthalene	ND	0.57	1.0	-	-	-
2-Chlorophenol	ND	0.0086	0.020	-	-	-
4-Chlorophenyl Phenyl Ether	ND	0.48	1.0	-	-	-
Chrysene	ND	0.0093	0.010	-	-	-
Dibenzo (a,h) anthracene	ND	0.0094	0.010	-	-	-
Dibenzofuran	ND	0.37	1.0	-	-	-
Di-n-butyl Phthalate	ND	0.0068	0.020	-	-	-
1,2-Dichlorobenzene	ND	1.1	2.0	-	-	-
1,3-Dichlorobenzene	ND	1.2	2.0	-	-	-
1,4-Dichlorobenzene	ND	1.0	2.0	-	-	-
3,3-Dichlorobenzidine	ND	0.0081	0.020	-	-	-
2,4-Dichlorophenol	ND	0.0061	0.010	-	-	-
Diethyl Phthalate	ND	0.015	0.020	-	-	-
2,4-Dimethylphenol	ND	0.81	1.0	-	-	-
Dimethyl Phthalate	ND	0.011	0.020	-	-	-
4,6-Dinitro-2-methylphenol	ND	1.8	5.0	-	-	-
2,4-Dinitrophenol	ND	0.15	0.50	-	-	-

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/22/19	**BatchID:**	171767
Date Analyzed:	1/22/19	**Extraction Method:**	E625
Instrument:	GC17	**Analytical Method:**	E625
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-171767

QC Summary Report for E625

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
2,4-Dinitrotoluene	ND	0.0066	0.025	-	-	-
2,6-Dinitrotoluene	ND	0.0053	0.010	-	-	-
Di-n-octyl Phthalate	ND	0.020	0.12	-	-	-
1,2-Diphenylhydrazine	ND	0.40	1.0	-	-	-
Fluoranthene	ND	0.0068	0.010	-	-	-
Fluorene	ND	0.0064	0.010	-	-	-
Hexachlorobenzene	ND	0.0043	0.0050	-	-	-
Hexachlorobutadiene	ND	0.0035	0.010	-	-	-
Hexachlorocyclopentadiene	ND	0.48	5.0	-	-	-
Hexachloroethane	ND	0.0068	0.010	-	-	-
Indeno (1,2,3-cd) pyrene	ND	0.0065	0.020	-	-	-
Isophorone	ND	0.66	1.0	-	-	-
2-Methylnaphthalene	ND	0.0053	0.010	-	-	-
2-Methylphenol (o-Cresol)	ND	0.53	1.0	-	-	-
3 & 4-Methylphenol (m,p-Cresol)	ND	0.41	1.0	-	-	-
Naphthalene	ND	0.0048	0.010	-	-	-
2-Nitroaniline	ND	1.8	5.0	-	-	-
3-Nitroaniline	ND	3.1	5.0	-	-	-
4-Nitroaniline	ND	2.7	5.0	-	-	-
Nitrobenzene	ND	0.95	1.0	-	-	-
2-Nitrophenol	ND	2.4	5.0	-	-	-
4-Nitrophenol	ND	1.1	5.0	-	-	-
N-Nitrosodiphenylamine	ND	0.41	1.0	-	-	-
N-Nitrosodi-n-propylamine	ND	0.65	1.0	-	-	-
Pentachlorophenol	ND	0.055	0.25	-	-	-
Phenanthrene	ND	0.0055	0.020	-	-	-
Phenol	ND	0.0088	0.020	-	-	-
Pyrene	ND	0.0057	0.020	-	-	-
Pyridine	ND	0.49	1.0	-	-	-
1,2,4-Trichlorobenzene	ND	0.089	1.0	-	-	-
2,4,5-Trichlorophenol	ND	0.0061	0.050	-	-	-
2,4,6-Trichlorophenol	ND	0.0049	0.050	-	-	-
N-Nitrosodimethylamine	ND	2.8	5.0	-	-	-

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/22/19	**BatchID:**	171767
Date Analyzed:	1/22/19	**Extraction Method:**	E625
Instrument:	GC17	**Analytical Method:**	E625
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-171767

QC Summary Report for E625

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
2-Fluorophenol	5.1			5	103	36-131
Phenol-d5	5.5			5	109	43-149
Nitrobenzene-d5	4.9			5	98	39-150
2-Fluorobiphenyl	4.7			5	93	43-133
2,4,6-Tribromophenol	5.8			5	116	42-147
4-Terphenyl-d14	4.7			5	94	44-124

(Cont.)

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/22/19	**BatchID:**	171767
Date Analyzed:	1/22/19	**Extraction Method:**	E625
Instrument:	GC17	**Analytical Method:**	E625
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-171767

QC Summary Report for E625

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acenaphthene	0.51	0.49	0.50	102	98	55-112	4.23	25
Acenaphthylene	0.53	0.50	0.50	106	100	53-109	5.20	25
Anthracene	0.53	0.51	0.50	107	102	57-112	4.39	25
Benzidine	51	48	50	102, F2	97, F2	33-87	5.67	25
Benzo (a) anthracene	0.47	0.45	0.50	94	91	54-103	3.51	25
Benzo (a) pyrene	0.49	0.48	0.50	99	96	50-116	3.25	25
Benzo (b) fluoranthene	0.51	0.49	0.50	102	98	49-111	4.71	25
Benzo (g,h,i) perylene	0.47	0.46	0.50	95	92	48-106	3.17	25
Benzo (k) fluoranthene	0.48	0.47	0.50	96	93	52-111	2.99	25
Benzyl Alcohol	49	46	50	99	91	38-130	8.01	25
Bis (2-chloroethoxy) Methane	10	9.9	10	101	99	52-120	2.13	25
Bis (2-chloroethyl) Ether	0.44	0.40	0.50	88	81	37-142	9.23	25
Bis (2-chloroisopropyl) Ether	0.46	0.44	0.50	93	87	40-140	6.41	25
Bis (2-ethylhexyl) Adipate	11	10	10	107	105	49-109	2.46	25
Bis (2-ethylhexyl) Phthalate	0.53	0.50	0.50	105	100	39-136	5.45	25
4-Bromophenyl Phenyl Ether	10	9.9	10	102	99	53-108	3.72	25
Butylbenzyl Phthalate	0.53	0.50	0.50	106	99	48-124	5.90	25
4-Chloroaniline	0.56	0.54	0.50	111	107	57-121	3.58	25
4-Chloro-3-methylphenol	11	10	10	109	104	60-126	5.16	25
2-Chloronaphthalene	10	9.8	10	101	98	54-109	2.90	25
2-Chlorophenol	0.46	0.42	0.50	92	85	51-117	8.28	25
4-Chlorophenyl Phenyl Ether	10	9.2	10	102	92	59-108	9.94	25
Chrysene	0.48	0.47	0.50	97	93	53-104	4.07	25
Dibenzo (a,h) anthracene	0.50	0.49	0.50	100	99	51-112	1.62	25
Dibenzofuran	11	9.8	10	106	98	57-108	7.84	25
Di-n-butyl Phthalate	0.54	0.50	0.50	107	100	52-121	7.18	25
1,2-Dichlorobenzene	8.7	8.0	10	87	80	43-125	8.71	25
1,3-Dichlorobenzene	8.8	7.9	10	88	79	55-108	10.0	25
1,4-Dichlorobenzene	8.3	7.7	10	83	77	52-108	7.25	25
3,3-Dichlorobenzidine	0.55	0.56	0.50	110	113	52-118	2.33	25
2,4-Dichlorophenol	10	9.8	10	103	98	56-121	4.46	25
Diethyl Phthalate	0.54	0.50	0.50	108	100	56-122	7.53	25
2,4-Dimethylphenol	11	9.8	10	106	98	47-112	7.76	25
Dimethyl Phthalate	0.54	0.50	0.50	107	100	49-121	7.03	25
4,6-Dinitro-2-methylphenol	50	50	50	101	99	33-117	1.57	25
2,4-Dinitrophenol	2.6	2.7	2.5	105	107	29-114	1.76	25
2,4-Dinitrotoluene	0.50	0.58	0.50	101	115	59-128	13.7	25
2,6-Dinitrotoluene	0.57	0.55	0.50	114	110	56-118	3.65	25

(Cont.)

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/22/19	**BatchID:**	171767
Date Analyzed:	1/22/19	**Extraction Method:**	E625
Instrument:	GC17	**Analytical Method:**	E625
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-171767

QC Summary Report for E625

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Di-n-octyl Phthalate	0.47	0.47	0.50	95	95	36-152	0	25
1,2-Diphenylhydrazine	10	10	10	104	102	53-110	1.76	25
Fluoranthene	0.52	0.50	0.50	104	100	56-117	4.00	25
Fluorene	0.49	0.46	0.50	97	91	58-119	6.65	25
Hexachlorobenzene	0.50	0.48	0.50	99	96	51-107	3.33	25
Hexachlorobutadiene	0.47	0.43	0.50	93	86	54-109	8.22	25
Hexachlorocyclopentadiene	44	42	50	89	83	26-107	6.06	25
Hexachloroethane	0.36	0.33	0.50	72	67	52-109	8.04	25
Indeno (1,2,3-cd) pyrene	0.49	0.48	0.50	97	97	50-107	0	25
Isophorone	11	9.9	10	105	99	58-120	6.21	25
2-Methylnaphthalene	0.50	0.48	0.50	99	95	51-132	4.27	25
2-Methylphenol (o-Cresol)	9.6	8.7	10	96	87	47-127	9.34	25
3 & 4-Methylphenol (m,p-Cresol)	9.7	9.0	10	97	90	51-126	8.41	25
Naphthalene	0.48	0.44	0.50	95	88	49-116	7.97	25
2-Nitroaniline	56	52	50	113	104	56-126	7.94	25
3-Nitroaniline	56	52	50	112	105	57-124	6.64	25
4-Nitroaniline	56	52	50	113	104	58-130	7.90	25
Nitrobenzene	10	9.3	10	100	93	52-119	7.35	25
2-Nitrophenol	53	49	50	107	98	60-119	8.78	25
4-Nitrophenol	53	52	50	106	103	34-143	2.34	25
N-Nitrosodiphenylamine	10	9.9	10	101	99	56-106	2.38	25
N-Nitrosodi-n-propylamine	9.6	9.0	10	96	90	55-122	6.68	25
Pentachlorophenol	2.7	2.8	2.5	107	113	45-119	5.52	25
Phenanthrene	0.48	0.46	0.50	96	92	56-108	4.17	25
Phenol	1.9	1.7	2	95	87	50-118	8.44	25
Pyrene	0.48	0.46	0.50	95	92	49-104	3.29	25
Pyridine	8.3	7.5	10	83	75	36-96	9.65	25
1,2,4-Trichlorobenzene	9.1	8.2	10	91	82	54-112	10.3	25
2,4,5-Trichlorophenol	0.52	0.51	0.50	103	103	52-119	0	25
2,4,6-Trichlorophenol	0.51	0.49	0.50	101	99	53-115	2.74	25
N-Nitrosodimethylamine	46	41	50	92	83	42-121	9.85	25

(Cont.)

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/22/19	**BatchID:**	171767
Date Analyzed:	1/22/19	**Extraction Method:**	E625
Instrument:	GC17	**Analytical Method:**	E625
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-171767

QC Summary Report for E625

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Surrogate Recovery								
2-Fluorophenol	4.2	4.1	5	85	82	36-131	3.36	25
Phenol-d5	5.0	4.6	5	100	92	43-149	8.14	25
Nitrobenzene-d5	5.3	4.9	5	106	99	39-150	7.41	25
2-Fluorobiphenyl	5.2	4.8	5	103	96	43-133	7.26	25
2,4,6-Tribromophenol	5.5	5.3	5	109	107	42-147	2.23	25
4-Terphenyl-d14	5.5	5.1	5	110	103	44-124	6.22	25

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/23/19	**BatchID:**	171964
Date Analyzed:	1/23/19	**Extraction Method:**	E350.1
Instrument:	WC_SKALAR	**Analytical Method:**	E350.1
Matrix:	Water	**Unit:**	mg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-171964

QC Summary Report for E350.1

Analyte	MB Result	MDL	RL			
Ammonia, total as N	ND	0.084	0.10	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Ammonia, total as N	4.1	4.1	4	102	103	88-113	0.962	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/23/19	**BatchID:**	171884
Date Analyzed:	1/23/19	**Extraction Method:**	Kelada-01
Instrument:	WC_SKALAR	**Analytical Method:**	Kelada-01
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-171884

QC Summary Report for Kelada-01

Analyte	MB Result	MDL	RL			
Total Cyanide	ND	0.84	1.0	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Total Cyanide	42	43	40	106	107	80-120	0.774	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A29
Date Prepared:	1/23/19	**BatchID:**	171887
Date Analyzed:	1/23/19	**Extraction Method:**	E420.4
Instrument:	WC_SKALAR	**Analytical Method:**	E420.4
Matrix:	Water	**Unit:**	µg/L
Project:	DDSD, Semi-Annual	**Sample ID:**	MB/LCS/LCSD-171887

QC Summary Report for E420.4

Analyte	MB Result	MDL	RL			
Phenolics	ND	2.0	2.0	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Phenolics	43	44	40	108	109	80-120	0.649	20

McCampbell Analytical, Inc.
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Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1901A29 **ClientCode: GOA**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag
☐ Detection Summary ☐ Dry-Weight

Report to:
David Frandsen
NRG Energy, LLC
3201 Wilbur Avenue
Antioch, CA 94509
(925) 779-6665 FAX: (925) 779-6679

Email: David.Frandsen@nrg.com
cc/3rd Party: joe.moura@nrg.com; james.robinson@nrg.
PO: 4501679786
Project: DDSD, Semi-Annual

Bill to:
Accounts Payable
NRG
112 Telly Street
New Roads, LA 70760
invoices@nrg.com

Requested TAT: **5 days;**

Date Received: **01/22/2019**
Date Logged: **01/22/2019**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1901A29-001	FAC Combined Wastewater	Water	1/22/2019 12:45	☐	B	A	F	G	H	I	E	C	D			

Test Legend:

1	1664A_SG_W	2	1664A_W	3	608_W [J]	4	624_W
5	624ACR+2CEVE_W	6	625_SCSM_W	7	AMMONIA_W	8	CN_W
9	PHENOLICS_W	10		11		12	

Prepared by: Kena Ponce

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: NRG ENERGY, LLC
Client Contact: David Frandsen
Contact's Email: David.Frandsen@nrg.com

Project: DDSD, Semi-Annual
Comments:

Work Order: 1901A29
QC Level: LEVEL 2
Date Logged: 1/22/2019

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1901A29-001A	FAC Combined Wastewater	Water	E1664A (HEM; Oil & Grease w/o S.G. Clean-Up)	1	1LA w/ HCl	☐	1/22/2019 12:45	5 days	1%+	☐	
1901A29-001B	FAC Combined Wastewater	Water	E1664A (SGT- HEM; Non-polar Material)	1	1LA w/ HCl	☐	1/22/2019 12:45	5 days	1%+	☐	
1901A29-001C	FAC Combined Wastewater	Water	Kelada-01 (Cyanide, Total)	1	250mL aHDPE w/ NaOH + Na2S2O3	☐	1/22/2019 12:45	5 days	1%+	☐	
1901A29-001D	FAC Combined Wastewater	Water	E420.4 (Phenolics)	1	500mL aG w/ H2SO4	☐	1/22/2019 12:45	5 days	1%+	☐	
1901A29-001E	FAC Combined Wastewater	Water	E350.1 (Ammonia)	1	500mL aHDPE w/ H2SO4	☐	1/22/2019 12:45	5 days	1%+	☐	
1901A29-001F	FAC Combined Wastewater	Water	E608 (OC Pesticides+PCBs w/ Florisil Clean-up)	1	1LA, Unpres	☐	1/22/2019 12:45	5 days	1%+	☐	
1901A29-001G	FAC Combined Wastewater	Water	E624 (VOCs)	2	VOA w/ HCl	☐	1/22/2019 12:45	5 days	1%+	☐	
1901A29-001H	FAC Combined Wastewater	Water	E624 (ACRO, ACRY, & 2-CEVE)	2	VOA, Unpres	☐	1/22/2019 12:45	5 days	1%+	☐	
1901A29-001I	FAC Combined Wastewater	Water	E625 (SVOCs, Low-Level)	1	1LA Narrow Mouth, Unpres	☐	1/22/2019 12:45	5 days	1%+	☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

Chain of Custody

Page 1 of 3

Marsh Landing Generating Station
3201 Wilbur Avenue, P.O. Box 1687, Antioch, CA 94509
Phone: (925) 779-6500 Fax: (925) 779-6509

1901A29

SAMPLES SUBMITTED TO		SEND INVOICE TO		PROJECT	
Laboratory:	McCampbell Analytical, Inc.	Company:	NRG Energy, Inc	Plant:	Marsh Landing
Attention:		Attention:	David Frandsen	Title:	DDSD
Address:	1534 Willow Pass Road, Pittsburg, CA 94565-1701	Address:	112 Telly St. New Roads, LA 70760	Phase:	Semi-Annual (DAY 1)
Phone/Fax:	925.252.9262/ 925.252.9269	P.O. No.:	4501868678	Manager:	David Frandsen

SAMPLE INFORMATION								CONTAINER INFORMATION				ANALYSIS REQUEST			
Sample Number	Sample Date	Sample Collection Time	Regulatory Driver	Regulatory Frequency	Sample Medium	Sample Type	Sample Description	Number	Type	Volume (each, L)	Preserv.	Oil and Grease (animal/vegetable)[1] (EPA Method 1664A)	Oil and Grease (Petroleum/Mineral)[2] (EPA Method 1664A)		
ML-19-006	22-Jan-19	1245	DDSD	Semi-Annual	Wastewater	Grab	FAC Combined Wastewater	1	Amber Glass Jar	1	Hydrochloric Acid (pH<2, 4°C)	X			
ML-19-007	22-Jan-19	1245	DDSD	Semi-Annual	Wastewater	Grab	FAC Combined Wastewater	1	Amber Glass Jar	1	Hydrochloric Acid (pH<2, 4°C)		X		
											HOLDING TIME:	28 days	28 days		

REPORTING		LABORATORY NOTES RE: SAMPLE RECEIPT/CONDITION	DIRECTIONS FOR LABORATORY
Original to:	David Frandsen		**STANDARD TAT (5-day).** Establish calibration standards so Minimum Level (ML) value is the lowest calibration standard, the lowest quantifiable concentration or Reporting Limit (RL). Report "Detected, but Not Quantified" (DNQ) with estimated J-flagged concentrations below the RL and include method detection limits (MDLs) in report. 1. Animal/Vegetable O/G 2. Petroleum/Mineral O/G ***Include sample description with client sample ID.**
Title:	Environmental Specialist/Engineer		
Address:	P.O. Box 1687 Antioch, CA 94509		
Phone/Fax:	925.324-3533/6509		
E-mail:	david.frandsen@nrg.com		
E-mail CC:	james.robinson@nrg.com		
E-mail CC:	joe.moura@nrg.com		

	PRINTED NAME	SIGNATURE	COMPANY	DATE	TIME
Sampled by:	James E Robinson	James E. Robinson	NRG	22-Jan-19	1245
Relinquished by:	James E Robinson	James E. Robinson	NRG	22-Jan-19	1656
Received by:	JULIA DANIELSSON		MAI	22-Jan-19	1656
Relinquished by:					
Received by:					
Relinquished by:					
Received by:					

2-4 WET

Chain of Custody

Page 2 of 3

Marsh Landing Generating Station
3201 Wilbur Avenue, P.O. Box 1687, Antioch, CA 94509
Phone: (925) 779-6500 Fax: (925) 779-6509

SAMPLES SUBMITTED TO		SEND INVOICE TO		PROJECT	
Laboratory:	McCampbell Analytical, Inc.	Company:	NRG Energy, Inc	Plant:	Marsh Landing
Attention:		Attention:	David Frandsen	Title:	DDSD
Address:	1534 Willow Pass Road, Pittsburg, CA 94565-1701	Address:	112 Telly St. New Roads, LA 70760	Phase:	Semi-Annual
Phone/Fax:	925.252.9262/ 925.252.9269	P.O. No.:	4501868678	Manager:	David Frandsen

SAMPLE INFORMATION								CONTAINER INFORMATION				ANALYSIS REQUEST			
Sample Number	Sample Date	Sample Collection Time	Regulatory Driver	Regulatory Frequency	Sample Medium	Sample Type	Sample Description	Number	Type	Volume (each, mL)	Preserv.	Cyanide[1] (Kelada-01)	Phenols (EPA Method 420.4)	Ammonia as N (EPA Method 350.1)	
ML-19-008	22-Jan-19	1245	DDSD	Semi-Annual	Wastewater	Grab	FAC Combined Wastewater	1	HDPE Bottle	250	HNO3 (pH<2)	X			
ML-19-009	22-Jan-19	1245	DDSD	Semi-Annual	Wastewater	Grab	FAC Combined Wastewater	1	Amber Glass Jar	500	H_2SO_4 (pH<2, 4°C)		X		
ML-19-010	22-Jan-19	1245	DDSD	Semi-Annual	Wastewater	C-24	FAC Combined Wastewater	1	Amber Glass Jar	500	H_2SO_4 (pH<2, 4°C)			X	
											HOLDING TIME:	14 days	28 days	28 days	

REPORTING		LABORATORY NOTES RE: SAMPLE RECEIPT/CONDITION	DIRECTIONS FOR LABORATORY
Original to:	David Frandsen	Cyanide sample pretreated with sodium thiosulfate prior to preservation with sodium hydroxide.	**STANDARD TAT (5-day).** Establish calibration standards so Minimum Level (ML) value is the lowest calibration standard, the lowest quantifiable concentration or Reporting Limit (RL). Report "Detected, but Not Quantified" (DNQ) with estimated J-flagged concentrations below the RL and include method detection limits (MDLs) in report. 1. Cyanide sample was pretreated with sodium thiosulfate prior to preservation with sodium hydroxide. ***Include sample description with client sample ID.**
Title:	Environmental Specialist/Engineer		
Address:	P.O. Box 1687 Antioch, CA 94509		
Phone/Fax:	925.324-3533/6509		
E-mail:	david.frandsen@nrg.com		
E-mail CC:	james.robinson@nrg.com		
E-mail CC:	joe.moura@nrg.com		

	PRINTED NAME	SIGNATURE	COMPANY	DATE	TIME
Sampled by:	James E Robinson	James E. Robinson	NRG	22-Jan-19	1245
Relinquished by:	James E Robinson	James E. Robinson	NRG	22-Jan-19	1656
Received by:	JULIA DANIELSSON		MAI	22-Jan-19	1656
Relinquished by:					
Received by:					
Relinquished by:					
Received by:					

2-4°C WET

Chain of Custody

Page 3 of 3

Marsh Landing Generating Station
3201 Wilbur Avenue, P.O. Box 1687, Antioch, CA 94509
Phone: (925) 779-6500 Fax: (925) 779-6509

SAMPLES SUBMITTED TO		SEND INVOICE TO		PROJECT	
Laboratory:	McCampbell Analytical, Inc.	Company:	NRG Energy, Inc	Plant:	Marsh Landing
Attention:		Attention:	David Frandsen	Title:	DDSD
Address:	1534 Willow Pass Road, Pittsburg, CA 94565-1701	Address:	112 Telly St. New Roads, LA 70760	Phase:	Semi-Annual
Phone/Fax:	925.252.9262/ 925.252.9269	P.O. No.:	4501868678	Manager:	David Frandsen

SAMPLE INFORMATION								CONTAINER INFORMATION				ANALYSIS REQUEST			
Sample Number	Sample Date	Sample Collection Time	Regulatory Driver	Regulatory Frequency	Sample Medium	Sample Type	Sample Description	Number	Type	Volume (each, mL)	Preserv.	Pesticides & PCBs (EPA Method 608)	Volatile Organics (EPA Method 624)	Volatile Organics[1] (EPA Method 624)	Semi-Volatile Organics (EPA Method 625)
ML-19-011	22-Jan-19	1245	DDSD	Semi-Annual	Water	Grab	FAC Combined Wastewater	1	Amber Glass	1,000	None (4°C)	X			
ML-19-012	22-Jan-19	1245	DDSD	Semi-Annual	Water	Grab	FAC Combined Wastewater	2	Clear VOA	43	HCL (ZHS, pH<2, 4°C)		X		
ML-19-013	22-Jan-19	1245	DDSD	Semi-Annual	Water	Grab	FAC Combined Wastewater	2	Clear VOA	43	None (4°C)			X	
ML-19-014	22-Jan-19	1245	DDSD	Semi-Annual	Water	Grab	FAC Combined Wastewater	1	Amber Glass	1,000	None (4°C)				X
											HOLDING TIME:	40 days	14 days	3 days	40 days

* For composite samples, the completion time of the 24-hr composite or the time of the final sample aliquot is considered the "sample collection time" for the purpose of determining sample holding time.

REPORTING		LABORATORY NOTES RE: SAMPLE RECEIPT/CONDITION	DIRECTIONS FOR LABORATORY
Original to:	David Frandsen		**Standard TAT (5-DAYS)**. Establish calibration standards so Minimum Level (ML) value is the lowest calibration standard, the lowest quantifiable concentration or Reporting Limit (RL). Report "Detected, but Not Quantified" (DNQ) with estimated J-flagged concentrations below the RL and include method detection limits (MDLs) in report. 1. VOCs- Acrolein, acrylonitrile, and 2cleave ***Include sample description with client sample ID.**
Title:	Environmental Specialist/Engineer		
Address:	P.O. Box 1687 Antioch, CA 94509		
Phone/Fax:	925.324-3533/6509		
E-mail:	david.frandsen@nrg.com		
E-mail CC:	james.robinson@nrg.com		
E-mail CC:	joe.moura@nrg.com		

	PRINTED NAME	SIGNATURE	COMPANY	DATE	TIME
Sampled by:	James E Robinson	James E. Robinson	NRG	22-Jan-19	1245
Relinquished by:	James E Robinson	James E. Robinson	NRG	22-Jan-19	1656
Received by:	JULIA DANIELSSON		MAI	22-Jan-19	1656
Relinquished by:					
Received by:					
Relinquished by:					
Received by:					

2.4°C WET

McCampbell Analytical, Inc.
"When Quality Counts"

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name:	**NRG Energy, LLC**	Date and Time Received	**1/22/2019 16:56**
Project:	**DDSD, Semi-Annual**	Date Logged:	**1/22/2019**
		Received by:	Kena Ponce
WorkOrder №:	**1901A29** Matrix: Water	Logged by:	Kena Ponce
Carrier:	Client Drop-In		

Chain of Custody (COC) Information

Chain of custody present?	Yes	☑	No	☐		
Chain of custody signed when relinquished and received?	Yes	☑	No	☐		
Chain of custody agrees with sample labels?	Yes	☑	No	☐		
Sample IDs noted by Client on COC?	Yes	☑	No	☐		
Date and Time of collection noted by Client on COC?	Yes	☑	No	☐		
Sampler's name noted on COC?	Yes	☑	No	☐		
COC agrees with Quote?	Yes	☐	No	☐	NA	☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	NA	☑
Shipping container/cooler in good condition?	Yes	☑	No	☐		
Samples in proper containers/bottles?	Yes	☑	No	☐		
Sample containers intact?	Yes	☑	No	☐		
Sufficient sample volume for indicated test?	Yes	☑	No	☐		

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	NA	☐
Samples Received on Ice?	Yes	☑	No	☐		
(Ice Type: WET ICE)						
Sample/Temp Blank temperature	Temp: 2.4°C				NA	☐
Water - VOA vials have zero headspace / no bubbles?	Yes	☑	No	☐	NA	☐
Sample labels checked for correct preservation?	Yes	☑	No	☐		
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	Yes	☐	No	☐	NA	☑
UCMR Samples:						
pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes	☐	No	☐	NA	☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes	☐	No	☐	NA	☑

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"

Analytical Report

WorkOrder: 1901A26

Report Created for: NRG Energy, LLC

3201 Wilbur Avenue
Antioch, CA 94509

Project Contact: David Frandsen
Project P.O.: 4501679786
Project: DDSD, Annual

Project Received: 01/22/2019

Analytical Report reviewed & approved for release on 01/29/2019 by:

Yen Cao
Project Manager

McCampbell Analytical, Inc.
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Glossary of Terms & Qualifier Definitions

Client: NRG Energy, LLC
Project: DDSD, Annual
WorkOrder: 1901A26

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: NRG Energy, LLC
Project: DDSD, Annual
WorkOrder: 1901A26

Analytical Qualifiers

J	Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
S	Spike recovery outside accepted recovery limits.
c1	Surrogate recovery outside of the control limits due to the dilution of the sample.

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A26
Date Received:	1/22/19 16:56	**Extraction Method:**	E300.1
Date Prepared:	1/22/19	**Analytical Method:**	E300.1
Project:	DDSD, Annual	**Unit:**	mg/L

Inorganic Anions by IC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A26-001B**	**Water**	**01/22/2019 12:45**	**IC4 01231916.D**	**171824**

Analytes	Result	MDL	RL	DF	Date Analyzed
Sulfate	**28**	0.062	2.0	20	01/22/2019 22:00

Surrogates	REC (%)	Qualifiers	Limits	
Formate	0	S	90-115	01/22/2019 22:00

Analyst(s): AO Analytical Comments: c1

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A26
Date Received:	1/22/19 16:56	**Extraction Method:**	SM4500-S^{-2} D-2000
Date Prepared:	1/23/19	**Analytical Method:**	SM4500 S^{-2} D
Project:	DDSD, Annual	**Unit:**	mg/L

Total Sulfide - S

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1901A26-001A**	**Water**	**01/22/2019 12:45**	**SPECTROPHOTOMETER**	**171840**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Total Sulfide	**0.046**	J	0.0073	0.050	1	01/23/2019 10:54

Analyst(s): RB

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A26
Date Prepared:	1/22/19 - 1/23/19	**BatchID:**	171824
Date Analyzed:	1/22/19 - 1/23/19	**Extraction Method:**	E300.1
Instrument:	IC4	**Analytical Method:**	E300.1
Matrix:	Water	**Unit:**	mg/L
Project:	DDSD, Annual	**Sample ID:**	MB/LCS/LCSD-171824

QC Summary Report for E300.1

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Sulfate	ND	0.0031	0.10	-	-	-
Surrogate Recovery						
Formate	0.10			0.10	104	85-115

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Sulfate	0.93	0.92	1	93	92	85-115	0.566	15
Surrogate Recovery								
Formate	0.10	0.10	0.10	101	100	90-115	0.787	10

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1901A26
Date Prepared:	1/23/19	**BatchID:**	171840
Date Analyzed:	1/23/19	**Extraction Method:**	SM4500-S^{-2} D-2000
Instrument:	SPECTROPHOTOMETER	**Analytical Method:**	SM4500 S^{-2} D
Matrix:	Water	**Unit:**	mg/L
Project:	DDSD, Annual	**Sample ID:**	MB/LCS/LCSD-171840 1901A26-001AMS/MSD

QC Summary Report For SM4500 S-2D

Analyte	MB Result	MDL	RL			
Total Sulfide	ND	0.0073	0.050	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Total Sulfide	0.53	0.53	0.50	107	106	80-120	0.488	20

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Total Sulfide	1	0.54	0.54	0.50	ND	100	100	80-120	0	20

McCampbell Analytical, Inc.
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Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1901A26 **ClientCode: GOA**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag
☐ Detection Summary ☐ Dry-Weight

Report to:
David Frandsen
NRG Energy, LLC
3201 Wilbur Avenue
Antioch, CA 94509
(925) 779-6665 FAX: (925) 779-6679

Email: David.Frandsen@nrg.com
cc/3rd Party: joe.moura@nrg.com; james.robinson@nrg.
PO: 4501679786
Project: DDSD, Annual

Bill to:
Accounts Payable
NRG
112 Telly Street
New Roads, LA 70760
invoices@nrg.com

Requested TAT: **5 days;**

Date Received: **01/22/2019**
Date Logged: **01/22/2019**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
1901A26-001	FAC Combined Wastewater	Water	1/22/2019 12:45	☐	B	A										

Test Legend:

1	300_1_W	2	SULFIDE_W	3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Kena Ponce

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: NRG ENERGY, LLC
Client Contact: David Frandsen
Contact's Email: David.Frandsen@nrg.com

Project: DDSD, Annual
Comments:

Work Order: 1901A26
QC Level: LEVEL 2
Date Logged: 1/22/2019

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1901A26-001A	FAC Combined Wastewater	Water	SM4500S2D (Total Sulfide)	1	250mL HDPE w/ NaOH+ZnAc	☐	1/22/2019 12:45	5 days	None	☐	
1901A26-001B	FAC Combined Wastewater	Water	E300.1 (Inorganic Anions) <Sulfate>	1	125mL HDPE, unprsv.	☐	1/22/2019 12:45	5 days	None	☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

Chain of Custody

Page 1 of 1

Marsh Landing Generating Station
3201 Wilbur Avenue, P.O. Box 1687, Antioch, CA 94509
Phone: (925) 779-6500 Fax: (925) 779-6509

1901A26

SAMPLES SUBMITTED TO		SEND INVOICE TO		PROJECT	
Laboratory:	McCampbell Analytical, Inc.	Company:	NRG Energy, Inc	Plant:	Marsh Landing
Attention:		Attention:	David Frandsen	Title:	DDSD
Address:	1534 Willow Pass Road, Pittsburg, CA 94565-1701	Address:	112 Telly St. New Roads, LA 70760	Phase:	Annual
Phone/Fax:	925.252.9262/ 925.252.9269	P.O. No.:	4501868678	Manager:	David Frandsen

SAMPLE INFORMATION								CONTAINER INFORMATION				ANALYSIS REQUEST			
Sample Number	Sample Date	Sample Collection Time	Regulatory Driver	Regulatory Frequency	Sample Medium	Sample Type	Sample Description	Number	Type	Volume (each, mL)	Preserv.	Sulfide (E376.2)	Sulfate (E300.1)		
ML-19-015	22-Jan-19	1245	DDSD	Semi-Annual	Wastewater	Grab	FAC Combined Wastewater	1	HDPE Bottle	250	NaOH & ZnAc (ZHS, 4°C)	X	X		
ML-19-016	22-Jan-19	1245	DDSD	Semi-Annual	Wastewater	Grab	FAC Combined Wastewater	1	HDPE Bottle	250	Unpreserved (4°C)	X	X		
											HOLDING TIME:	7 days	28 days		

REPORTING		LABORATORY NOTES RE: SAMPLE RECEIPT/CONDITION	DIRECTIONS FOR LABORATORY
Original to:	David Frandsen		**STANDARD TAT (5-day).** Establish calibration standards so Minimum Level (ML) value is the lowest calibration standard, the lowest quantifiable concentration or Reporting Limit (RL). Report "Detected, but Not Quantified" (DNQ) with estimated J-flagged concentrations below the RL and include method detection limits (MDLs) in report.
Title:	Environmental Specialist/Engineer		
Address:	P.O. Box 1687 Antioch, CA 94509		***Include sample description with client sample ID.**
Phone/Fax:	925.324-3533/6509		
E-mail:	david.frandsen@nrg.com		
E-mail CC:	james.robinson@nrg.com		
E-mail CC:	joe.moura@nrg.com		

	PRINTED NAME	SIGNATURE	COMPANY	DATE	TIME
Sampled by:	James E Robinson	James E. Robinson	NRG	22-Jan-19	1245
Relinquished by:	James E Robinson	James E. Robinson	NRG	22-Jan-19	1656
Received by:	JULIA DANIELSSON		MAI	22-Jan-19	1656
Relinquished by:					
Received by:					
Relinquished by:					
Received by:					

2.4 C WET

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Sample Receipt Checklist

Client Name:	**NRG Energy, LLC**	Date and Time Received	**1/22/2019 16:56**
Project:	**DDSD, Annual**	Date Logged:	**1/22/2019**
		Received by:	Julia Danielsson
WorkOrder №:	**1901A26** Matrix: Water	Logged by:	Kena Ponce
Carrier:	Client Drop-In		

Chain of Custody (COC) Information

Chain of custody present?	Yes	☑	No	☐	
Chain of custody signed when relinquished and received?	Yes	☑	No	☐	
Chain of custody agrees with sample labels?	Yes	☑	No	☐	
Sample IDs noted by Client on COC?	Yes	☑	No	☐	
Date and Time of collection noted by Client on COC?	Yes	☑	No	☐	
Sampler's name noted on COC?	Yes	☑	No	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	NA ☑
Shipping container/cooler in good condition?	Yes	☑	No	☐	
Samples in proper containers/bottles?	Yes	☑	No	☐	
Sample containers intact?	Yes	☑	No	☐	
Sufficient sample volume for indicated test?	Yes	☑	No	☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	NA ☐
Samples Received on Ice?	Yes	☑	No	☐	
(Ice Type: WET ICE)					
Sample/Temp Blank temperature	Temp: 2.4°C				NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes	☐	No	☐	NA ☑
Sample labels checked for correct preservation?	Yes	☑	No	☐	
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	Yes	☐	No	☐	NA ☑
UCMR Samples:					
pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes	☐	No	☐	NA ☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes	☐	No	☐	NA ☑

Comments:

CALTROL INC.
1385 PAMA LANE #111
LAS VEGAS, NV. 89119
PHONE: (877) 827-8131

Instrument Calibration Report

Attn: David Frandsen
3201-C Wilbur Ave
Antioch, Ca 94509

Magnetic Flow Meter

Tag/Instrument ID	**FT-950002**	Calibrated Range	**0 TO 80 Gal/M**
Description	**Mag-Meter**	Serial Number	**0337659**
Manufacturer	**Rosemount**	Model Number	**8732E**
Plant / Unit	**NRG**	Calibration Type	**SCHEDULED**
System		Calibrated	**15-Jan-19**
Location	**NEXT TO ADMIN BUILDING**	Scheduled	**15-Jan-20**

MagMeter Calibration

Stated Accuracy: % of Analog Output Required Accuracy(1): 0.50%

In Val	In Units	Out Val	Out Units	As Found	Error %	As Left	Error %
0.00	Gal/M	4.00	mA	4.00	0.00%	4.00	0.00%
3.00	Gal/M	5.60	mA	5.60	0.01%	5.60	0.01%
10.00	Gal/M	9.33	mA	9.33	0.02%	9.33	0.02%
30.00	Gal/M	20.00	mA	20.01	0.06%	20.01	0.06%
10.00	Gal/M	9.33	mA	9.33	0.02%	9.33	0.02%
3.00	Gal/M	5.60	mA	5.60	0.01%	5.60	0.01%
0.00	Gal/M	4.00	mA	4.00	0.00%	4.00	0.00%

Calibration Parameter Changes

	Customer Settings	Calibration Settings
Meter Tube Cal #:	926105209236005	1000015010000000
Units of Measure:	Gal/M	Ft/S
Lower Range Value:	0	0
Upper Range Value:	80	30
Coil Pulse Mode:	37 Hz	5 Hz

[X] All Settings returned to customer's Configuration

Totalizer Readings:	As Found	As Left
Gross:		
Net:		

Test Instruments Used During Calibration

Description	Manufacturer	Model Number	Serial Number	NIST Cert. Number
Hart Communicator	Emerson	475	12165400	N/A
Process Meter	Fluke	789	27190005	
Flow Simulator	Rosemount	8714D	14611770	14611770 (Trace#)

Notes about this calibration

1) CALIBRATION PASSED WITHOUT ISSUE, ALL CHECKS GOOD

QC Checklist:

N/A	Isolation valves
N/A	Filled legs
X	All wires relanded (If removed)
X	Verify data (model, tag, serial, mfg)

Calibration Result: **PASS**

Calibrated by: *Matthew Nixon*

Checkout By:

Quality Management System
Certified by DNV
======ISO 9001:2008======

CALIBRATION DUE: **15-Jan-20**

FT-950002

Delta Diablo

Industrial User Report Checklist And Certification Statement Form

Certification Statement

Industrial User Facility Name	**Marsh Landing LLC**
Industrial User Facility Address	**3201-C Wilbur Avenue, Antioch, CA 94509**
Duly Authorized Representative Phone	**925-779-6685**
Indicate Period Covered by This Report	**April 1-June 30, 2019**

Certification Statement:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations (40 CFR 403.6).

Duly Authorized Representative Signature	Joe Moura
Duly Authorized Representative Print	**Joe Moura**
Date	7/2/2019

If you have any questions, please contact Mr. David Frandsen, Environmental Specialist at david.frandsen@nrg.com or call 925.779.6695.

Sincerely,

Joe Moura
Plant Manager
Marsh Landing LLC
Marsh Landing Generating Station

Attachments

Table 1:	Quarterly Results for Combined Wastewater (FAC Combined)
Table 2:	April 2019 Monthly Flow Data
Table 3:	May 2019 Monthly Flow Data
Table 4:	June 2019 Monthly Flow Data

Attachment 1:	pH COC
Attachment 2:	Analytical Reports

Delta Diablo

Industrial User Report Checklist And Certification Statement Form

Attn: Environmental Compliance Specialist	**Mike Auer**			
Environmental Specialist Phone	(925) 756-1900	Fax	(925) 756-1961	
Industrial User Facility Name	**Marsh Landing LLC**			
Duly Authorized Representative Name	**Joe Moura**			
Duly Authorized Representative Phone	**925-779-6685**			

This Industrial User Report Checklist and Certification Statement Form shall be submitted with all Self-Monitoring Reports (SMRs), as specified by the Wastewater Discharge Permit issued by Delta Diablo, hereinafter referred to as the District. When submitting Self-Monitoring Reports, check all that are applicable.

RECEIVED BY DELTA DIABLO JUL 02 2019

Self-Monitoring Reports (SMRs) (Required)

☒ Flow Discharge Summary (Review Discharge Permit.)

☐ Calibration of Effluent Flow Meters; if applicable.

☒ Monitoring Results – all required tests completed, results reviewed, results included Quality Assurance/Quality Control (QA/QC) and Chain-of-Custody (COC) (Review Discharge Permit):

☒ pH (**field-grab**) (shall be **analyzed within 15 minutes of sample collection**).
Results, collection time, analysis time and Technician's Initials shall be reported in the comments section of the respective COC. The pH meter shall be accurate and reproducible to 0.1 pH unit with a range of 0 to 14 and equipped with a temperature–compensation adjustment (Standard methods).

☐ Cyanide samples were tested for oxidizers and preserved with Sodium Hydroxide (NaOH). This shall be reported in the comments section on the respective COC, if applicable.

☒ Selenium lab analysis by EPA Method 200.8 by Reaction Mode: if applicable.

☐ Total Phenolics lab analysis by EPA Method 420.4: if applicable.

☒ **All sample analysis for regulatory compliance reporting** shall be completed by an ELAP certified Laboratory.

☒ Certification Statement included (see attached)

☐ Other requested data _____

Industrial User Report Checklist And Certification Statement Form

Attn: Environmental Compliance Specialist	**Mike Auer**			
Environmental Specialist Phone	(925) 756-1900	Fax	(925) 756-1961	
Industrial User Facility Name	**Marsh Landing LLC**			
Duly Authorized Representative Name	**Joe Moura**			
Duly Authorized Representative Phone	**925-779-6685**			

This Industrial User Report Checklist and Certification Statement Form shall be submitted with all Self-Monitoring Reports (SMRs), as specified by the Wastewater Discharge Permit issued by Delta Diablo, hereinafter referred to as the District. When submitting Self-Monitoring Reports, check all that are applicable.

Self-Monitoring Reports (SMRs) (Required)

☒ Flow Discharge Summary (Review Discharge Permit.)

☐ Calibration of Effluent Flow Meters; if applicable.

☒ Monitoring Results – all required tests completed, results reviewed, results included
Quality Assurance/Quality Control (QA/QC) and Chain-of-Custody (COC) (Review Discharge Permit):

☒ pH (**field-grab**) (shall be **analyzed within 15 minutes of sample collection**).
Results, collection time, analysis time and Technician's Initials shall be reported in the comments section of the respective COC. The pH meter shall be accurate and reproducible to 0.1 pH unit with a range of 0 to 14 and equipped with a temperature–compensation adjustment (Standard methods).

☐ Cyanide samples were tested for oxidizers and preserved with Sodium Hydroxide (NaOH).
This shall be reported in the comments section on the respective COC, if applicable.

☒ Selenium lab analysis by EPA Method 200.8 by Reaction Mode: if applicable.

☐ Total Phenolics lab analysis by EPA Method 420.4: if applicable.

☒ **All sample analysis for regulatory compliance reporting** shall be completed by an ELAP certified Laboratory.

☒ Certification Statement included (see attached)

☐ Other requested data _____

Industrial User Report Checklist And Certification Statement Form

Violations (if applicable)

☐ All wastewater discharge violations are reported during this period:

☐ The District was contacted within 24- hours of becoming aware of the violation.
Date: _____

☐ A follow-up resample was completed. Date: _____

☐ Corrective actions implemented to resolve violation (Please explain in writing)

☐ Significant Non-Compliance (SNC) Status Review
Please circle the review period *: **January – June** and **July -December**.

The SIU shall conduct a SNC review for the previous completed period * prior to the Self-monitoring Report (SMR) due date. Examples: A October SMR due date, the SNC review period is **January – June** or an April SMR due date, the SNC review period is **July – December.**

The SNC definition can be found in 40 CFR 403.8.

a) Chronic SNC= >66% of a regulated parameter in violation during six-month Period *.

b) Technical Review Criteria (TRC) SNC = >33% of a regulated pollutant during a six-month period* equals or exceeds the product of the daily maximum limit or the average limit multiplied by the applicable TRC factor (1.4 for BOD, TSS and Oil/Grease and 1.2 for all other regulated pollutants except pH).

☐ Is the SIU in SNC (as defined in a and/or b) for this period*? Yes ☐, No ☐; If yes, for what period? _____ . Please report the SNC status to the District in the SMR and include corrective actions to resolve the SNC classification.

☐ Other violations – i.e., reporting, spills to sewer, or prohibited discharges

All violations will be discussed in the cover letter of the Self-Monitoring Report.

☐ Significant Changes

Anticipated changes that may alter the nature, quality, or volume of the wastewater discharged. Planned changes shall be submitted at least 90 days prior to implementation, and shall include a detailed description of this change.

Industrial User Report Checklist And Certification Statement Form

Certification Statement

Industrial User Facility Name	**Marsh Landing LLC**
Industrial User Facility Address	**3201-C Wilbur Avenue, Antioch, CA 94509**
Duly Authorized Representative Phone	**925-779-6685**
Indicate Period Covered by This Report	**April 1-June 30, 2019**

Certification Statement:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations (40 CFR 403.6).

Duly Authorized Representative Signature	
Duly Authorized Representative Print	**Joe Moura**
Date	

Marsh Landing LLC
Marsh Landing Generating Station
3201-C Wilbur Avenue (shipping)
PO Box 1687 (mailing)
Antioch, CA 94509

July 2, 2019

Mr. Mike Auer
Delta Diablo
2500 Pittsburg-Antioch Highway
Antioch, CA 94509-1373

Subject: **2019 Second Quarterly (April 1-June 30) Self-Monitoring Report**
Marsh Landing LLC, Marsh Landing Generating Station,
Industrial Wastewater Discharge Permit 0311963-S

This letter documents the transmittal of the 2019 Second Quarterly Self-Monitoring Report (SMR).

Compliance Statement (choose one):

☑ There were no violations of waste discharge requirements during the reporting period.

☐ The following violation(s) of waste discharge requirements occurred during the reporting period, as described below:

Discussion:

This report is the SMR filed for the station and covers the period from April 1 through June 30, 2019. This report includes monthly flow data and quarterly analytical data required to be collected in 2019. Data are summarized in the attached tables.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact Mr. David Frandsen, Environmental Specialist at david.frandsen@nrg.com or call 925.779.6695.

Sincerely,

Joe Moura
Plant Manager
Marsh Landing LLC
Marsh Landing Generating Station

Attachments

Table 1:	Quarterly Results for Combined Wastewater (FAC Combined)
Table 2:	April 2019 Monthly Flow Data
Table 3:	May 2019 Monthly Flow Data
Table 4:	June 2019 Monthly Flow Data

Attachment 1:	pH COC
Attachment 2:	Analytical Reports

NRG Marsh Landing, LLC
Marsh Landing Generating Station
Permit 0311963-S

Table 1

Quarterly Results for Combined Wastewater (FAC Combined)

Industrial User Name	NRG Marsh Landing, LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509

Sample Station Location	FAC Combined
Sample Station Description	Local Limits FAC Combined Wastewater
Reporting Period	April - June 2019
Report Type	Quarterly

Constituent	Sample Date	Permit Limit	Result	Units
Field pH	4/26/2019	6-10	7.9	S.U.
BOD	4/26/2019	-	12	mg/L
COD	4/26/2019	-	32	mg/L
Arsenic	4/26/2019	0.15	0.00032 J	mg/L
Cadmium	4/26/2019	0.1	ND	mg/L
Chromium	4/26/2019	0.5	ND	mg/L
Copper	4/26/2019	0.5	0.012	mg/L
Iron	4/26/2019	-	0.180	mg/L
Lead	4/26/2019	0.5	ND	mg/L
Mercury	4/26/2019	0.003	0.000022 J	mg/L
Molybdenum	4/26/2019	-	0.0010	mg/L
Nickel	4/26/2019	0.5	0.0029	mg/L
Selenium	4/26/2019	0.25	ND	mg/L
Silver	4/26/2019	0.2	0.000069 J	mg/L
Zinc	4/26/2019	1.0	0.042	mg/L
TDS	4/26/2019	-	243	mg/L
TSS	4/26/2019	-	13.7	mg/L

J = The reported concentration is an estimated value.

mg/L = Milligrams per liter

ND = Not detected at or above the laboratory Method Detection Limit or Reporting Limit.

S.U. = Standard units

Table 2
Monthly Flow Data

Industrial User Name	NRG Marsh Landing, LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509
Sample Station Location	Outfall #4
Sample Station Description	Flow Monitoring Structure
Reporting Period	April-19
Report Type	Quarterly
Constituent	Flow
Sample Type	Continuous, measured by flow meter
Sample Date	4/1/2019 - 4/30/2019
Permit Limits (s.u.)	NTE 30,240 gpd. NTE 21 gpm +10% (23.1 gpm) for 15 consecutive minutes or 30 minutes in a 24-hour period

Day	Total Flow (gpd)	Instantaneous Max (gpm)	Minutes per Day of Flow exceeding 23.1 gpm
1	5,382	19.58	
2	8,986	19.56	
3	13,268	20.50	
4	2,908	19.61	
5	6,168	19.61	
6	8,677	19.58	
7	494	17.17	
8	6,250	20.87	
9	5,641	19.60	
10	0	0.00	
11	0	0.00	
12	1,887	19.98	
13	10,902	19.65	
14	0	0.00	
15	0	0.00	
16	0	0.00	
17	2,370	19.65	
18	14,443	19.72	
19	6,845	19.74	
20	4,437	19.58	
21	0	0.00	
22	0	0.00	
23	701	16.59	
24	0	0.00	
25	12,443	19.99	
26	24,479	20.14	
27	0	0.00	
28	0	0.00	
29	0	0.00	
30	0	0.00	

Total Monthly Flow (gal)	136,280	Did flow exceed limits?	NO
Daily Max Flow (gpd)	24,479	Flow above daily max (30,240 gpd)?	NO
Average Monthly Flow (gpd)	4,543		

Table 3
Monthly Flow Data

Industrial User Name	NRG Marsh Landing, LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509
Sample Station Location	Outfall #4
Sample Station Description	Flow Monitoring Structure
Reporting Period	May-19
Report Type	Quarterly
Constituent	Flow
Sample Type	Continuous, measured by flow meter
Sample Date	5/1/2019 - 5/31/2019
Permit Limits (s.u.)	NTE 30,240 gpd. NTE 21 gpm +10% (23.1 gpm) for 15 consecutive minutes or 30 minutes in a 24-hour period

Day	Total Flow (gpd)	Instantaneous Max (gpm)	Minutes per Day of Flow exceeding 23.1 gpm
1	5,611	21.60	
2	5,070	20.06	
3	5,908	20.11	
4	7,180	20.08	
5	0	0.00	
6	7,055	22.12	
7	7,400	20.08	
8	5,630	20.12	
9	4,581	20.09	
10	6,020	21.51	
11	4,038	19.57	
12	0	0.00	
13	0	0.00	
14	0	0.00	
15	6,755	19.98	
16	12,069	19.70	
17	2,325	19.65	
18	2,169	19.64	
19	0	0.00	
20	6,367	19.67	
21	7,950	19.69	
22	4,115	19.62	
23	19,418	19.70	
24	9,109	19.68	
25	478	16.47	
26	0	0.00	
27	492	20.01	
28	9,300	19.93	
29	4,389	19.78	
30	418	16.77	
31	6,245	20.04	

Total Monthly Flow (gal)	150,091	Did flow exceed limits?	NO
Daily Max Flow (gpd)	19,418	Flow above daily max (30,240 gpd)?	NO
Average Monthly Flow (gpd)	4,842		

Table 4
Monthly Flow Data

Industrial User Name	NRG Marsh Landing, LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509
Sample Station Location	Outfall #4
Sample Station Description	Flow Monitoring Structure
Reporting Period	June-19
Report Type	Quarterly
Constituent	Flow
Sample Type	Continuous, measured by flow meter
Sample Date	6/1/2019 - 6/30/2019
Permit Limits (s.u.)	NTE 30,240 gpd. NTE 21 gpm +10% (23.1 gpm) for 15 consecutive minutes or 30 minutes in a 24-hour period

Day	Total Flow (gpd)	Instantaneous Max (gpm)	Minutes per Day of Flow exceeding 23.1 gpm
1	4,314	19.58	
2	0	0.00	
3	4,933	20.63	
4	9,485	20.15	
5	21,688	19.85	
6	18,097	19.68	
7	3,739	19.77	
8	6,574	19.60	
9	0	0.00	
10	7,503	20.01	
11	19,307	19.91	
12	28,006	19.91	
13	16,712	19.60	
14	3,301	19.58	
15	8,082	19.59	
16	372	16.55	
17	8,175	21.42	
18	1,581	19.56	
19	4,232	19.75	
20	404	16.73	
21	4,238	19.76	
22	0	0.00	
23	0	0.00	
24	5,856	19.88	
25	6,832	19.61	
26	14,299	19.59	
27	0	0.00	
28	333	19.53	
29	10,933	19.88	
30	0	0.00	

Total Monthly Flow (gal)	208,994	Did flow exceed limits?	NO
Daily Max Flow (gpd)	28,006	Flow above daily max (30,240 gpd)?	NO
Average Monthly Flow (gpd)	6,966		

Marsh Landing Generating Station

Reported to:
Environmental Engineer

NPDES
Monthly Analytical Report

Sample Point	Sample Number	Sample Date (m/d/y)	Sample Collection Time	Date Analyzed (m/d/y)	pH Analysis Time	Sample Medium	Sample Type (Grab, 24-Hour Composite)	pH
							Method:	SM 4500-H+B
							Unit:	standard
							Reporting Limit:	0.18
							Method Detection Limit:	0.06
FAC Combined Waste Water	ML-19-054	4/26/19	1315	4/26/19	1315	Wastewater	Grab	7.9

SM = Standard Method; ppm = parts per million; mg/L = milligrams per liter; N/A = not applicable

Environmental Engineer David Frandsen

Signature: David Frandsen

Date: May 9, 2019

Sampling Technologist: James E Robinson

Signature: James E. Robinson

Date: 4/26/19

Reviewed By:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1904D54

Report Created for: NRG Energy, LLC

3201 Wilbur Avenue
Antioch, CA 94509

Project Contact: David Frandsen
Project P.O.: 4501868678
Project: Marsh Landing- DDSD, Quarterly

Project Received: 04/26/2019

Analytical Report reviewed & approved for release on 05/02/2019 by:

Angela Rydelius
Laboratory Manager

1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com
CA ELAP 1644 ♦ NELAP 4033 ORELAP

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Glossary of Terms & Qualifier Definitions

Client: NRG Energy, LLC
Project: Marsh Landing- DDSD, Quarterly
WorkOrder: 1904D54

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: NRG Energy, LLC
Project: Marsh Landing- DDSD, Quarterly
WorkOrder: 1904D54

Analytical Qualifiers

J	Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1904D54
Date Received:	4/26/19 16:50	**Extraction Method:**	SM5210B
Date Prepared:	4/26/19	**Analytical Method:**	SM5210 B-2001
Project:	Marsh Landing- DDSD, Quarterly	**Unit:**	mg/L

Biochemical Oxygen Demand (BOD)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1904D54-002A**	**Water**	**04/26/2019 13:15**	**WetChem**	**176938**

Analytes	Result	MDL	RL	DF	Date Analyzed
BOD	**12**	4.0	4.0	1	05/01/2019 14:27

Analyst(s): AL

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1904D54
Date Received:	4/26/19 16:50	**Extraction Method:**	SM5220 D-1997
Date Prepared:	4/30/19	**Analytical Method:**	SM5220 D-1997
Project:	Marsh Landing- DDSD, Quarterly	**Unit:**	mg/L

Chemical Oxygen Demand (COD) as mg O2 /L

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1904D54-001A**	**Water**	**04/26/2019 13:15**	**SPECTROPHOTOMETER**	**177019**

Analytes	Result	MDL	RL	DF	Date Analyzed
COD	**32**	7.2	10	1	04/30/2019 10:34

Analyst(s): RB

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1904D54
Date Received:	4/26/19 16:50	**Extraction Method:**	E200.8
Date Prepared:	4/29/19	**Analytical Method:**	E200.8
Project:	Marsh Landing- DDSD, Quarterly	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1904D54-005A**	**Water**	**04/26/2019 13:15**	**ICP-MS2 132SMPL.D**	**176959**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Arsenic	**0.32**	J	0.13	0.50	1	04/30/2019 05:01
Cadmium	ND		0.066	0.50	1	04/30/2019 05:01
Chromium	ND		0.77	1.0	1	04/30/2019 05:01
Copper	**12**		0.55	1.0	1	04/30/2019 05:01
Iron	**180**		20	50	1	04/30/2019 05:01
Lead	ND		0.19	0.50	1	04/30/2019 05:01
Mercury	**0.022**	J	0.021	0.050	1	04/30/2019 05:01
Molybdenum	**1.0**		0.033	0.50	1	04/30/2019 05:01
Nickel	**2.9**		0.34	0.50	1	04/30/2019 05:01
Selenium	ND		0.20	0.50	1	04/30/2019 05:01
Silver	**0.069**	J	0.043	0.50	1	04/30/2019 05:01
Zinc	**42**		18	25	1	04/30/2019 05:01

Surrogates	REC (%)	Limits	
Terbium	104	70-130	04/30/2019 05:01

Analyst(s): JC

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1904D54
Date Received:	4/26/19 16:50	**Extraction Method:**	SM2540 C-1997
Date Prepared:	4/30/19	**Analytical Method:**	SM2540 C-1997
Project:	Marsh Landing- DDSD, Quarterly	**Unit:**	mg/L

Total Dissolved Solids

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1904D54-003A**	**Water**	**04/26/2019 13:15**	**WetChem**	**177060**

Analytes	Result	MDL	RL	DF	Date Analyzed
Total Dissolved Solids	**243**	10.0	10.0	1	05/01/2019 07:55

Analyst(s): RB

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1904D54
Date Received:	4/26/19 16:50	**Extraction Method:**	SM2540 D-1997
Date Prepared:	4/30/19	**Analytical Method:**	SM2540 D-1997
Project:	Marsh Landing- DDSD, Quarterly	**Unit:**	mg/L

Total Suspended Solids

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1904D54-004A**	**Water**	**04/26/2019 13:15**	**WetChem**	**177043**

Analytes	Result	MDL	RL	DF	Date Analyzed
Total Suspended Solids	**13.7**	1.00	1.00	1	04/30/2019 13:45

Analyst(s): AL

McCampbell Analytical, Inc.
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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1904D54
Date Prepared:	4/26/19	**BatchID:**	176938
Date Analyzed:	5/1/19	**Extraction Method:**	SM5210B
Instrument:	WetChem	**Analytical Method:**	SM5210 B-2001
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing- DDSD, Quarterly	**Sample ID:**	MB/LCS/LCSD-176938

QC Summary Report for BOD

Analyte	MB Result	MDL	RL			
BOD	ND	4.0	4.0	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
BOD	180	180	198	89	90	80-120	0.849	16

McCampbell Analytical, Inc.
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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1904D54
Date Prepared:	4/30/19	**BatchID:**	177019
Date Analyzed:	4/30/19	**Extraction Method:**	SM5220 D-1997
Instrument:	SPECTROPHOTOMETER	**Analytical Method:**	SM5220 D-1997
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing- DDSD, Quarterly	**Sample ID:**	MB/LCS/LCSD-177019 1904D54-001AMS/MSD

QC Summary Report for COD

Analyte	MB Result	MDL	RL			
COD	ND	7.2	10	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
COD	94	91	100	94	91	90-110	3.24	20

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
COD	1	140	140	100	32.00	111	107	80-120	2.84	20

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1904D54
Date Prepared:	4/29/19	**BatchID:**	176959
Date Analyzed:	4/29/19	**Extraction Method:**	E200.8
Instrument:	ICP-MS2	**Analytical Method:**	E200.8
Matrix:	Water	**Unit:**	µg/L
Project:	Marsh Landing- DDSD, Quarterly	**Sample ID:**	MB/LCS/LCSD-176959

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Arsenic	ND	0.13	0.50	-	-	-
Cadmium	ND	0.066	0.50	-	-	-
Chromium	ND	0.77	1.0	-	-	-
Copper	ND	0.55	1.0	-	-	-
Iron	ND	20	50	-	-	-
Lead	ND	0.19	0.50	-	-	-
Mercury	ND	0.021	0.050	-	-	-
Molybdenum	0.046,J	0.033	0.50	-	-	-
Nickel	ND	0.34	0.50	-	-	-
Selenium	ND	0.20	0.50	-	-	-
Silver	ND	0.043	0.50	-	-	-
Zinc	ND	18	25	-	-	-
Surrogate Recovery						
Terbium	480			500	96	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Arsenic	49	54	50	99	107	85-115	8.08	20
Cadmium	50	54	50	100	108	85-115	7.80	20
Chromium	49	54	50	99	107	85-115	8.18	20
Copper	50	54	50	101	109	85-115	7.73	20
Iron	5000	5000	5000	100	100	85-115	0	20
Lead	49	53	50	98	107	85-115	8.62	20
Mercury	1.2	1.2	1.25	98	98	85-115	0	20
Molybdenum	48	48	50	96	96	85-115	0	20
Nickel	50	54	50	101	108	85-115	7.31	20
Selenium	50	54	50	100	107	85-115	7.25	20
Silver	46	49	50	92	98	85-115	7.09	20
Zinc	500	550	500	100	109	85-115	8.66	20
Surrogate Recovery								
Terbium	490	490	500	99	98	70-130	0.812	20

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1904D54
Date Prepared:	4/30/19	**BatchID:**	177060
Date Analyzed:	5/1/19	**Extraction Method:**	SM2540 C-1997
Instrument:	WetChem	**Analytical Method:**	SM2540 C-1997
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing- DDSD, Quarterly	**Sample ID:**	MB-177060

QC Summary Report for Total Dissolved Solids

Analyte	MB Result	MDL	RL			
Total Dissolved Solids	ND	10.0	10.0	-	-	-

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1904D54
Date Prepared:	4/30/19	**BatchID:**	177043
Date Analyzed:	4/30/19	**Extraction Method:**	SM2540 D-1997
Instrument:	WetChem	**Analytical Method:**	SM2540 D-1997
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing- DDSD, Quarterly	**Sample ID:**	MB-177043

QC Summary Report for Total Suspended Solids

Analyte	MB Result	MDL	RL			
Total Suspended Solids	ND	1.00	1.00	-	-	-

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1904D54 **ClientCode: GOA**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag
☐ Detection Summary ☐ Dry-Weight

Report to:
David Frandsen
NRG Energy, LLC
3201 Wilbur Avenue
Antioch, CA 94509
(925) 427-3479 FAX: (925) 779-6679

Email: David.Frandsen@nrg.com
cc/3rd Party: james.robinson@nrg.com; harry.bobis@nr
PO: 4501868678
Project: Marsh Landing- DDSD, Quarterly

Bill to:
Accounts Payable
NRG
112 Telly Street
New Roads, LA 70760
invoices@nrg.com

Requested TATs: 5 days; 7 days;

Date Received: **04/26/2019**
Date Logged: **04/26/2019**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1904D54-001	FAC Combined Wastewater	Water	4/26/2019 13:15	☐		A										
1904D54-002	FAC Combined Wastewater	Water	4/26/2019 13:15	☐	A											
1904D54-003	FAC Combined Wastewater	Water	4/26/2019 13:15	☐				A								
1904D54-004	FAC Combined Wastewater	Water	4/26/2019 13:15	☐					A							
1904D54-005	FAC Combined Wastewater	Water	4/26/2019 13:15	☐			A									

Test Legend:

1	BOD_W	2	COD_W	3	METALSMS_TTLC_W	4	TDS_W
5	TSS_W	6		7		8	
9		10		11		12	

Project Manager: Angela Rydelius **Prepared by: Lilly Ortiz**

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: NRG ENERGY, LLC
Client Contact: David Frandsen
Contact's Email: David.Frandsen@nrg.com

Project: Marsh Landing- DDSD, Quarterly
Comments:

Work Order: 1904D54
QC Level: LEVEL 2
Date Logged: 4/26/2019

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1904D54-001A	FAC Combined Wastewater	Water	SM5220D (COD)	2	aVOA w/ H2SO4	☐	4/26/2019 13:15	5 days	Trace	☐	
1904D54-002A	FAC Combined Wastewater	Water	SM5210B (BOD)	1	1L HDPE, unprsv.	☐	4/26/2019 13:15	7 days	Trace	☐	
1904D54-003A	FAC Combined Wastewater	Water	SM2540C (TDS)	1	500mL HDPE, unprsv.	☐	4/26/2019 13:15	5 days	Trace	☐	
1904D54-004A	FAC Combined Wastewater	Water	SM2540D (TSS)	1	1L HDPE, unprsv.	☐	4/26/2019 13:15	5 days	Trace	☐	
1904D54-005A	FAC Combined Wastewater	Water	E200.8 (Metals) <Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Zinc>	1	250mL HDPE w/ HNO3	☐	4/26/2019 13:15	5 days	Trace	☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1904054

Chain of Custody

Page 1 of 2

Marsh Landing Generating Station
3201 Wilbur Avenue, P.O. Box 1687, Antioch, CA 94509
Phone: (925) 779-6500 Fax: (925) 779-6509

SAMPLES SUBMITTED TO		SEND INVOICE TO		PROJECT	
Laboratory:	McCampbell Analytical, Inc.	Company:	NRG Energy, Inc	Plant:	Marsh Landing
ELAP Cert. No.	1644	Attention:	Sandra Herndon	Title:	DDSD
Address:	1534 Willow Pass Road, Pittsburg, CA 94565-1701	Address:	112 Telly St. New Roads, LA 70760	Phase:	Quarterly
Phone/Fax:	925.252.9262/ 925.252.9269	P.O. No.:	4501868678	Manager:	David Frandsen

	SAMPLE INFORMATION							CONTAINER INFORMATION				ANALYSIS REQUEST			
	Sample Number	Sample Date	Sample Collection Time	Regulatory Driver	Regulatory Frequency	Sample Medium	Sample Type	Sample Description	Number	Type	Volume (each, mL)	Preserv.	COD (SM5220D)	BOD (SM 5210B)	TDS (SM 2540B)	TSS (SM 2540D)
(+)	ML-19-048	26-Apr-19	1315	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	2	Amber VOAs	43	H_2SO_4 (pH<2, 4°C)	X			
(+)	ML-19-049	26-Apr-19	1315	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	HDPE Bottle	1,000	None (ZHS, 4°C)		X		
(+)	ML-19-050	26-Apr-19	1315	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	HDPE Bottle	500	None (4°C)			X	
(+)	ML-19-051	19-Apr-26	1315	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	Poly	1,000	None				X
												HOLDING TIME:	28 days	48 hours	7 days	7 days

REPORTING		LABORATORY NOTES RE: SAMPLE RECEIPT/CONDITION	DIRECTIONS FOR LABORATORY
Original to:	David Frandsen		**STANDARDTAT (5-day).** Establish calibration standards so Minimum Level (ML) value is the lowest calibration standard, the lowest quantifiable concentration or Reporting Limit (RL). Report "Detected, but Not Quantified" (DNQ) with estimated J-flagged concentrations below the RL and include method detection limits (MDLs) in report.
Title:	Environmental Specialist/Engineer		
Address:	P.O. Box 1687 Antioch, CA 94509		***Include sample description with client sample ID.**
Phone/Fax:	925.324-3533/6509		
E-mail:	david.frandsen@nrg.com		
E-mail CC:	james.robinson@nrg.com		
E-mail CC:	joe.moura@nrg.com		
E-mail CC:	kathy.oriet@nrg.com		
E-mail CC:	harry.bobis@nrg.com		

	PRINTED NAME	SIGNATURE	COMPANY	DATE	TIME
Sampled by:	James Robinson	James E. Robinson	NRG	26-Apr-19	1315
Relinquished by:	James Robinson	James E. Robinson	NRG	26-Apr-19	1650
Received by:	T-P		MAI	26-Apr-19	1650
Relinquished by:					
Received by:					
Relinquished by:					
Received by:					

4.4°C WET

1904054

Chain of Custody

Page 2 of 2

Marsh Landing Generating Station
3201 Wilbur Avenue, P.O. Box 1687, Antioch, CA 94509
Phone: (925) 779-6500 Fax: (925) 779-6509

SAMPLES SUBMITTED TO		SEND INVOICE TO		PROJECT		ANALYSIS REQUEST
Laboratory:	McCampbell Analytical, Inc.	*Company:*	NRG Energy, Inc	*Plant:*	Marsh Landing	
ELAP Cert. No.	1644	*Attention:*	Sandra Herndon	*Title:*	DDSD	
Address:	1534 Willow Pass Road, Pittsburg, CA 94565-1701	*Address:*	112 Telly St. New Roads, LA 70760	*Phase:*	Quarterly	
Phone/Fax:	925.252.9262/ 925.252.9269	*P.O. No.:*	4501868678	*Manager:*	David Frandsen	

SAMPLE INFORMATION								CONTAINER INFORMATION				ANALYSIS REQUEST			
Sample Number	Sample Date	Sample Collection Time	Regulatory Driver	Regulatory Frequency	Sample Medium	Sample Type	Sample Description	Number	Type	Volume (each, mL)	Preserv.	Total Metals[1] (EPA Method 200.8)			
ML-19-052	26-Apr-19	1315	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	HDPE Bottle	250	HNO3 (pH<2)	X			
											HOLDING TIME:	28 days			

REPORTING		LABORATORY NOTES RE: SAMPLE RECEIPT/CONDITION	DIRECTIONS FOR LABORATORY
Original to:	David Frandsen		**STANDARD TAT (5-day).** Establish calibration standards so Minimum Level (ML) value is the lowest calibration standard, the lowest quantifiable concentration or Reporting Limit (RL). Report "Detected, but Not Quantified" (DNQ) with estimated J-flagged concentrations below the RL and include method detection limits (MDLs) in report.
Title:	Environmental Specialist/Engineer		1. Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Mercury, Nickel, Molybdenum, Selenium (reaction mode), Silver, Zinc
Address:	P.O. Box 1687 Antioch, CA 94509		***Include sample description with client sample ID.**
Phone/Fax:	925.324-3533/6509		
E-mail:	david.frandsen@nrg.com		
E-mail CC:	james.robinson@nrg.com		
E-mail CC:	joe.moura@nrg.com		
E-mail CC:	Harry.bobis@nrg.com		
E-mail CC:	kathy.crist@nrg.com		

	PRINTED NAME	SIGNATURE	COMPANY	DATE	TIME
Sampled by:	James Robinson	James E. Robinson	NRG	26-Apr-19	1315
Relinquished by:	James Robinson	James E. Robinson	NRG	26-Apr-19	1650
Received by:	T-P		MAI	26-Apr-19	1650
Relinquished by:					
Received by:					
Relinquished by:					
Received by:					

4.4°C
wet

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name:	**NRG Energy, LLC**	Date and Time Received	**4/26/2019 16:50**
Project:	**Marsh Landing- DDSD, Quarterly**	Date Logged:	**4/26/2019**
		Received by:	Tina Perez
WorkOrder №:	**1904D54** Matrix: Water	Logged by:	Lilly Ortiz
Carrier:	Client Drop-In		

Chain of Custody (COC) Information

Chain of custody present?	Yes	☑	No	☐	
Chain of custody signed when relinquished and received?	Yes	☑	No	☐	
Chain of custody agrees with sample labels?	Yes	☑	No	☐	
Sample IDs noted by Client on COC?	Yes	☑	No	☐	
Date and Time of collection noted by Client on COC?	Yes	☑	No	☐	
Sampler's name noted on COC?	Yes	☐	No	☑	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	NA ☑
Shipping container/cooler in good condition?	Yes	☑	No	☐	
Samples in proper containers/bottles?	Yes	☑	No	☐	
Sample containers intact?	Yes	☑	No	☐	
Sufficient sample volume for indicated test?	Yes	☑	No	☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	NA ☐
Samples Received on Ice?	Yes	☑	No	☐	
	(Ice Type: WET ICE)				
Sample/Temp Blank temperature	Temp: 4.4°C				NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes	☐	No	☑	NA ☐
Sample labels checked for correct preservation?	Yes	☑	No	☐	
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	Yes	☑	No	☐	NA ☐
UCMR Samples:					
pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes	☐	No	☐	NA ☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes	☐	No	☐	NA ☑

Comments:

Industrial User Report Checklist And Certification Statement Form

Attn: Environmental Compliance Specialist	**Jason Yun**			
Environmental Specialist Phone	(925) 756-1913	Fax	(925) 756-1961	
Industrial User Facility Name	**Marsh Landing LLC**			
Duly Authorized Representative Name	**Joe Moura**			
Duly Authorized Representative Phone	**925-779-6685**			

This Industrial User Report Checklist and Certification Statement Form shall be submitted with all Self-Monitoring Reports (SMRs), as specified by the Wastewater Discharge Permit issued by Delta Diablo, hereinafter referred to as the District. When submitting Self-Monitoring Reports, check all that are applicable.

RECEIVED BY DELTA DIABLO
OCT 03 2019

Self-Monitoring Reports (SMRs) (Required)

☒ Flow Discharge Summary (Review Discharge Permit.)

☐ Calibration of Effluent Flow Meters; if applicable.

☒ Monitoring Results – all required tests completed, results reviewed, results included Quality Assurance/Quality Control (QA/QC) and Chain-of-Custody (COC) (Review Discharge Permit):

☒ pH (**field-grab**) (shall be **analyzed within 15 minutes of sample collection**).
Results, collection time, analysis time and Technician's Initials shall be reported in the comments section of the respective COC. The pH meter shall be accurate and reproducible to 0.1 pH unit with a range of 0 to 14 and equipped with a temperature–compensation adjustment (Standard methods).

☒ Cyanide samples were tested for oxidizers and preserved with Sodium Hydroxide (NaOH).
This shall be reported in the comments section on the respective COC, if applicable.

☒ Selenium lab analysis by EPA Method 200.8 by Reaction Mode: if applicable.

☒ Total Phenolics lab analysis by EPA Method 420.4: if applicable.

☒ **All sample analysis for regulatory compliance reporting** shall be completed by an ELAP certified Laboratory.

☒ Certification Statement included (see attached)

☐ Other requested data _____

Industrial User Report Checklist And Certification Statement Form

Violations (if applicable)

☐ All wastewater discharge violations are reported during this period:

☐ The District was contacted within 24- hours of becoming aware of the violation.
Date: _____

☐ A follow-up resample was completed. Date: _____

☐ Corrective actions implemented to resolve violation (Please explain in writing)

☐ Significant Non-Compliance (SNC) Status Review
Please circle the review period *: **January – June** and **July -December**.

The SIU shall conduct a SNC review for the previous completed period * prior to the Self-monitoring Report (SMR) due date. Examples: A October SMR due date, the SNC review period is **January – June** or an April SMR due date, the SNC review period is **July – December.**

The SNC definition can be found in 40 CFR 403.8.

a) Chronic SNC= >66% of a regulated parameter in violation during six-month Period *.

b) Technical Review Criteria (TRC) SNC = >33% of a regulated pollutant during a six-month period* equals or exceeds the product of the daily maximum limit or the average limit multiplied by the applicable TRC factor (1.4 for BOD, TSS and Oil/Grease and 1.2 for all other regulated pollutants except pH).

☐ Is the SIU in SNC (as defined in a and/or b) for this period*? Yes ☐, No ☐; If yes, for what period? _____ . Please report the SNC status to the District in the SMR and include corrective actions to resolve the SNC classification.

☐ Other violations – i.e., reporting, spills to sewer, or prohibited discharges

All violations will be discussed in the cover letter of the Self-Monitoring Report.

☐ Significant Changes

Anticipated changes that may alter the nature, quality, or volume of the wastewater discharged. Planned changes shall be submitted at least 90 days prior to implementation, and shall include a detailed description of this change.

Delta Diablo

Industrial User Report Checklist And Certification Statement Form

Certification Statement

Industrial User Facility Name	**Marsh Landing LLC**
Industrial User Facility Address	**3201-C Wilbur Avenue, Antioch, CA 94509**
Duly Authorized Representative Phone	**925-779-6685**
Indicate Period Covered by This Report	**July 1-September 30, 2019**

Certification Statement:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations (40 CFR 403.6).

Duly Authorized Representative Signature	Joe Moura
Duly Authorized Representative Print	**Joe Moura**
Date	10/2/2019

Marsh Landing LLC
Marsh Landing Generating Station
3201-C Wilbur Avenue (shipping)
PO Box 1687 (mailing)
Antioch, CA 94509

October 2, 2019

Mr. Jason Yun
Delta Diablo
2500 Pittsburg-Antioch Highway
Antioch, CA 94509-1373

Subject: **2019 Third Quarterly (July 1-September 30) Self-Monitoring Report**
Marsh Landing LLC, Marsh Landing Generating Station,
Industrial Wastewater Discharge Permit 0311963-S

This letter documents the transmittal of the 2019 Third Quarterly Self-Monitoring Report (SMR).

Compliance Statement (choose one):

☑ There were no violations of waste discharge requirements during the reporting period.

☐ The following violation(s) of waste discharge requirements occurred during the reporting period, as described below:

Discussion:

This report is the SMR filed for the station and covers the period from July 1 through September 30, 2019. This report includes monthly flow data and quarterly and semiannual analytical data required to be collected in 2019. Data are summarized in the attached tables.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact Mr. David Frandsen, Environmental Specialist at david.frandsen@nrg.com or call 925.779.6695

Sincerely,

Joe Moura
Plant Manager
Marsh Landing LLC
Marsh Landing Generating Station

Attachments

Table 1:	Quarterly Results for Combined Wastewater (FAC Combined)
Table 2:	Semiannual Results for Combined Wastewater (FAC Combined)
Table 3:	July 2019 Monthly Flow Data
Table 4:	August 2019 Monthly Flow Data
Table 5:	September 2019 Monthly Flow Data

Attachment 1:	pH COC
Attachment 2:	Analytical Reports

Marsh Landing LLC
Marsh Landing Generating Station
Permit 0311963-S

Table 1

Quarterly Results for Combined Wastewater (FAC Combined)

Industrial User Name	Marsh Landing LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509

Sample Station Location	FAC Combined
Sample Station Description	Local Limits FAC Combined Wastewater
Reporting Period	July - September 2019
Report Type	Quarterly

Constituent	Sample Date	Permit Limit	Result	Units
Field pH	8/1/2019	6-10	7.9	S.U.
BOD	8/1/2019	-	11	mg/L
COD	8/1/2019	-	29	mg/L
Arsenic	8/1/2019	0.15	0.00052	mg/L
Cadmium	8/1/2019	0.1	ND	mg/L
Chromium	8/1/2019	0.5	ND	mg/L
Copper	8/1/2019	0.5	0.013	mg/L
Iron	8/1/2019	-	0.12	mg/L
Lead	8/1/2019	0.5	ND	mg/L
Mercury	8/1/2019	0.003	ND	mg/L
Molybdenum	8/1/2019	-	0.00095	mg/L
Nickel	8/1/2019	0.5	0.0020	mg/L
Selenium	8/1/2019	0.25	ND	mg/L
Silver	8/1/2019	0.2	ND	mg/L
Zinc	8/1/2019	1.0	0.028	mg/L
TDS	8/1/2019	-	197	mg/L
TSS	8/1/2019	-	11.8	mg/L

mg/L = Milligrams per liter

ND = Not detected at or above the laboratory Method Detection Limit or Reporting Limit.

Table 2

Semiannual Results for Combined Wastewater (FAC Combined)

Industrial User Name	Marsh Landing LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509

Sample Station Location	FAC Combined
Sample Station Description	Local Limits FAC Combined Wastewater
Reporting Period	July - September 2019
Report Type	Semiannual

Constituent	Sample Date	Permit Limit	Result	Units
Cyanide	8/1/2019	0.20	ND	mg/L
Total Phenolics (EPA 420.4)	8/1/2019	1.0	ND	mg/L
Ammonia as N	8/1/2019	200	5.0	mg/L
Oil and Grease Animal/Vegetable (HEM)	8/1/2019	300	2.6 J	mg/L
Oil and Grease Petroleum/Mineral (SGT-HEM)	8/1/2019	100	1.1 J	mg/L
TOXIC ORGANICS				
Bromodichloromethane	8/1/2019	-	*0.0027*	mg/L
Chloroform	8/1/2019	-	*0.0041*	mg/L
Dibromochloromethane	8/1/2019	-	*0.0014*	mg/L
Bis (2-ethylhexyl) Phthalate	8/1/2019	-	*0.000049*	mg/L
Diethyl Phthalate	8/1/2019	-	*0.000054*	mg/L
Di-n-butyl phthalate	8/1/2019	-	*0.000027*	mg/L
TOTAL TOXIC ORGANICS	8/1/2019	2.0	0.0083	mg/L

J = The reported concentration is an estimated value and is not included in Total Toxic Organic totals.

mg/L = Milligrams per liter

ND = Not detected at or above the laboratory Method Detection Limit or Reporting Limit.

Table 3
Monthly Flow Data

Industrial User Name	Marsh Landing LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509
Sample Station Location	Outfall #4
Sample Station Description	Flow Monitoring Structure
Reporting Period	Jul-19
Report Type	Quarterly
Constituent	Flow
Sample Type	Continuous, measured by flow meter
Sample Date	7/1/2019 - 7/31/2019
Permit Limits (s.u.)	NTE 30,240 gpd. NTE 21 gpm +10% for 15 consecutive minutes or 30 minutes in a 24-hour period

Day	Total Flow (gpd)	Instantaneous Max (gpm)	Minutes per Day of Flow exceeding 21 (+10% = 23.1)
1	3,014	19.62	
2	15,152	19.64	
3	3,168	21.46	
4	12,025	19.86	
5	9,228	19.66	
6	6,299	19.60	
7	0	0.00	
8	403	16.28	
9	11,557	19.82	
10	4,372	19.72	
11	388	16.62	
12	4,284	20.16	
13	5,852	19.59	
14	0	0.00	
15	0	0.00	
16	11,925	19.73	
17	1,312	20.25	
18	8,372	19.64	
19	0	0.00	
20	0	0.00	
21	413	15.83	
22	1,346	18.75	
23	18,658	21.59	
24	11,909	20.20	
25	1,476	19.81	
26	10,978	21.39	
27	9,673	19.66	
28	0	0.00	
29	0	0.00	
30	0	0.00	
31	18,570	20.08	

Total Monthly Flow (gal)	170,376	Did flow exceed limits?	NO
Daily Max Flow (gpd)	18,658	Flow above daily max (30,240 gpd)?	NO
Average Monthly Flow (gpd)	5,496		

Table 4
Monthly Flow Data

Industrial User Name	Marsh Landing LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509
Sample Station Location	Outfall #4
Sample Station Description	Flow Monitoring Structure
Reporting Period	Aug-19
Report Type	Quarterly
Constituent	Flow
Sample Type	Continuous, measured by flow meter
Sample Date	8/1/2019 - 8/31/2019
Permit Limits (s.u.)	NTE 30,240 gpd. NTE 21 gpm +10% for 15 consecutive minutes or 30 minutes in a 24-hour period

Day	Total Flow (gpd)	Instantaneous Max (gpm)	Minutes per Day of Flow exceeding 21 (+10% = 23.1)
1	28,079	19.60	
2	15,180	19.61	
3	8,736	19.62	
4	0	0.00	
5	456	17.12	
6	0	0.00	
7	6,093	20.89	
8	5,230	19.62	
9	4,025	19.60	
10	8,941	19.60	
11	0	0.00	
12	10,628	19.81	
13	12,518	19.69	
14	4,154	19.66	
15	6,942	19.66	
16	0	0.00	
17	97	18.41	
18	8,791	20.22	
19	2,788	20.53	
20	9,285	19.61	
21	0	0.00	
22	11,025	20.24	
23	6,508	20.64	
24	2,535	19.58	
25	0	0.00	
26	6,685	19.68	
27	6,266	19.59	
28	3,003	21.50	
29	6,519	19.12	
30	4,001	19.08	
31	9,659	19.11	

Total Monthly Flow (gal)	188,145	Did flow exceed limits?	NO
Daily Max Flow (gpd)	28,079	Flow above daily max (30,240 gpd)?	NO
Average Monthly Flow (gpd)	6,069		

Table 5
Monthly Flow Data

Industrial User Name	Marsh Landing LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509
Sample Station Location	Outfall #4
Sample Station Description	Flow Monitoring Structure
Reporting Period	Sep-19
Report Type	Quarterly
Constituent	Flow
Sample Type	Continuous, measured by flow meter
Sample Date	9/1/2019 - 9/31/2019
Permit Limits (s.u.)	NTE 30,240 gpd. NTE 21 gpm +10% for 15 consecutive minutes or 30 minutes in a 24-hour period

Day	Total Flow (gpd)	Instantaneous Max (gpm)	Minutes per Day of Flow exceeding 21 (+10% = 23.1)
1	458	17.30	
2	5,087	20.85	
3	1,988	19.09	
4	3,164	19.10	
5	8,857	19.15	
6	4,508	21.09	
7	6,005	19.12	
8	0	0.00	
9	423	16.76	
10	12,770	20.43	
11	5,011	20.13	
12	6,360	20.10	
13	2,562	21.64	
14	8,144	20.20	
15	0	0.00	
16	2,415	20.32	
17	9,226	20.12	
18	4,896	20.19	
19	6,441	20.41	
20	0	0.00	
21	0	0.00	
22	0	0.00	
23	7,035	20.33	
24	12,851	20.24	
25	10,513	20.40	
26	28,301	20.17	
27	14,687	21.01	
28	1,942	20.16	
29	0	0.00	
30	11,090	20.11	

Total Monthly Flow (gal)	174,732	Did flow exceed limits?	NO
Daily Max Flow (gpd)	28,301	Flow above daily max (30,240 gpd)?	NO
Average Monthly Flow (gpd)	5,824		

Marsh Landing Generating Station

Reported to:
Environmental Engineer

NPDES
Monthly Analytical Report

Sample Point	Sample Number	Sample Date (m/d/y)	Sample Collection Time	Date Analyzed (m/d/y)	pH Analysis Time	Sample Medium	Sample Type (Grab, 24-Hour Composite)	pH
							Method:	SM 4500-H+B
							Unit:	standard
							Reporting Limit:	0.18
							Method Detection Limit:	0.06
FAC Combined Waste Water	ML-19-087	8/1/19	1315	8/1/19	1315	Wastewater	Grab	7.9

SM = Standard Method; ppm = parts per million; mg/L = milligrams per liter; N/A = not applicable

Environmental Engineer David Frandsen

Signature: David Frandsen

Date: Aug 2, 2019

Sampling Technologist: James E Robinson

Signature: James E. Robinson

Date: 1-Aug-19

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Analytical Report

WorkOrder: 1908074

Report Created for: NRG Energy, LLC

3201 Wilbur Avenue
Antioch, CA 94509

Project Contact: David Frandsen
Project P.O.: 4501868678
Project: Marsh Landing- DDSD, Quarterly

Project Received: 08/01/2019

Analytical Report reviewed & approved for release on 08/08/2019 by:

Yen Cao
Project Manager

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Glossary of Terms & Qualifier Definitions

Client: NRG Energy, LLC
Project: Marsh Landing- DDSD, Quarterly
WorkOrder: 1908074

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908074
Date Received:	8/1/19 17:18	**Extraction Method:**	SM5210B
Date Prepared:	8/2/19	**Analytical Method:**	SM5210 B-2001
Project:	Marsh Landing- DDSD, Quarterly	**Unit:**	mg/L

Biochemical Oxygen Demand (BOD)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1908074-002A**	**Water**	**08/01/2019 13:15**	**WetChem**	**182813**

Analytes	Result	MDL	RL	DF	Date Analyzed
BOD	**11**	4.0	4.0	1	08/07/2019 10:32

Analyst(s): AL

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908074
Date Received:	8/1/19 17:18	**Extraction Method:**	SM5220 D-1997
Date Prepared:	8/5/19	**Analytical Method:**	SM5220 D-1997
Project:	Marsh Landing- DDSD, Quarterly	**Unit:**	mg/L

Chemical Oxygen Demand (COD) as mg O2 /L

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1908074-001A**	**Water**	**08/01/2019 13:15**	**SPECTROPHOTOMETER**	**182922**

Analytes	Result	MDL	RL	DF	Date Analyzed
COD	**29**	7.2	10	1	08/05/2019 10:55

Analyst(s): RB

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908074
Date Received:	8/1/19 17:18	**Extraction Method:**	E200.8
Date Prepared:	8/1/19	**Analytical Method:**	E200.8
Project:	Marsh Landing- DDSD, Quarterly	**Unit:**	mg/L

Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1908074-005A**	**Water**	**08/01/2019 13:15**	**ICP-MS3 186SMPL.D**	**182801**

Analytes	Result	MDL	RL	DF	Date Analyzed
Arsenic	**0.00052**	0.00012	0.00050	1	08/03/2019 03:38
Cadmium	ND	0.000060	0.00050	1	08/03/2019 03:38
Chromium	ND	0.00036	0.00050	1	08/03/2019 03:38
Copper	**0.013**	0.00043	0.00050	1	08/03/2019 03:38
Iron	**0.12**	0.0058	0.10	1	08/03/2019 03:38
Lead	ND	0.00032	0.00050	1	08/03/2019 03:38
Mercury	ND	0.000033	0.000050	1	08/03/2019 03:38
Molybdenum	**0.00095**	0.00021	0.00050	1	08/03/2019 03:38
Nickel	**0.0020**	0.00058	0.00050	1	08/03/2019 03:38
Selenium	ND	0.00018	0.00050	1	08/03/2019 03:38
Silver	ND	0.000042	0.00050	1	08/03/2019 03:38
Zinc	**0.028**	0.011	0.020	1	08/03/2019 03:38

Surrogates	REC (%)	Limits	
Terbium	104	70-130	08/03/2019 03:38

Analyst(s): JC

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908074
Date Received:	8/1/19 17:18	**Extraction Method:**	SM2540 C-1997
Date Prepared:	8/5/19	**Analytical Method:**	SM2540 C-1997
Project:	Marsh Landing- DDSD, Quarterly	**Unit:**	mg/L

Total Dissolved Solids

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1908074-003A**	**Water**	**08/01/2019 13:15**	**WetChem**	**182948**

Analytes	Result	MDL	RL	DF	Date Analyzed
Total Dissolved Solids	**197**	10.0	10.0	1	08/06/2019 12:40

Analyst(s): AL

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908074
Date Received:	8/1/19 17:18	**Extraction Method:**	SM2540 D-1997
Date Prepared:	8/2/19	**Analytical Method:**	SM2540 D-1997
Project:	Marsh Landing- DDSD, Quarterly	**Unit:**	mg/L

Total Suspended Solids

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1908074-004A**	**Water**	**08/01/2019 13:15**	**WetChem**	**182808**

Analytes	Result	MDL	RL	DF	Date Analyzed
Total Suspended Solids	**11.8**	1.00	1.00	1	08/02/2019 09:25

Analyst(s): AL

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908074
Date Prepared:	8/2/19	**BatchID:**	182813
Date Analyzed:	8/7/19	**Extraction Method:**	SM5210B
Instrument:	WetChem	**Analytical Method:**	SM5210 B-2001
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing- DDSD, Quarterly	**Sample ID:**	MB/LCS/LCSD-182813

QC Summary Report for BOD

Analyte	MB Result	MDL	RL			
BOD	ND	4.0	4.0	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
BOD	190	180	198	95	92	80-120	2.98	16

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908074
Date Prepared:	8/5/19	**BatchID:**	182922
Date Analyzed:	8/5/19	**Extraction Method:**	SM5220 D-1997
Instrument:	SPECTROPHOTOMETER	**Analytical Method:**	SM5220 D-1997
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing- DDSD, Quarterly	**Sample ID:**	MB/LCS/LCSD-182922

QC Summary Report for COD

Analyte	MB Result	MDL	RL			
COD	ND	7.2	10	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
COD	91	91	100	91	91	90-110	0	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908074
Date Prepared:	8/1/19	**BatchID:**	182801
Date Analyzed:	8/2/19	**Extraction Method:**	E200.8
Instrument:	ICP-MS3	**Analytical Method:**	E200.8
Matrix:	Water	**Unit:**	µg/L
Project:	Marsh Landing- DDSD, Quarterly	**Sample ID:**	MB/LCS/LCSD-182801

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Arsenic	ND	0.12	0.50	-	-	-
Cadmium	ND	0.060	0.50	-	-	-
Chromium	ND	0.36	0.50	-	-	-
Copper	ND	0.43	0.50	-	-	-
Iron	ND	58	100	-	-	-
Lead	ND	0.32	0.50	-	-	-
Mercury	ND	0.033	0.050	-	-	-
Molybdenum	ND	0.21	0.50	-	-	-
Nickel	ND	0.58	1.0	-	-	-
Selenium	ND	0.18	0.50	-	-	-
Silver	ND	0.042	0.50	-	-	-
Zinc	ND	11	20	-	-	-
Surrogate Recovery						
Terbium	490			500	98	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Arsenic	53	55	50	107	109	85-115	2.52	20
Cadmium	51	52	50	101	104	85-115	2.90	20
Chromium	51	52	50	102	104	85-115	1.22	20
Copper	53	53	50	105	107	85-115	1.77	20
Iron	5000	5000	5000	100	100	85-115	0	20
Lead	51	52	50	101	104	85-115	2.40	20
Mercury	1.3	1.2	1.25	102	99	85-115	2.23	20
Molybdenum	47	48	50	94	95	85-115	1.48	20
Nickel	52	53	50	103	106	85-115	2.58	20
Selenium	53	53	50	106	106	85-115	0	20
Silver	48	50	50	97	100	85-115	3.33	20
Zinc	530	540	500	105	108	85-115	2.36	20
Surrogate Recovery								
Terbium	490	500	500	99	100	70-130	1.23	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908074
Date Prepared:	8/5/19	**BatchID:**	182948
Date Analyzed:	8/6/19	**Extraction Method:**	SM2540 C-1997
Instrument:	WetChem	**Analytical Method:**	SM2540 C-1997
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing- DDSD, Quarterly	**Sample ID:**	MB-182948

QC Summary Report for Total Dissolved Solids

Analyte	MB Result	MDL	RL			
Total Dissolved Solids	ND	10.0	10.0	-	-	-

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908074
Date Prepared:	8/2/19	**BatchID:**	182808
Date Analyzed:	8/2/19	**Extraction Method:**	SM2540 D-1997
Instrument:	WetChem	**Analytical Method:**	SM2540 D-1997
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing- DDSD, Quarterly	**Sample ID:**	MB-182808

QC Summary Report for Total Suspended Solids

Analyte	MB Result	MDL	RL			
Total Suspended Solids	ND	1.00	1.00	-	-	-

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(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1908074 **ClientCode: GOA**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag
☐ Detection Summary ☐ Dry-Weight

Report to:
David Frandsen
NRG Energy, LLC
3201 Wilbur Avenue
Antioch, CA 94509
(925) 427-3479 FAX: (925) 779-6679

Email: David.Frandsen@nrg.com
cc/3rd Party: joe.moura@nrg.com; james.robinson@nrg.
PO: 4501868678
Project: Marsh Landing- DDSD, Quarterly

Bill to:
Accounts Payable
NRG
112 Telly Street
New Roads, LA 70760
invoices@clearwayenergy.com

Requested TATs: **5 days; 7 days;**

Date Received: **08/01/2019**
Date Logged: **08/01/2019**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1908074-001	FAC Combined Wastewater	Water	8/1/2019 13:15	☐		A										
1908074-002	FAC Combined Wastewater	Water	8/1/2019 13:15	☐	A											
1908074-003	FAC Combined Wastewater	Water	8/1/2019 13:15	☐				A								
1908074-004	FAC Combined Wastewater	Water	8/1/2019 13:15	☐					A							
1908074-005	FAC Combined Wastewater	Water	8/1/2019 13:15	☐			A									

Test Legend:

1	BOD_W	2	COD_W	3	METALSMS_TTLC_W(PPM)	4	TDS_W
5	TSS_W	6		7		8	
9		10		11		12	

Project Manager: Angela Rydelius **Prepared by: Julia Danielsson**

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: NRG ENERGY, LLC
Client Contact: David Frandsen
Contact's Email: David.Frandsen@nrg.com

Project: Marsh Landing- DDSD, Quarterly
Comments:

Work Order: 1908074
QC Level: LEVEL 2
Date Logged: 8/1/2019

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1908074-001A	FAC Combined Wastewater	Water	SM5220D (COD)	2	aVOA w/ H2SO4	☐	8/1/2019 13:15	5 days	None	☐	
1908074-002A	FAC Combined Wastewater	Water	SM5210B (BOD)	1	1L HDPE, unprsv.	☐	8/1/2019 13:15	7 days	None	☐	
1908074-003A	FAC Combined Wastewater	Water	SM2540C (TDS)	1	500mL HDPE, unprsv.	☐	8/1/2019 13:15	5 days	None	☐	
1908074-004A	FAC Combined Wastewater	Water	SM2540D (TSS)	1	1L HDPE, unprsv.	☐	8/1/2019 13:15	5 days	None	☐	
1908074-005A	FAC Combined Wastewater	Water	E200.8 (Metals) <Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Lead, Magnesium, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc>	1	250mL HDPE w/ HNO3	☐	8/1/2019 13:15	5 days	None	☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

Chain of Custody

Page 1 of 2

Marsh Landing Generating Station
3201 Wilbur Avenue, P.O. Box 1687, Antioch, CA 94509
Phone: (925) 779-6500 Fax: (925) 779-6509

1908074

SAMPLES SUBMITTED TO		SEND INVOICE TO		PROJECT	
Laboratory:	McCampbell Analytical, Inc.	Company:	NRG Energy, Inc	Plant:	Marsh Landing
ELAP Cert. No.	1644	Attention:	Sandra Herndon	Title:	DDSD
Address:	1534 Willow Pass Road, Pittsburg, CA 94565-1701	Address:	112 Telly St. New Roads, LA 70760	Phase:	Quarterly
Phone/Fax:	925.252.9262/ 925.252.9269	P.O. No.:	4501868678	Manager:	David Frandsen

SAMPLE INFORMATION								CONTAINER INFORMATION				ANALYSIS REQUEST			
Sample Number	Sample Date	Sample Collection Time	Regulatory Driver	Regulatory Frequency	Sample Medium	Sample Type	Sample Description	Number	Type	Volume (each, mL)	Preserv.	COD (SM5220D)	BOD (SM 5210B)	TDS (SM 2540B)	TSS (SM 2540D)
ML-19-072	1-Aug-19	1315	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	2	Amber VOAs	43	H_2SO_4 (pH<2, 4°C)	X			
ML-19-073	1-Aug-19	1315	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	HDPE Bottle	1,000	None (ZHS, 4°C)		X		
ML-19-074	1-Aug-19	1315	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	HDPE Bottle	500	None (4°C)			X	
ML-19-075	1-Aug-19	1315	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	Poly	1,000	None				X
											HOLDING TIME:	28 days	48 hours	7 days	7 days

REPORTING		LABORATORY NOTES RE: SAMPLE RECEIPT/CONDITION	DIRECTIONS FOR LABORATORY
Original to:	David Frandsen		**STANDARDTAT (5-day).** Establish calibration standards so Minimum Level (ML) value is the lowest calibration standard, the lowest quantifiable concentration or Reporting Limit (RL). Report "Detected, but Not Quantified" (DNQ) with estimated J-flagged concentrations below the RL and include method detection limits (MDLs) in report.
Title:	Environmental Specialist/Engineer		
Address:	P.O. Box 1687 Antioch, CA 94509		***Include sample description with client sample ID.**
Phone/Fax:	925.324-3533/6509		
E-mail:	david.frandsen@nrg.com		
E-mail CC:	james.robinson@nrg.com		
E-mail CC:	joe.moura@nrg.com		
E-mail CC:			
E-mail CC:			
E-mail CC:			

	PRINTED NAME	SIGNATURE	COMPANY	DATE	TIME
Sampled by:	James E Robinson	James E. Robinson	NRG	1-Aug-19	1315
Relinquished by:	James E Robinson	James E. Robinson	NRG	1-Aug-19	1718
Received by:	Lilly Ortiz	Lilly Ortiz	MAI	1-Aug-19	1718
Relinquished by:					1.4°C wet
Received by:					
Relinquished by:					
Received by:					

Chain of Custody

Page 2 of 2

Marsh Landing Generating Station
3201 Wilbur Avenue, P.O. Box 1687, Antioch, CA 94509
Phone: (925) 779-6500 Fax: (925) 779-6509

1908074

SAMPLES SUBMITTED TO		SEND INVOICE TO		PROJECT	
Laboratory:	McCampbell Analytical, Inc.	Company:	NRG Energy, Inc	Plant:	Marsh Landing
ELAP Cert. No.	1644	Attention:	Sandra Herndon	Title:	DDSD
Address:	1534 Willow Pass Road, Pittsburg, CA 94565-1701	Address:	112 Telly St. New Roads, LA 70760	Phase:	Quarterly
Phone/Fax:	925.252.9262/ 925.252.9269	P.O. No.:	4501868678	Manager:	David Frandsen

SAMPLE INFORMATION								CONTAINER INFORMATION				ANALYSIS REQUEST			
Sample Number	Sample Date	Sample Collection Time	Regulatory Driver	Regulatory Frequency	Sample Medium	Sample Type	Sample Description	Number	Type	Volume (each, mL)	Preserv.	Total Metals[1] (EPA Method 200.8)			
ML-19-076	1-Aug-19	1315	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	HDPE Bottle	250	HNO3 (pH<2)	X			
											HOLDING TIME:	28 days			

REPORTING		LABORATORY NOTES RE: SAMPLE RECEIPT/CONDITION	DIRECTIONS FOR LABORATORY
Original to:	David Frandsen		**STANDARD TAT (5-day).** Establish calibration standards so Minimum Level (ML) value is the lowest calibration standard, the lowest quantifiable concentration or Reporting Limit (RL). Report "Detected, but Not Quantified" (DNQ) with estimated J-flagged concentrations below the RL and include method detection limits (MDLs) in report.
Title:	Environmental Specialist/Engineer		1. Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Mercury, Nickel, Molybdenum, Selenium (reaction mode), Silver, Zinc
Address:	P.O. Box 1687 Antioch, CA 94509		
Phone/Fax:	925.324-3533/6509		***Include sample description with client sample ID.**
E-mail:	david.frandsen@nrg.com		
E-mail CC:	james.robinson@nrg.com		
E-mail CC:	joe.moura@nrg.com		
E-mail CC:			
E-mail CC:			
E-mail CC:			

	PRINTED NAME	SIGNATURE	COMPANY	DATE	TIME
Sampled by:	James E Robinson	James E. Robinson	NRG	1-Aug-19	1315
Relinquished by:	James E Robinson	James E. Robinson	NRG	1-Aug-19	1718
Received by:	Lilly Ortiz	Lilly Ortiz	MAI	1-Aug-19	1719
Relinquished by:					
Received by:					
Relinquished by:					
Received by:					

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Sample Receipt Checklist

Client Name: **NRG Energy, LLC**
Project: **Marsh Landing- DDSD, Quarterly**

WorkOrder №: **1908074** Matrix: Water
Carrier: Client Drop-In

Date and Time Received: **8/1/2019 17:18**
Date Logged: **8/1/2019**
Received by: Lilly Ortiz
Logged by: Julia Danielsson

Chain of Custody (COC) Information

Chain of custody present?	Yes	☑	No	☐		
Chain of custody signed when relinquished and received?	Yes	☑	No	☐		
Chain of custody agrees with sample labels?	Yes	☑	No	☐		
Sample IDs noted by Client on COC?	Yes	☑	No	☐		
Date and Time of collection noted by Client on COC?	Yes	☑	No	☐		
Sampler's name noted on COC?	Yes	☑	No	☐		
COC agrees with Quote?	Yes	☐	No	☐	NA	☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	NA	☑
Shipping container/cooler in good condition?	Yes	☑	No	☐		
Samples in proper containers/bottles?	Yes	☑	No	☐		
Sample containers intact?	Yes	☑	No	☐		
Sufficient sample volume for indicated test?	Yes	☑	No	☐		

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	NA	☐
Samples Received on Ice?	Yes	☑	No	☐		
(Ice Type: WET ICE)						
Sample/Temp Blank temperature	Temp: 1.4°C				NA	☐
Water - VOA vials have zero headspace / no bubbles?	Yes	☑	No	☐	NA	☐
Sample labels checked for correct preservation?	Yes	☑	No	☐		
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	Yes	☑	No	☐	NA	☐
UCMR Samples:						
pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes	☐	No	☐	NA	☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes	☐	No	☐	NA	☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder:	1908072	**Amended:**	08/12/2019
		Revision:	1
Report Created for:	NRG Energy, LLC		
	3201 Wilbur Avenue Antioch, CA 94509		
Project Contact:	David Frandsen		
Project P.O.:	4501868678		
Project:	Marsh Landing-DDSD Semi-Annual		
Project Received:	08/01/2019		

Analytical Report reviewed & approved for release on 08/09/2019 by:

Susan Thompson

Project Manager

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CA ELAP 1644 ♦ NELAP 4033 ORELAP

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Glossary of Terms & Qualifier Definitions

Client: NRG Energy, LLC
Project: Marsh Landing-DDSD Semi-Annual
WorkOrder: 1908072

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: NRG Energy, LLC
Project: Marsh Landing-DDSD Semi-Annual
WorkOrder: 1908072

Analytical Qualifiers

J	Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
S	Spike recovery outside accepted recovery limits
a3	Sample diluted due to high organic content.
a19	Reporting limit near, but not identical to our standard reporting limit due to variable sample volume
c2	Surrogate recovery outside of the control limits due to matrix interference.

Quality Control Qualifiers

F2	LCS/LCSD recovery and/or RPD/RSD is out of acceptance criteria.

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Received:	8/1/19 17:18	**Extraction Method:**	E1664A_SG
Date Prepared:	8/7/19	**Analytical Method:**	E1664A
Project:	Marsh Landing-DDSD Semi-Annual	**Unit:**	mg/L

Hexane Extractable Material (HEM; Oil & Grease) with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1908072-001B**	**Water**	**08/01/2019 13:15**	**O&G**	**183175**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
SGT-HEM	**1.1**	J	0.80	5.6	1	08/08/2019 13:50

Analyst(s): HN

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Received:	8/1/19 17:18	**Extraction Method:**	E1664A
Date Prepared:	8/6/19	**Analytical Method:**	E1664A
Project:	Marsh Landing-DDSD Semi-Annual	**Unit:**	mg/L

Hexane Extractable Material (HEM; Oil & Grease) without Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1908072-001A**	**Water**	**08/01/2019 13:15**	**O&G**	**183009**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
HEM	**2.6**	J	1.3	5.6	1	08/07/2019 14:10

Analyst(s): HN

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Received:	8/1/19 17:18	**Extraction Method:**	E608/SW3620B
Date Prepared:	8/2/19	**Analytical Method:**	E608
Project:	Marsh Landing-DDSD Semi-Annual	**Unit:**	mg/L

Organochlorine Pesticides + PCBs w/ Florisil Clean-up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	1908072-001F	Water	08/01/2019 13:15	GC22 08021913.D	182818

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.000000	0.0000022	2	08/02/2019 22:18
a-BHC	ND	0.000000	0.0000022	2	08/02/2019 22:18
b-BHC	ND	0.000001	0.0000022	2	08/02/2019 22:18
d-BHC	ND	0.000000	0.0000022	2	08/02/2019 22:18
g-BHC	ND	0.000000	0.0000022	2	08/02/2019 22:18
Chlordane (Technical)	ND	0.000005	0.000043	2	08/02/2019 22:18
p,p-DDD	ND	0.000000	0.0000022	2	08/02/2019 22:18
p,p-DDE	ND	0.000000	0.0000022	2	08/02/2019 22:18
p,p-DDT	ND	0.000000	0.0000022	2	08/02/2019 22:18
Dieldrin	ND	0.000000	0.0000022	2	08/02/2019 22:18
Endosulfan I	ND	0.000000	0.0000022	2	08/02/2019 22:18
Endosulfan II	ND	0.000001	0.0000022	2	08/02/2019 22:18
Endosulfan sulfate	ND	0.000000	0.0000043	2	08/02/2019 22:18
Endrin	ND	0.000000	0.0000022	2	08/02/2019 22:18
Endrin aldehyde	ND	0.000001	0.0000022	2	08/02/2019 22:18
Heptachlor	ND	0.000000	0.0000022	2	08/02/2019 22:18
Heptachlor epoxide	ND	0.000000	0.0000022	2	08/02/2019 22:18
Methoxychlor	ND	0.000000	0.0000022	2	08/02/2019 22:18
Toxaphene	ND	0.000004	0.000043	2	08/02/2019 22:18
Aroclor1016	ND	0.000004	0.000043	2	08/02/2019 22:18
Aroclor1221	ND	0.000005	0.000043	2	08/02/2019 22:18
Aroclor1232	ND	0.000008	0.000043	2	08/02/2019 22:18
Aroclor1242	ND	0.000006	0.000043	2	08/02/2019 22:18
Aroclor1248	ND	0.000003	0.000043	2	08/02/2019 22:18
Aroclor1254	ND	0.000003	0.000043	2	08/02/2019 22:18
Aroclor1260	ND	0.000006	0.000043	2	08/02/2019 22:18

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	98	14-168	08/02/2019 22:18

Analyst(s): CK Analytical Comments: a3

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Received:	8/1/19 17:18	**Extraction Method:**	E624
Date Prepared:	8/2/19	**Analytical Method:**	E624
Project:	Marsh Landing-DDSD Semi-Annual	**Unit:**	mg/L

Acrolein, Acrylonitrile, & 2-Chloroethyl Vinyl Ether

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1908072-001H**	**Water**	**08/01/2019 13:15**	**GC45 08021912.D**	**182830**

Analytes	Result	MDL	RL	DF	Date Analyzed
Acrolein (Propenal)	ND	0.0025	0.0050	1	08/02/2019 15:40
Acrylonitrile	ND	0.0010	0.0020	1	08/02/2019 15:40
2-Chloroethyl Vinyl Ether	ND	0.00050	0.0010	1	08/02/2019 15:40

Surrogates	REC (%)	Limits	
Dibromofluoromethane	107	65-165	08/02/2019 15:40

Analyst(s): TK

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Received:	8/1/19 17:18	**Extraction Method:**	E624
Date Prepared:	8/5/19	**Analytical Method:**	E624
Project:	Marsh Landing-DDSD Semi-Annual	**Unit:**	mg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	1908072-001G	Water	08/01/2019 13:15	GC10 08051907.D	182831

Analytes	Result	MDL	RL	DF	Date Analyzed
Benzene	ND	0.00025	0.00020	1	08/05/2019 10:20
Bromodichloromethane	**0.0027**	0.00025	0.00050	1	08/05/2019 10:20
Bromoform	ND	0.00025	0.00050	1	08/05/2019 10:20
Bromomethane	ND	0.00025	0.00050	1	08/05/2019 10:20
Carbon tetrachloride	ND	0.00025	0.00050	1	08/05/2019 10:20
Chlorobenzene	ND	0.00025	0.00050	1	08/05/2019 10:20
Chloroethane	ND	0.00025	0.00050	1	08/05/2019 10:20
Chloroform	**0.0041**	0.00025	0.00050	1	08/05/2019 10:20
Chloromethane	ND	0.00025	0.00050	1	08/05/2019 10:20
Dibromochloromethane	**0.0014**	0.00025	0.00050	1	08/05/2019 10:20
1,2-Dichlorobenzene	ND	0.00025	0.00050	1	08/05/2019 10:20
1,3-Dichlorobenzene	ND	0.00025	0.00050	1	08/05/2019 10:20
1,4-Dichlorobenzene	ND	0.00025	0.00050	1	08/05/2019 10:20
1,1-Dichloroethane	ND	0.00025	0.00050	1	08/05/2019 10:20
1,2-Dichloroethane (1,2-DCA)	ND	0.00025	0.00050	1	08/05/2019 10:20
1,1-Dichloroethene	ND	0.00025	0.00050	1	08/05/2019 10:20
trans-1,2-Dichloroethene	ND	0.00025	0.00050	1	08/05/2019 10:20
1,2-Dichloropropane	ND	0.00025	0.00050	1	08/05/2019 10:20
cis-1,3-Dichloropropene	ND	0.00025	0.00050	1	08/05/2019 10:20
trans-1,3-Dichloropropene	ND	0.00025	0.00050	1	08/05/2019 10:20
Ethylbenzene	ND	0.00025	0.00050	1	08/05/2019 10:20
Methylene chloride	ND	0.0012	0.0020	1	08/05/2019 10:20
1,1,2,2-Tetrachloroethane	ND	0.00025	0.00050	1	08/05/2019 10:20
Tetrachloroethene	ND	0.00025	0.00050	1	08/05/2019 10:20
Toluene	ND	0.00025	0.00050	1	08/05/2019 10:20
1,1,1-Trichloroethane	ND	0.00025	0.00050	1	08/05/2019 10:20
1,1,2-Trichloroethane	ND	0.00018	0.00050	1	08/05/2019 10:20
Trichloroethene	ND	0.00025	0.00050	1	08/05/2019 10:20
Trichlorofluoromethane	ND	0.00025	0.00050	1	08/05/2019 10:20
Vinyl chloride	ND	0.00025	0.00050	1	08/05/2019 10:20

Surrogates	REC (%)	Qualifiers	Limits	
Dibromofluoromethane	92		78-112	08/05/2019 10:20
Toluene-d8	80	S	82-109	08/05/2019 10:20
4-BFB	89		63-121	08/05/2019 10:20

Analyst(s): KF

Analytical Comments: c2

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Received:	8/1/19 17:18	**Extraction Method:**	E625
Date Prepared:	8/2/19	**Analytical Method:**	E625
Project:	Marsh Landing-DDSD Semi-Annual	**Unit:**	mg/L

Semi-Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	1908072-001I	Water	08/01/2019 13:15	GC21 08021926.D	182819

Analytes	Result	MDL	RL	DF	Date Analyzed
Acenaphthene	ND	0.000005	0.000011	1	08/02/2019 19:46
Acenaphthylene	ND	0.000005	0.000011	1	08/02/2019 19:46
Anthracene	ND	0.000004	0.000011	1	08/02/2019 19:46
Benzidine	ND	0.00058	0.0016	1	08/02/2019 19:46
Benzo (a) anthracene	ND	0.000020	0.000021	1	08/02/2019 19:46
Benzo (a) pyrene	ND	0.000006	0.000011	1	08/02/2019 19:46
Benzo (b) fluoranthene	ND	0.000004	0.0000053	1	08/02/2019 19:46
Benzo (g,h,i) perylene	ND	0.000007	0.000021	1	08/02/2019 19:46
Benzo (k) fluoranthene	ND	0.000006	0.000011	1	08/02/2019 19:46
Bis (2-chloroethoxy) Methane	ND	0.00089	0.0011	1	08/02/2019 19:46
Bis (2-chloroethyl) Ether	ND	0.000002	0.0000053	1	08/02/2019 19:46
Bis (2-chloroisopropyl) Ether	ND	0.000009	0.000011	1	08/02/2019 19:46
Bis (2-ethylhexyl) Phthalate	**0.000049**	0.000036	0.000043	1	08/02/2019 19:46
4-Bromophenyl Phenyl Ether	ND	0.00048	0.0011	1	08/02/2019 19:46
Butylbenzyl Phthalate	ND	0.00010	0.0021	1	08/02/2019 19:46
4-Chloro-3-methylphenol	ND	0.00058	0.0011	1	08/02/2019 19:46
2-Chloronaphthalene	ND	0.00061	0.0011	1	08/02/2019 19:46
2-Chlorophenol	ND	0.000009	0.000021	1	08/02/2019 19:46
4-Chlorophenyl Phenyl Ether	ND	0.00051	0.0011	1	08/02/2019 19:46
Chrysene	ND	0.000009	0.000011	1	08/02/2019 19:46
Dibenzo (a,h) anthracene	ND	0.000010	0.000011	1	08/02/2019 19:46
Di-n-butyl Phthalate	**0.000027**	0.000007	0.000021	1	08/02/2019 19:46
1,2-Dichlorobenzene	ND	0.0012	0.0021	1	08/02/2019 19:46
1,3-Dichlorobenzene	ND	0.0013	0.0021	1	08/02/2019 19:46
1,4-Dichlorobenzene	ND	0.0011	0.0021	1	08/02/2019 19:46
3,3-Dichlorobenzidine	ND	0.000008	0.000021	1	08/02/2019 19:46
2,4-Dichlorophenol	ND	0.000006	0.000011	1	08/02/2019 19:46
Diethyl Phthalate	**0.000054**	0.000016	0.000021	1	08/02/2019 19:46
2,4-Dimethylphenol	ND	0.00086	0.0011	1	08/02/2019 19:46
Dimethyl Phthalate	ND	0.000012	0.000021	1	08/02/2019 19:46
4,6-Dinitro-2-methylphenol	ND	0.0019	0.0053	1	08/02/2019 19:46
2,4-Dinitrophenol	ND	0.00016	0.00053	1	08/02/2019 19:46
2,4-Dinitrotoluene	ND	0.000007	0.000027	1	08/02/2019 19:46
2,6-Dinitrotoluene	ND	0.000005	0.000011	1	08/02/2019 19:46
Di-n-octyl Phthalate	ND	0.000021	0.00013	1	08/02/2019 19:46
1,2-Diphenylhydrazine	ND	0.00043	0.0011	1	08/02/2019 19:46
Fluoranthene	ND	0.000007	0.000011	1	08/02/2019 19:46

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Received:	8/1/19 17:18	**Extraction Method:**	E625
Date Prepared:	8/2/19	**Analytical Method:**	E625
Project:	Marsh Landing-DDSD Semi-Annual	**Unit:**	mg/L

Semi-Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1908072-001I**	**Water**	**08/01/2019 13:15**	**GC21 08021926.D**	**182819**

Analytes	Result	MDL	RL	DF	Date Analyzed
Fluorene	ND	0.000006	0.000011	1	08/02/2019 19:46
Hexachlorobenzene	ND	0.000004	0.0000053	1	08/02/2019 19:46
Hexachlorobutadiene	ND	0.000003	0.000011	1	08/02/2019 19:46
Hexachlorocyclopentadiene	ND	0.00051	0.0053	1	08/02/2019 19:46
Hexachloroethane	ND	0.000007	0.000011	1	08/02/2019 19:46
Indeno (1,2,3-cd) pyrene	ND	0.000006	0.000021	1	08/02/2019 19:46
Isophorone	ND	0.00070	0.0011	1	08/02/2019 19:46
Naphthalene	ND	0.000005	0.000011	1	08/02/2019 19:46
Nitrobenzene	ND	0.0010	0.0011	1	08/02/2019 19:46
2-Nitrophenol	ND	0.0026	0.0053	1	08/02/2019 19:46
4-Nitrophenol	ND	0.0012	0.0053	1	08/02/2019 19:46
N-Nitrosodiphenylamine	ND	0.00044	0.0011	1	08/02/2019 19:46
N-Nitrosodi-n-propylamine	ND	0.00069	0.0011	1	08/02/2019 19:46
Pentachlorophenol	ND	0.000058	0.00027	1	08/02/2019 19:46
Phenanthrene	ND	0.000005	0.000021	1	08/02/2019 19:46
Phenol	ND	0.000009	0.000021	1	08/02/2019 19:46
Pyrene	ND	0.000006	0.000021	1	08/02/2019 19:46
1,2,4-Trichlorobenzene	ND	0.000095	0.0011	1	08/02/2019 19:46
2,4,6-Trichlorophenol	ND	0.000005	0.000053	1	08/02/2019 19:46
N-Nitrosodimethylamine	ND	3.0	0.0053	1	08/02/2019 19:46

Surrogates	REC (%)	Limits	
2-Fluorophenol	46	1-92	08/02/2019 19:46
Phenol-d5	33	5-104	08/02/2019 19:46
Nitrobenzene-d5	65	4-143	08/02/2019 19:46
2-Fluorobiphenyl	67	9-134	08/02/2019 19:46
2,4,6-Tribromophenol	83	1-159	08/02/2019 19:46
Terphenyl-d14	62	5-150	08/02/2019 19:46

Analyst(s): REB Analytical Comments: a19

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Received:	8/1/19 17:18	**Extraction Method:**	E350.1
Date Prepared:	8/8/19	**Analytical Method:**	E350.1
Project:	Marsh Landing-DDSD Semi-Annual	**Unit:**	mg/L

Ammonia As Nitrogen

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1908072-001E**	**Water**	**08/01/2019 13:15**	**WC_SKALAR 080819A1_32**	**183120**

Analytes	Result	MDL	RL	DF	Date Analyzed
Ammonia, total as N	**5.0**	0.084	0.10	1	08/08/2019 11:37

Analyst(s): NM

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Received:	8/1/19 17:18	**Extraction Method:**	Kelada-01
Date Prepared:	8/2/19	**Analytical Method:**	Kelada-01
Project:	Marsh Landing-DDSD Semi-Annual	**Unit:**	mg/L

Cyanide, Total

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	1908072-001C	Water	08/01/2019 13:15	WC_SKALAR 080219A1_43	182807

Analytes	Result	MDL	RL	DF	Date Analyzed
Total Cyanide	ND	0.00084	0.0010	1	08/02/2019 11:15

Analyst(s): RB

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Received:	8/1/19 17:18	**Extraction Method:**	E420.4
Date Prepared:	8/6/19	**Analytical Method:**	E420.4
Project:	Marsh Landing-DDSD Semi-Annual	**Unit:**	mg/L

Phenolics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1908072-001D**	**Water**	**08/01/2019 13:15**	**WC_SKALAR 080619C1_29**	**183042**

Analytes	Result	MDL	RL	DF	Date Analyzed
Phenolics	ND	0.0020	0.0020	1	08/06/2019 14:00

Analyst(s): NM

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/8/19	**BatchID:**	183175
Date Analyzed:	8/8/19	**Extraction Method:**	E1664A_SG
Instrument:	O&G	**Analytical Method:**	E1664A
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-183175

QC Summary Report for E1664A

Analyte	MB Result	MDL	RL			
SGT-HEM	ND	0.72	5.0	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
SGT-HEM	8.9	9.3	10.42	85	89	64-132	4.99	30

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/6/19	**BatchID:**	183009
Date Analyzed:	8/6/19	**Extraction Method:**	E1664A
Instrument:	O&G	**Analytical Method:**	E1664A
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-183009

QC Summary Report for E1664A

Analyte	MB Result	MDL	RL			
HEM	ND	1.2	5.0	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
HEM	18	19	20.83	89	92	78-114	3.26	30

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/2/19	**BatchID:**	182818
Date Analyzed:	8/2/19 - 8/3/19	**Extraction Method:**	E608/SW3620B
Instrument:	GC22	**Analytical Method:**	E608
Matrix:	Water	**Unit:**	µg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-182818

QC Summary Report for E608 w/ Florisil Clean-up

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Aldrin	ND	0.00028	0.0010	-	-	-
a-BHC	ND	0.00031	0.0010	-	-	-
b-BHC	ND	0.00069	0.0010	-	-	-
d-BHC	ND	0.00014	0.0010	-	-	-
g-BHC	ND	0.00045	0.0010	-	-	-
Chlordane (Technical)	ND	0.0023	0.020	-	-	-
a-Chlordane	ND	0.00085	0.0010	-	-	-
g-Chlordane	ND	0.00015	0.0010	-	-	-
p,p-DDD	ND	0.00011	0.0010	-	-	-
p,p-DDE	ND	0.00018	0.0010	-	-	-
p,p-DDT	ND	0.00017	0.0010	-	-	-
Dieldrin	ND	0.00014	0.0010	-	-	-
Endosulfan I	ND	0.00011	0.0010	-	-	-
Endosulfan II	ND	0.00046	0.0010	-	-	-
Endosulfan sulfate	ND	0.00033	0.0020	-	-	-
Endrin	ND	0.00018	0.0010	-	-	-
Endrin aldehyde	ND	0.00053	0.0010	-	-	-
Endrin ketone	ND	0.00026	0.0010	-	-	-
Heptachlor	ND	0.00041	0.0010	-	-	-
Heptachlor epoxide	ND	0.00025	0.0010	-	-	-
Methoxychlor	ND	0.00012	0.0010	-	-	-
Toxaphene	ND	0.0020	0.020	-	-	-
Aroclor1016	ND	0.0019	0.020	-	-	-
Aroclor1221	ND	0.0024	0.020	-	-	-
Aroclor1232	ND	0.0038	0.020	-	-	-
Aroclor1242	ND	0.0028	0.020	-	-	-
Aroclor1248	ND	0.0018	0.020	-	-	-
Aroclor1254	ND	0.0015	0.020	-	-	-
Aroclor1260	ND	0.0028	0.020	-	-	-
Surrogate Recovery						
Decachlorobiphenyl	0.048			0.05	96	35-113

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/2/19	**BatchID:**	182818
Date Analyzed:	8/2/19 - 8/3/19	**Extraction Method:**	E608/SW3620B
Instrument:	GC22	**Analytical Method:**	E608
Matrix:	Water	**Unit:**	µg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-182818

QC Summary Report for E608 w/ Florisil Clean-up

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aldrin	0.042	0.041	0.050	83	83	50-103	0	20
a-BHC	0.049	0.049	0.050	97	97	63-131	0	20
b-BHC	0.043	0.042	0.050	86	85	56-112	1.35	20
d-BHC	0.050	0.049	0.050	100	99	63-132	1.85	20
g-BHC	0.050	0.049	0.050	99	99	61-135	0	20
a-Chlordane	0.043	0.042	0.050	86	83	54-113	2.94	20
g-Chlordane	0.045	0.044	0.050	90	88	55-117	2.83	20
p,p-DDD	0.046	0.044	0.050	92	87	56-135	5.43	20
p,p-DDE	0.049	0.046	0.050	97	93	56-131	4.59	20
p,p-DDT	0.048	0.045	0.050	96	91	47-153	5.63	20
Dieldrin	0.054	0.052	0.050	107	103	67-152	3.54	20
Endosulfan I	0.049	0.046	0.050	97	93	56-137	4.48	20
Endosulfan II	0.049	0.046	0.050	98	93	50-113	5.48	20
Endosulfan sulfate	0.048	0.045	0.050	96	91	57-121	5.65	20
Endrin	0.054	0.052	0.050	109	104	60-150	4.60	20
Endrin aldehyde	0.052	0.049	0.050	105	99	47-121	5.73	20
Endrin ketone	0.048	0.045	0.050	95	90	48-130	5.34	20
Heptachlor	0.043	0.043	0.050	87	87	46-133	0	20
Heptachlor epoxide	0.044	0.043	0.050	88	86	54-105	2.12	20
Methoxychlor	0.057	0.054	0.050	114	109	54-135	5.17	20
Aroclor1016	0.13	0.14	0.15	89	93	50-114	4.58	20
Aroclor1260	0.14	0.15	0.15	94	99	42-121	6.03	20
Surrogate Recovery								
Decachlorobiphenyl	0.048	0.045	0.050	96	90	35-113	6.75	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/2/19	**BatchID:**	182830
Date Analyzed:	8/2/19	**Extraction Method:**	E624
Instrument:	GC45	**Analytical Method:**	E624
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-182830

QC Summary Report for E624

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acrolein (Propenal)	ND	0.0025	0.0050	-	-	-
Acrylonitrile	ND	0.0010	0.0020	-	-	-
2-Chloroethyl Vinyl Ether	ND	0.00050	0.0010	-	-	-
Surrogate Recovery						
Dibromofluoromethane	0.027			0.025	107	68-160

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acrolein (Propenal)	0.016	0.017	0.020	82	83	71-140	1.27	20
Acrylonitrile	0.019	0.019	0.020	95	97	67-145	1.94	20
2-Chloroethyl Vinyl Ether	0.022	0.023	0.020	111	114	70-124	1.91	20
Surrogate Recovery								
Dibromofluoromethane	0.027	0.027	0.025	107	107	68-160	0	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/2/19	**BatchID:**	182831
Date Analyzed:	8/2/19	**Extraction Method:**	E624
Instrument:	GC18	**Analytical Method:**	E624
Matrix:	Water	**Unit:**	µg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-182831

QC Summary Report for E624

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Benzene	ND	0.051	0.20	-	-	-
Bromodichloromethane	ND	0.20	0.50	-	-	-
Bromoform	ND	0.066	0.50	-	-	-
Bromomethane	ND	0.16	0.50	-	-	-
Carbon tetrachloride	ND	0.069	0.50	-	-	-
Chlorobenzene	ND	0.050	0.50	-	-	-
Chloroethane	ND	0.31	0.50	-	-	-
Chloroform	ND	0.064	0.50	-	-	-
Chloromethane	ND	0.13	0.50	-	-	-
Dibromochloromethane	ND	0.080	0.50	-	-	-
1,2-Dichlorobenzene	ND	0.080	0.50	-	-	-
1,3-Dichlorobenzene	ND	0.071	0.50	-	-	-
1,4-Dichlorobenzene	ND	0.072	0.50	-	-	-
1,1-Dichloroethane	ND	0.060	0.50	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.090	0.50	-	-	-
1,1-Dichloroethene	ND	0.086	0.50	-	-	-
trans-1,2-Dichloroethene	ND	0.060	0.50	-	-	-
1,2-Dichloropropane	ND	0.055	0.50	-	-	-
cis-1,3-Dichloropropene	ND	0.090	0.50	-	-	-
trans-1,3-Dichloropropene	ND	0.070	0.50	-	-	-
Ethylbenzene	ND	0.050	0.50	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.10	0.50	-	-	-
Methylene chloride	ND	1.2	2.0	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.11	0.50	-	-	-
Tetrachloroethene	ND	0.082	0.50	-	-	-
Toluene	ND	0.25	0.50	-	-	-
1,1,1-Trichloroethane	ND	0.050	0.50	-	-	-
1,1,2-Trichloroethane	ND	0.18	0.50	-	-	-
Trichloroethene	ND	0.060	0.50	-	-	-
Trichlorofluoromethane	ND	0.047	0.50	-	-	-
Vinyl chloride	ND	0.070	0.50	-	-	-
Surrogate Recovery						
Dibromofluoromethane	25			25	101	76-110
Toluene-d8	22			25	89	84-111
4-BFB	2.2			2.5	87	64-121

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/2/19	**BatchID:**	182831
Date Analyzed:	8/2/19	**Extraction Method:**	E624
Instrument:	GC18	**Analytical Method:**	E624
Matrix:	Water	**Unit:**	µg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-182831

QC Summary Report for E624

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Benzene	3.9	3.9	4	97	98	71-126	1.49	20
Bromodichloromethane	3.9	4.0	4	97	100	63-119	3.25	20
Bromoform	3.4	3.4	4	85	85	46-117	0	20
Bromomethane	3.7	2.5	4	93	63	32-171	38.9,F2	20
Carbon tetrachloride	3.8	3.9	4	95	97	67-122	2.26	20
Chlorobenzene	3.9	3.8	4	96	95	71-117	1.59	20
Chloroethane	3.5	3.0	4	86	74	53-136	15.5	20
Chloroform	4.1	4.3	4	102	107	67-126	4.92	20
Chloromethane	3.1	2.6	4	76	65	42-148	15.8	20
Dibromochloromethane	3.6	3.7	4	91	92	52-120	1.67	20
1,2-Dichlorobenzene	3.6	3.7	4	90	93	71-117	2.57	20
1,3-Dichlorobenzene	3.5	3.6	4	88	89	74-116	1.51	20
1,4-Dichlorobenzene	3.7	3.7	4	92	94	71-115	1.54	20
1,1-Dichloroethane	4.0	4.2	4	100	105	68-128	5.22	20
1,2-Dichloroethane (1,2-DCA)	4.0	4.3	4	101	107	61-123	6.15	20
1,1-Dichloroethene	4.0	4.3	4	101	107	65-126	5.64	20
trans-1,2-Dichloroethene	4.1	4.3	4	102	108	70-126	5.14	20
1,2-Dichloropropane	3.8	3.9	4	95	97	67-124	2.47	20
cis-1,3-Dichloropropene	3.8	3.9	4	96	98	63-119	1.85	20
trans-1,3-Dichloropropene	3.8	3.9	4	96	97	63-116	1.66	20
Ethylbenzene	3.9	3.9	4	98	96	69-120	1.15	20
Methyl-t-butyl ether (MTBE)	4.0	4.2	4	100	105	60-121	4.83	20
Methylene chloride	3.9	3.9	4	97	97	40-148	0	20
1,1,2,2-Tetrachloroethane	3.6	3.6	4	91	90	60-116	0.880	20
Tetrachloroethene	3.8	3.8	4	95	94	60-131	1.25	20
Toluene	3.8	3.8	4	95	95	67-115	0	20
1,1,1-Trichloroethane	3.9	4.0	4	98	100	67-124	2.19	20
1,1,2-Trichloroethane	3.9	3.9	4	96	98	62-117	1.10	20
Trichloroethene	3.8	3.8	4	95	95	69-120	0	20
Trichlorofluoromethane	4.0	4.2	4	99	106	60-134	6.36	20
Vinyl chloride	1.7	1.5	2	86	77	52-145	10.4	20
Surrogate Recovery								
Dibromofluoromethane	24	25	25	97	101	76-110	4.38	20
Toluene-d8	22	22	25	88	88	84-111	0	20
4-BFB	2.3	2.2	2.5	91	90	64-121	1.32	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/2/19	**BatchID:**	182819
Date Analyzed:	8/2/19	**Extraction Method:**	E625
Instrument:	GC21	**Analytical Method:**	E625
Matrix:	Water	**Unit:**	µg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-182819

QC Summary Report for E625

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acenaphthene	ND	0.0051	0.010	-	-	-
Acenaphthylene	ND	0.0050	0.010	-	-	-
Anthracene	ND	0.0043	0.010	-	-	-
Benzidine	ND	0.55	5.0	-	-	-
Benzo (a) anthracene	ND	0.019	0.020	-	-	-
Benzo (a) pyrene	ND	0.0064	0.010	-	-	-
Benzo (b) fluoranthene	ND	0.0040	0.0050	-	-	-
Benzo (g,h,i) perylene	ND	0.0071	0.020	-	-	-
Benzo (k) fluoranthene	ND	0.0063	0.010	-	-	-
Benzyl Alcohol	ND	2.9	5.0	-	-	-
Bis (2-chloroethoxy) Methane	ND	0.84	1.0	-	-	-
Bis (2-chloroethyl) Ether	ND	0.0021	0.0050	-	-	-
Bis (2-chloroisopropyl) Ether	ND	0.0089	0.010	-	-	-
Bis (2-ethylhexyl) Adipate	ND	0.39	3.0	-	-	-
Bis (2-ethylhexyl) Phthalate	ND	0.034	0.040	-	-	-
4-Bromophenyl Phenyl Ether	ND	0.45	1.0	-	-	-
Butylbenzyl Phthalate	ND	0.097	0.20	-	-	-
4-Chloroaniline	ND	0.0051	0.020	-	-	-
4-Chloro-3-methylphenol	ND	0.55	1.0	-	-	-
2-Chloronaphthalene	ND	0.57	1.0	-	-	-
2-Chlorophenol	ND	0.0086	0.020	-	-	-
4-Chlorophenyl Phenyl Ether	ND	0.48	1.0	-	-	-
Chrysene	ND	0.0093	0.010	-	-	-
Dibenzo (a,h) anthracene	ND	0.0094	0.010	-	-	-
Dibenzofuran	ND	0.37	1.0	-	-	-
Di-n-butyl Phthalate	ND	0.0068	0.020	-	-	-
1,2-Dichlorobenzene	ND	1.1	2.0	-	-	-
1,3-Dichlorobenzene	ND	1.2	2.0	-	-	-
1,4-Dichlorobenzene	ND	1.0	2.0	-	-	-
3,3-Dichlorobenzidine	ND	0.0081	0.020	-	-	-
2,4-Dichlorophenol	ND	0.0061	0.010	-	-	-
Diethyl Phthalate	ND	0.015	0.020	-	-	-
2,4-Dimethylphenol	ND	0.81	1.0	-	-	-
Dimethyl Phthalate	ND	0.011	0.020	-	-	-
4,6-Dinitro-2-methylphenol	ND	1.8	5.0	-	-	-
2,4-Dinitrophenol	ND	0.15	0.50	-	-	-
2,4-Dinitrotoluene	ND	0.0066	0.025	-	-	-
2,6-Dinitrotoluene	ND	0.0053	0.010	-	-	-

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/2/19	**BatchID:**	182819
Date Analyzed:	8/2/19	**Extraction Method:**	E625
Instrument:	GC21	**Analytical Method:**	E625
Matrix:	Water	**Unit:**	µg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-182819

QC Summary Report for E625

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Di-n-octyl Phthalate	ND	0.020	0.12	-	-	-
1,2-Diphenylhydrazine	ND	0.40	1.0	-	-	-
Fluoranthene	ND	0.0068	0.010	-	-	-
Fluorene	ND	0.0064	0.010	-	-	-
Hexachlorobenzene	ND	0.0043	0.0050	-	-	-
Hexachlorobutadiene	ND	0.0035	0.010	-	-	-
Hexachlorocyclopentadiene	ND	0.48	5.0	-	-	-
Hexachloroethane	ND	0.0068	0.010	-	-	-
Indeno (1,2,3-cd) pyrene	ND	0.0065	0.020	-	-	-
Isophorone	ND	0.66	1.0	-	-	-
2-Methylnaphthalene	ND	0.0053	0.010	-	-	-
2-Methylphenol (o-Cresol)	ND	0.53	1.0	-	-	-
3 & 4-Methylphenol (m,p-Cresol)	ND	0.41	1.0	-	-	-
Naphthalene	ND	0.0048	0.010	-	-	-
2-Nitroaniline	ND	1.8	5.0	-	-	-
3-Nitroaniline	ND	3.1	5.0	-	-	-
4-Nitroaniline	ND	2.7	5.0	-	-	-
Nitrobenzene	ND	0.95	1.0	-	-	-
2-Nitrophenol	ND	2.4	5.0	-	-	-
4-Nitrophenol	ND	1.1	5.0	-	-	-
N-Nitrosodiphenylamine	ND	0.41	1.0	-	-	-
N-Nitrosodi-n-propylamine	ND	0.65	1.0	-	-	-
Pentachlorophenol	ND	0.055	0.25	-	-	-
Phenanthrene	ND	0.0055	0.020	-	-	-
Phenol	ND	0.0088	0.020	-	-	-
Pyrene	ND	0.0057	0.020	-	-	-
1,2,4-Trichlorobenzene	ND	0.089	1.0	-	-	-
2,4,5-Trichlorophenol	ND	0.0061	0.050	-	-	-
2,4,6-Trichlorophenol	ND	0.0049	0.050	-	-	-
N-Nitrosodimethylamine	ND	2.8	5.0	-	-	-

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/2/19	**BatchID:**	182819
Date Analyzed:	8/2/19	**Extraction Method:**	E625
Instrument:	GC21	**Analytical Method:**	E625
Matrix:	Water	**Unit:**	µg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-182819

QC Summary Report for E625

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
2-Fluorophenol	4.4			5	88	36-131
Phenol-d5	4.4			5	88	43-149
Nitrobenzene-d5	3.7			5	74	39-150
2-Fluorobiphenyl	4.1			5	82	43-133
2,4,6-Tribromophenol	4.4			5	88	42-147
Terphenyl-d14	3.0			5	60	44-124

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/2/19	**BatchID:**	182819
Date Analyzed:	8/2/19	**Extraction Method:**	E625
Instrument:	GC21	**Analytical Method:**	E625
Matrix:	Water	**Unit:**	µg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-182819

QC Summary Report for E625

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acenaphthene	0.42	0.42	0.50	85	85	47-145	0	25
Acenaphthylene	0.46	0.45	0.50	91	91	33-145	0	25
Anthracene	0.44	0.42	0.50	89	85	27-133	4.56	25
Benzidine	30	29	50	60	58	33-87	3.74	25
Benzo (a) anthracene	0.43	0.40	0.50	85	80	33-143	6.53	25
Benzo (a) pyrene	0.47	0.44	0.50	94	88	17-163	5.95	25
Benzo (b) fluoranthene	0.47	0.44	0.50	93	88	24-159	5.70	25
Benzo (g,h,i) perylene	0.47	0.43	0.50	93	87	1-219	7.25	25
Benzo (k) fluoranthene	0.47	0.45	0.50	95	90	11-162	5.80	25
Benzyl Alcohol	45	42	50	90	84	38-130	5.80	25
Bis (2-chloroethoxy) Methane	9.5	9.5	10	95	95	33-184	0	25
Bis (2-chloroethyl) Ether	0.39	0.37	0.50	79	75	12-158	5.80	25
Bis (2-chloroisopropyl) Ether	0.46	0.40	0.50	91	80	36-166	12.4	25
Bis (2-ethylhexyl) Adipate	8.7	8.2	10	87	82	49-109	6.36	25
Bis (2-ethylhexyl) Phthalate	0.45	0.43	0.50	91	86	8-158	5.47	25
4-Bromophenyl Phenyl Ether	10	9.5	10	100	95	53-127	4.79	25
Butylbenzyl Phthalate	0.47	0.45	0.50	94	90	1-152	4.24	25
4-Chloroaniline	0.48	0.46	0.50	96	92	57-121	3.88	25
4-Chloro-3-methylphenol	10	9.4	10	103	94	22-147	9.68	25
2-Chloronaphthalene	8.1	9.0	10	81	90	60-118	9.85	25
2-Chlorophenol	0.37	0.36	0.50	75	71	23-134	4.56	25
4-Chlorophenyl Phenyl Ether	9.2	9.0	10	92	90	25-158	1.58	25
Chrysene	0.44	0.42	0.50	87	84	17-168	3.52	25
Dibenzo (a,h) anthracene	0.50	0.47	0.50	100	94	1-227	6.12	25
Dibenzofuran	8.6	8.6	10	86	86	57-108	0	25
Di-n-butyl Phthalate	0.47	0.45	0.50	93	90	1-118	2.80	25
1,2-Dichlorobenzene	7.6	7.4	10	76	74	32-129	3.07	25
1,3-Dichlorobenzene	8.0	7.6	10	80	76	1-172	5.10	25
1,4-Dichlorobenzene	9.2	8.6	10	92	86	20-124	7.02	25
3,3-Dichlorobenzidine	0.47	0.45	0.50	94	90	1-262	4.27	25
2,4-Dichlorophenol	8.2	8.0	10	82	80	39-135	2.51	25
Diethyl Phthalate	0.44	0.44	0.50	89	89	1-114	0	25
2,4-Dimethylphenol	10	9.6	10	102	96	32-119	5.81	25
Dimethyl Phthalate	0.48	0.47	0.50	96	95	1-112	1.69	25
4,6-Dinitro-2-methylphenol	40	39	50	81	78	33-117	2.77	25
2,4-Dinitrophenol	9.2	9.4	10	92	94	1-191	2.98	25
2,4-Dinitrotoluene	0.44	0.45	0.50	88	89	39-139	1.78	25
2,6-Dinitrotoluene	0.44	0.44	0.50	87	87	50-158	0	25

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/2/19	**BatchID:**	182819
Date Analyzed:	8/2/19	**Extraction Method:**	E625
Instrument:	GC21	**Analytical Method:**	E625
Matrix:	Water	**Unit:**	µg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-182819

QC Summary Report for E625

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Di-n-octyl Phthalate	0.50	0.48	0.50	99	96	4-146	3.45	25
1,2-Diphenylhydrazine	9.8	9.2	10	98	92	53-110	6.55	25
Fluoranthene	0.49	0.47	0.50	98	95	26-137	3.09	25
Fluorene	0.47	0.47	0.50	95	93	59-121	1.55	25
Hexachlorobenzene	0.43	0.42	0.50	86	84	1-152	2.04	25
Hexachlorobutadiene	0.40	0.39	0.50	80	78	24-116	2.67	25
Hexachlorocyclopentadiene	34	32	50	69	64	26-107	7.08	25
Hexachloroethane	0.38	0.36	0.50	75	71	40-113	5.29	25
Indeno (1,2,3-cd) pyrene	0.49	0.47	0.50	98	93	1-171	5.06	25
Isophorone	9.0	8.6	10	90	86	21-196	4.87	25
2-Methylnaphthalene	0.49	0.47	0.50	97	94	51-132	3.39	25
2-Methylphenol (o-Cresol)	7.7	7.2	10	77	72	47-127	6.41	25
3 & 4-Methylphenol (m,p-Cresol)	9.2	8.7	10	92	87	51-126	5.29	25
Naphthalene	0.43	0.41	0.50	85	83	21-133	3.13	25
2-Nitroaniline	45	44	50	91	88	56-126	2.31	25
3-Nitroaniline	45	43	50	89	87	57-124	2.78	25
4-Nitroaniline	44	43	50	87	87	58-130	0	25
Nitrobenzene	8.2	7.7	10	82	77	35-180	5.80	25
2-Nitrophenol	46	44	50	92	89	29-182	3.79	25
4-Nitrophenol	44	44	50	88	88	1-132	0	25
N-Nitrosodiphenylamine	9.0	8.6	10	90	86	56-106	4.96	25
N-Nitrosodi-n-propylamine	8.0	7.4	10	80	74	1-230	7.94	25
Pentachlorophenol	2.3	2.2	2.5	92	88	14-176	4.43	25
Phenanthrene	0.45	0.43	0.50	90	87	54-120	3.24	25
Phenol	1.8	1.8	2	92	88	5-112	5.13	25
Pyrene	0.49	0.46	0.50	98	91	52-115	6.58	25
1,2,4-Trichlorobenzene	9.2	8.9	10	92	89	44-142	3.24	25
2,4,5-Trichlorophenol	0.46	0.46	0.50	92	92	52-119	0	25
2,4,6-Trichlorophenol	0.46	0.45	0.50	91	91	37-144	0	25
N-Nitrosodimethylamine	37	35	50	75	71	42-121	5.17	25

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/2/19	**BatchID:**	182819
Date Analyzed:	8/2/19	**Extraction Method:**	E625
Instrument:	GC21	**Analytical Method:**	E625
Matrix:	Water	**Unit:**	µg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-182819

QC Summary Report for E625

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Surrogate Recovery								
2-Fluorophenol	3.9	3.8	5	78	75	36-131	3.93	25
Phenol-d5	4.1	4.2	5	83	84	43-149	1.42	25
Nitrobenzene-d5	4.3	4.3	5	86	86	39-150	0	25
2-Fluorobiphenyl	4.2	4.5	5	84	90	43-133	6.42	25
2,4,6-Tribromophenol	4.6	4.7	5	93	95	42-147	2.14	25
Terphenyl-d14	3.1	3.3	5	61	65	44-124	6.56	25

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/8/19	**BatchID:**	183120
Date Analyzed:	8/8/19	**Extraction Method:**	E350.1
Instrument:	WC_SKALAR	**Analytical Method:**	E350.1
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-183120

QC Summary Report for E350.1

Analyte	MB Result	MDL	RL			
Ammonia, total as N	ND	0.084	0.10	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Ammonia, total as N	4.1	3.9	4	102	97	88-113	5.07	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/2/19	**BatchID:**	182807
Date Analyzed:	8/2/19	**Extraction Method:**	Kelada-01
Instrument:	WC_SKALAR	**Analytical Method:**	Kelada-01
Matrix:	Water	**Unit:**	µg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-182807

QC Summary Report for Kelada-01

Analyte	MB Result	MDL	RL			
Total Cyanide	ND	0.84	1.0	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Total Cyanide	41	42	40	103	105	80-120	2.27	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1908072
Date Prepared:	8/6/19	**BatchID:**	183042
Date Analyzed:	8/6/19	**Extraction Method:**	E420.4
Instrument:	WC_SKALAR	**Analytical Method:**	E420.4
Matrix:	Water	**Unit:**	µg/L
Project:	Marsh Landing-DDSD Semi-Annual	**Sample ID:**	MB/LCS/LCSD-183042

QC Summary Report for E420.4

Analyte	MB Result	MDL	RL			
Phenolics	ND	2.0	2.0	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Phenolics	41	42	40	103	105	80-120	1.89	20

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1908072 **ClientCode: GOA**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag
☐ Detection Summary ☐ Dry-Weight

Report to:
David Frandsen
NRG Energy, LLC
3201 Wilbur Avenue
Antioch, CA 94509
(925) 427-3479 FAX: (925) 779-6679

Email: David.Frandsen@nrg.com
cc/3rd Party: joe.moura@nrg.com; james.robinson@nrg.
PO: 4501868678
Project: Marsh Landing-DDSD Semi-Annual

Bill to:
Accounts Payable
NRG
112 Telly Street
New Roads, LA 70760
invoices@clearwayenergy.com

Requested TAT: **5 days;**

Date Received: **08/01/2019**
Date Logged: **08/01/2019**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1908072-001	FAC Combined Wastewater	Water	8/1/2019 13:15	☐	B	A	F	H	I	E	C	D				

Test Legend:

1	1664A_SG_W	2	1664A_W	3	608_W [J]	4	624ACR+2CEVE_W(mg/L)
5	625_SCSM_W(ppm)	6	AMMONIA_W	7	CN_PPM_W	8	PHENOLICS_W(ppm)
9		10		11		12	

Project Manager: Angela Rydelius

Prepared by: Julia Danielsson

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: NRG ENERGY, LLC
Client Contact: David Frandsen
Contact's Email: David.Frandsen@nrg.com

Project: Marsh Landing-DDSD Semi-Annual
Comments:

Work Order: 1908072
QC Level: LEVEL 2
Date Logged: 8/1/2019

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1908072-001A	FAC Combined Wastewater	Water	E1664A (HEM; Oil & Grease w/o S.G. Clean-Up)	1	1LA w/ HCl	☐	8/1/2019 13:15	5 days	None	☐	
1908072-001B	FAC Combined Wastewater	Water	E1664A (SGT- HEM; Non-polar Material)	1	1LA w/ HCl	☐	8/1/2019 13:15	5 days	None	☐	
1908072-001C	FAC Combined Wastewater	Water	Kelada-01 (Cyanide, Total)	1	250mL aHDPE w/ NaOH + Na2S2O3	☐	8/1/2019 13:15	5 days	None	☐	
1908072-001D	FAC Combined Wastewater	Water	E420.4 (Phenolics)	1	500mL aG w/ H2SO4	☐	8/1/2019 13:15	5 days	None	☐	
1908072-001E	FAC Combined Wastewater	Water	E350.1 (Ammonia)	1	500mL aHDPE w/ H2SO4	☐	8/1/2019 13:15	5 days	None	☐	
1908072-001F	FAC Combined Wastewater	Water	E608 (OC Pesticides+PCBs w/ Florisil Clean-up)	1	1LA, Unpres	☐	8/1/2019 13:15	5 days	None	☐	
1908072-001H	FAC Combined Wastewater	Water	E624 (ACRO, ACRY, & 2-CEVE)	2	VOA, Unpres	☐	8/1/2019 13:15	5 days	None	☐	
1908072-001I	FAC Combined Wastewater	Water	E625 (SVOCs)	1	1LA Narrow Mouth, Unpres	☐	8/1/2019 13:15	5 days	None	☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

Chain of Custody

Page 1 of 3

Marsh Landing Generating Station
3201 Wilbur Avenue, P.O. Box 1687, Antioch, CA 94509
Phone: (925) 779-6500 Fax: (925) 779-6509

1908072

SAMPLES SUBMITTED TO		SEND INVOICE TO		PROJECT	
Laboratory:	McCampbell Analytical, Inc.	Company:	NRG Energy, Inc	Plant:	Marsh Landing
Attention:		Attention:	Sandra Herndon	Title:	DDSD
Address:	1534 Willow Pass Road, Pittsburg, CA 94565-1701	Address:	112 Telly St. New Roads, LA 70760	Phase:	Semi-Annual
Phone/Fax:	925.252.9262/ 925.252.9269	P.O. No.:	4501868678	Manager:	David Frandsen

SAMPLE INFORMATION								CONTAINER INFORMATION				ANALYSIS REQUEST			
Sample Number	Sample Date	Sample Collection Time	Regulatory Driver	Regulatory Frequency	Sample Medium	Sample Type	Sample Description	Number	Type	Volume (each, L)	Preserv.	Oil and Grease (animal/vegetable)[1] (EPA Method 1664A)	Oil and Grease (Petroleum/Mineral)[2] (EPA Method 1664A)		
ML-19-077	1-Aug-19	1315	DDSD	Semi-Annual	Wastewater	Grab	FAC Combined Wastewater	1	Amber Glass Jar	1	Hydrochloric Acid (pH<2, 4°C)	X			
ML-19-078	1-Aug-19	1315	DDSD	Semi-Annual	Wastewater	Grab	FAC Combined Wastewater	1	Amber Glass Jar	1	Hydrochloric Acid (pH<2, 4°C)		X		
											HOLDING TIME:	28 days	28 days		

REPORTING		LABORATORY NOTES RE: SAMPLE RECEIPT/CONDITION	DIRECTIONS FOR LABORATORY
Original to:	David Frandsen		**STANDARD TAT (5-day).** Establish calibration standards so Minimum Level (ML) value is the lowest calibration standard, the lowest quantifiable concentration or Reporting Limit (RL). Report "Detected, but Not Quantified" (DNQ) with estimated J flagged concentrations below the RL and include method detection limits (MDLs) in report.
Title:	Environmental Specialist/Engineer		1. Animal/Vegetable O/G
Address:	P.O. Box 1687		2. Petroleum/Mineral O/G
	Antioch, CA 94509		
Phone/Fax:	925.324-3533/6509		
E-mail:	david.frandsen@nrg.com		
E-mail CC:	james.robinson@nrg.com		***Include sample description with client sample ID.**
E-mail CC:	joe.moura@nrg.com		
E-mail CC:			
E-mail CC:			
E-mail CC:			

	PRINTED NAME	SIGNATURE	COMPANY	DATE	TIME
Sampled by:	James E Robinson	James E. Robinson	NRG	1-Aug-19	1315
Relinquished by:	James E Robinson	James E. Robinson	NRG	1-Aug-19	1718
Received by:	Lilly Ortiz	Lilly Ortiz	MAI	1-Aug-19	1718
Relinquished by:					1.4°C wet
Received by:					
Relinquished by:					
Received by:					

Chain of Custody

Page 2 of 3

Marsh Landing Generating Station
3201 Wilbur Avenue, P.O. Box 1687, Antioch, CA 94509
Phone: (925) 779-6500 Fax: (925) 779-6509

1908072

SAMPLES SUBMITTED TO		SEND INVOICE TO		PROJECT	
Laboratory:	McCampbell Analytical, Inc.	*Company:*	NRG Energy, Inc	*Plant:*	Marsh Landing
Attention:		*Attention:*	Sandra Herndon	*Title:*	DDSD
Address:	1534 Willow Pass Road, Pittsburg, CA 94565-1701	*Address:*	112 Telly St. New Roads, LA 70760	*Phase:*	Semi-Annual
Phone/Fax:	925.252.9262/ 925.252.9269	*P.O. No.:*	4501868678	*Manager:*	David Frandsen

SAMPLE INFORMATION								CONTAINER INFORMATION				ANALYSIS REQUEST			
Sample Number	Sample Date	Sample Collection Time	Regulatory Driver	Regulatory Frequency	Sample Medium	Sample Type	Sample Description	Number	Type	Volume (each, mL)	Preserv.	Cyanide[1] (Kelada-01)	Phenols (EPA Method 420.4)	Ammonia as N (EPA Method 350.1)	
ML-19-079	1-Aug-19	1315	DDSD	Semi-Annual	Wastewater	Grab	FAC Combined Wastewater	1	HDPE Bottle	250	HNO3 (pH<2)	X			
ML-19-080	1-Aug-19	1315	DDSD	Semi-Annual	Wastewater	Grab	FAC Combined Wastewater	1	Amber Glass Jar	500	H_2SO_4 (pH<2, 4°C)		X		
ML-19-081	1-Aug-19	1315	DDSD	Semi-Annual	Wastewater	C-24	FAC Combined Wastewater	1	Amber Glass Jar	500	H_2SO_4 (pH<2, 4°C)			X	
											HOLDING TIME:	14 days	28 days	28 days	

REPORTING		LABORATORY NOTES RE: SAMPLE RECEIPT/CONDITION	DIRECTIONS FOR LABORATORY
Original to:	David Frandsen	Cyanide sample pretreated with sodium thiosulfate prior to preservation with sodium hydroxide.	**STANDARD TAT (5-day).** Establish calibration standards so Minimum Level (ML) value is the lowest calibration standard, the lowest quantifiable concentration or Reporting Limit (RL). Report "Detected, but Not Quantified" (DNQ) with estimated J-flagged concentrations below the RL and include method detection limits (MDLs) in report. 1. Cyanide sample was pretreated with sodium thiosulfate prior to preservation with sodium hydroxide. ***Include sample description with client sample ID.**
Title:	Environmental Specialist/Engineer		
Address:	P.O. Box 1687 Antioch, CA 94509		
Phone/Fax:	925.324-3533/6509		
E-mail:	david.frandsen@nrg.com		
E-mail CC:	james.robinson@nrg.com		
E-mail CC:	joe.moura@nrg.com		
E-mail CC:			
E-mail CC:			
E-mail CC:			

	PRINTED NAME	SIGNATURE	COMPANY	DATE	TIME
Sampled by:	James E Robinson	James E. Robinson	NRG	1-Aug-19	1315
Relinquished by:	James E Robinson		NRG	1-Aug-19	1718
Received by:	Lilly Ortiz	Lilly Ortiz	MAI	1-Aug-19	1718
Relinquished by:					
Received by:					
Relinquished by:					
Received by:					

Chain of Custody

Page 3 of 3

Marsh Landing Generating Station
3201 Wilbur Avenue, P.O. Box 1687, Antioch, CA 94509
Phone: (925) 779-6500 Fax: (925) 779-6509

1908072

SAMPLES SUBMITTED TO		SEND INVOICE TO		PROJECT	
Laboratory:	McCampbell Analytical, Inc.	Company:	NRG Energy, Inc	Plant:	Marsh Landing
Attention:		Attention:	Sandra Herndon	Title:	DDSD
Address:	1534 Willow Pass Road, Pittsburg, CA 94565-1701	Address:	112 Telly St. New Roads, LA 70760	Phase:	Semi-Annual
Phone/Fax:	925.252.9262/ 925.252.9269	P.O. No.:	4501868678	Manager:	David Frandsen

SAMPLE INFORMATION								CONTAINER INFORMATION				ANALYSIS REQUEST			
Sample Number	Sample Date	Sample Collection Time	Regulatory Driver	Regulatory Frequency	Sample Medium	Sample Type	Sample Description	Number	Type	Volume (each, mL)	Preserv.	Pesticides & PCBs (EPA Method 608)	Volatile Organics (EPA Method 624)	Volatile Organics* (EPA Method 624)	Semi-Volatile Organics (EPA Method 625)
ML-19-082	1-Aug-19	1315	DDSD	Semi-Annual	Water	Grab	FAC Combined Wastewater	1	Amber Glass	1,000	None (4°C)	X			
ML-19-083	1-Aug-19	1315	DDSD	Semi-Annual	Water	Grab	FAC Combined Wastewater	2	Clear VOA	43	HCL (ZHS, pH<2, 4°C)		X		
ML-19-084	1-Aug-19	1315	DDSD	Semi-Annual	Water	Grab	FAC Combined Wastewater	2	Clear VOA	43	None (4°C)			X	
ML-19-085	1-Aug-19	1315	DDSD	Semi-Annual	Water	Grab	FAC Combined Wastewater	1	Amber Glass	1,000	None (4°C)				X
											HOLDING TIME:	40 days	14 days	3 days	40 days

* For composite samples, the completion time of the 24-hr composite or the time of the final sample aliquot is considered the "sample collection time" for the purpose of determining sample holding time.

REPORTING		LABORATORY NOTES RE: SAMPLE RECEIPT/CONDITION	DIRECTIONS FOR LABORATORY
Original to:	David Frandsen		**Standard TAT (5-DAYS).** Establish calibration standards so Minimum Level (ML) value is the lowest calibration standard, the lowest quantifiable concentration or Reporting Limit (RL). Report "Detected, but Not Quantified" (DNQ) with estimated J-flagged concentrations below the RL and include method detection limits (MDLs) in report.
Title:	Environmental Specialist/Engineer		1. VOCs- Acrolein, acrylonitrile, and 2cleave
Address:	P.O. Box 1687 Antioch, CA 94509		
Phone/Fax:	925.324-3533/6509		
E-mail:	david.frandsen@nrg.com		***Include sample description with client sample ID.**
E-mail CC:	james.robinson@nrg.com		
E-mail CC:	joe.moura@nrg.com		
E-mail CC:			
E-mail CC:			
E-mail CC:			
E-mail CC:			

	PRINTED NAME	SIGNATURE	COMPANY		TIME
Sampled by:	James E Robinson	James E. Robinson	NRG	1-Aug-19	1315
Relinquished by:	James E Robinson	James E. Robinson	NRG	1-Aug-19	1718
Received by:	Lilly Ortiz	Lilly Ortiz	MAI	1-Aug-19	1718
Relinquished by:					1. Yuan
Received by:					
Relinquished by:					
Received by:					

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name:	**NRG Energy, LLC**	Date and Time Received	**8/1/2019 17:18**
Project:	**Marsh Landing-DDSD Semi-Annual**	Date Logged:	**8/1/2019**
		Received by:	Lilly Ortiz
WorkOrder №:	**1908072** Matrix: Water	Logged by:	Julia Danielsson
Carrier:	Client Drop-In		

Chain of Custody (COC) Information

Chain of custody present?	Yes	☑	No	☐		
Chain of custody signed when relinquished and received?	Yes	☑	No	☐		
Chain of custody agrees with sample labels?	Yes	☑	No	☐		
Sample IDs noted by Client on COC?	Yes	☑	No	☐		
Date and Time of collection noted by Client on COC?	Yes	☑	No	☐		
Sampler's name noted on COC?	Yes	☑	No	☐		
COC agrees with Quote?	Yes	☐	No	☐	NA	☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	NA	☑
Shipping container/cooler in good condition?	Yes	☑	No	☐		
Samples in proper containers/bottles?	Yes	☑	No	☐		
Sample containers intact?	Yes	☑	No	☐		
Sufficient sample volume for indicated test?	Yes	☑	No	☐		

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	NA	☐
Samples Received on Ice?	Yes	☑	No	☐		
(Ice Type: WET ICE)						
Sample/Temp Blank temperature	Temp: 1.4°C				NA	☐
Water - VOA vials have zero headspace / no bubbles?	Yes	☑	No	☐	NA	☐
Sample labels checked for correct preservation?	Yes	☑	No	☐		
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	Yes	☐	No	☐	NA	☑
UCMR Samples:						
pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes	☐	No	☐	NA	☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes	☐	No	☐	NA	☑

Comments:

Delta Diablo

Industrial User Report Checklist And Certification Statement Form

Attn: Environmental Compliance Specialist	**Jason Yun**		
Environmental Specialist Phone	(925) 756-1913	Fax	(925) 756-1961
Industrial User Facility Name	**Marsh Landing LLC**		
Duly Authorized Representative Name	**Joe Moura**		
Duly Authorized Representative Phone	**925-779-6685**		

This Industrial User Report Checklist and Certification Statement Form shall be submitted with all Self-Monitoring Reports (SMRs), as specified by the Wastewater Discharge Permit issued by Delta Diablo, hereinafter referred to as the District. When submitting Self-Monitoring Reports, check all that are applicable.

Self-Monitoring Reports (SMRs) (Required)

☒ Flow Discharge Summary (Review Discharge Permit.)

☐ Calibration of Effluent Flow Meters; if applicable.

☒ Monitoring Results – all required tests completed, results reviewed, results included
Quality Assurance/Quality Control (QA/QC) and Chain-of-Custody (COC) (Review Discharge Permit):

☒ pH (**field-grab**) (shall be **analyzed within 15 minutes of sample collection**).
Results, collection time, analysis time and Technician's Initials shall be reported in the comments section of the respective COC. The pH meter shall be accurate and reproducible to 0.1 pH unit with a range of 0 to 14 and equipped with a temperature–compensation adjustment (Standard methods).

☐ Cyanide samples were tested for oxidizers and preserved with Sodium Hydroxide (NaOH).
This shall be reported in the comments section on the respective COC, if applicable.

☒ Selenium lab analysis by EPA Method 200.8 by Reaction Mode: if applicable.

☐ Total Phenolics lab analysis by EPA Method 420.4: if applicable.

☒ **All sample analysis for regulatory compliance reporting** shall be completed by an ELAP certified Laboratory.

☒ Certification Statement included (see attached)

☐ Other requested data _____

Industrial User Report Checklist And Certification Statement Form

Violations (if applicable)

☐ All wastewater discharge violations are reported during this period:

☐ The District was contacted within 24- hours of becoming aware of the violation.
Date: _____

☐ A follow-up resample was completed. Date: _____

☐ Corrective actions implemented to resolve violation (Please explain in writing)

☐ Significant Non-Compliance (SNC) Status Review
Please circle the review period *: **January – June** and **July -December**.

The SIU shall conduct a SNC review for the previous completed period * prior to the Self-monitoring Report (SMR) due date. Examples: A October SMR due date, the SNC review period is **January – June** or an April SMR due date, the SNC review period is **July – December.**

The SNC definition can be found in 40 CFR 403.8.

a) Chronic SNC= >66% of a regulated parameter in violation during six-month Period *.

b) Technical Review Criteria (TRC) SNC = >33% of a regulated pollutant during a six-month period* equals or exceeds the product of the daily maximum limit or the average limit multiplied by the applicable TRC factor (1.4 for BOD, TSS and Oil/Grease and 1.2 for all other regulated pollutants except pH).

☐ Is the SIU in SNC (as defined in a and/or b) for this period*? Yes ☐, No ☐; If yes, for what period? _____ . Please report the SNC status to the District in the SMR and include corrective actions to resolve the SNC classification.

☐ Other violations – i.e., reporting, spills to sewer, or prohibited discharges

All violations will be discussed in the cover letter of the Self-Monitoring Report.

☐ Significant Changes

Delta Diablo

Anticipated changes that may alter the nature, quality, or volume of the wastewater discharged. Planned changes shall be submitted at least 90 days prior to implementation, and shall include a detailed description of this change.

Industrial User Report Checklist And Certification Statement Form

Certification Statement

Industrial User Facility Name	**Marsh Landing LLC**
Industrial User Facility Address	**3201-C Wilbur Avenue, Antioch, CA 94509**
Duly Authorized Representative Phone	**925-779-6685**
Indicate Period Covered by This Report	**October 1-December 31, 2019**

Certification Statement:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations (40 CFR 403.6).

Duly Authorized Representative Signature	
Duly Authorized Representative Print	**Joe Moura**
Date	1/3/2020

Marsh Landing LLC
Marsh Landing Generating Station
3201-C Wilbur Avenue (shipping)
PO Box 1687 (mailing)
Antioch, CA 94509

January 3, 2020

Mr. Jason Yun
Delta Diablo
2500 Pittsburg-Antioch Highway
Antioch, CA 94509-1373

Subject: **2019 Fourth Quarterly (October 1-December 31) Self-Monitoring Report**
Marsh Landing LLC, Marsh Landing Generating Station,
Industrial Wastewater Discharge Permit 0311963-S

This letter documents the transmittal of the 2019 Fourth Quarterly Self-Monitoring Report (SMR).

Compliance Statement (choose one):

☑ There were no violations of waste discharge requirements during the reporting period.

☐ The following violation(s) of waste discharge requirements occurred during the reporting period, as described below:

Discussion:

This report is the SMR filed for the station and covers the period from October 1 through December 31, 2019. This report includes monthly flow data and quarterly analytical data required to be collected in 2019. Data are summarized in the attached tables.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact Mr. David Frandsen, Environmental Specialist at david.frandsen@nrg.com or call 925.779.6695.

Sincerely,

Joe Moura
Plant Manager
NRG Marsh Landing, LLC
Marsh Landing Generating Station

Attachments

Table 1:	Quarterly Results for Combined Wastewater (FAC Combined)
Table 2:	October 2019 Monthly Flow Data
Table 3:	November 2019 Monthly Flow Data
Table 4:	December 2019 Monthly Flow Data

Attachment 1:	pH COC
Attachment 2:	Analytical Reports

Table 1

Quarterly Results for Combined Wastewater (FAC Combined)

Industrial User Name	Marsh Landing LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509

Sample Station Location	FAC Combined
Sample Station Description	Local Limits FAC Combined Wastewater
Reporting Period	October - December 2019
Report Type	Quarterly

Constituent	Sample Date	Permit Limit	Result	Units
Field pH	10/10/2019	6-10	7.7	S.U.
BOD	10/10/2019	-	9.1	mg/L
COD	10/10/2019	-	30	mg/L
Arsenic	10/10/2019	0.15	0.00059	mg/L
Cadmium	10/10/2019	0.1	ND	mg/L
Chromium	10/10/2019	0.5	ND	mg/L
Copper	10/10/2019	0.5	0.0095	mg/L
Iron	10/10/2019	-	0.130	mg/L
Lead	10/10/2019	0.5	.00033 J	mg/L
Mercury	10/10/2019	0.003	ND	mg/L
Molybdenum	10/10/2019	-	0.00010	mg/L
Nickel	10/10/2019	0.5	0.0027	mg/L
Selenium	10/10/2019	0.25	ND	mg/L
Silver	10/10/2019	0.2	ND	mg/L
Zinc	10/10/2019	1.0	0.027	mg/L
TDS	10/10/2019	-	355	mg/L
TSS	10/10/2019	-	10.20	mg/L

J = The reported concentration is an estimated value.

mg/L = Milligrams per liter

ND = Not detected at or above the laboratory Method Detection Limit or Reporting Limit.

Table 2
Monthly Flow Data

Industrial User Name	Marsh Landing LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509
Sample Station Location	Outfall #4
Sample Station Description	Flow Monitoring Structure
Reporting Period	October, 2019
Report Type	Quarterly
Constituent	Flow
Sample Type	Continuous, measured by flow meter
Sample Date	10/1/2019 - 10/31/2019
Permit Limits (s.u.)	NTE 30,240 gpd. NTE 21 gpm +10% (23.1 gpm) for 15 consecutive minutes or 30 minutes in a 24-hour period

Day	Total Flow (gpd)	Instantaneous Max (gpm)	Minutes per Day of Flow exceeding 23.1 gpm
1	1223	20.05	
2	6603	21.62	
3	3506	20.09	
4	0	0.00	
5	0	0.00	
6	0	0.00	
7	0	0.00	
8	0	0.00	
9	14146	20.24	
10	22005	20.14	
11	5619	20.18	
12	5245	20.15	
13	4269	20.08	
14	4490	20.24	
15	4432	20.15	
16	4652	20.12	
17	0	0.00	
18	5198	20.18	
19	3677	20.10	
20	3522	20.33	
21	6487	20.35	
22	8162	20.14	
23	5852	20.15	
24	8996	20.37	
25	2601	20.06	
26	9123	20.08	
27	0	0.00	
28	0	0.00	
29	0	0.00	
30	2531	20.42	
31	17533	21.58	

Total Monthly Flow (gal)	149,872	Did flow exceed limits?	NO
Daily Max Flow (gpd)	22,005	Flow above daily max (30,240 gpd)?	NO
Average Monthly Flow (gpd)	4,835		

Table 3
Monthly Flow Data

Industrial User Name	Marsh Landing LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509
Sample Station Location	Outfall #4
Sample Station Description	Flow Monitoring Structure
Reporting Period	November, 2019
Report Type	Quarterly
Constituent	Flow
Sample Type	Continuous, measured by flow meter
Sample Date	11/1/2019 - 11/30/2019
Permit Limits (s.u.)	NTE 30,240 gpd. NTE 21 gpm +10% (23.1 gpm) for 15 consecutive minutes or 30 minutes in a 24-hour period

Day	Total Flow (gpd)	Instantaneous Max (gpm)	Minutes per Day of Flow exceeding 23.1 gpm
1	5079	20.08	
2	5850	20.08	
3*	0	0.00	
4	7161	21.45	
5	19935	20.18	
6	14990	20.23	
7	10386	20.12	
8	233	20.02	
9	444	16.52	
10	0	0.00	
11	9363	20.38	
12	6802	20.19	
13	9383	20.32	
14	14233	20.16	
15	5988	20.32	
16	19453	20.20	
17	0	0.00	
18	15032	20.28	
19	22649	20.29	
20	8509	20.12	
21	18920	20.16	
22	24822	20.40	
23	11740	20.08	
24	0	0.00	
25	0	0.00	
26	5060	20.11	
27	6602	21.55	
28	2301	20.05	
29	5823	20.13	
30	5500	20.07	

* - Nov 3rd Includes 25 hours of flow data -- Time Change

Total Monthly Flow (gal)	256,258	Did flow exceed limits?	NO
Daily Max Flow (gpd)	24,822	Flow above daily max (30,240 gpd)?	NO
Average Monthly Flow (gpd)	8,542		

Table 4
Monthly Flow Data

Industrial User Name	Marsh Landing LLC
Location	Marsh Landing Generating Station
Permit Number	0311963-S
SIC	4911
Address	3201-C Wilbur Avenue
	Antioch CA 94509
Sample Station Location	Outfall #4
Sample Station Description	Flow Monitoring Structure
Reporting Period	December, 2019
Report Type	Quarterly
Constituent	Flow
Sample Type	Continuous, measured by flow meter
Sample Date	12/1/2019 - 12/31/2019
Permit Limits (s.u.)	NTE 30,240 gpd. NTE 21 gpm +10% (23.1 gpm) for 15 consecutive minutes or 30 minutes in a 24-hour period

Day	Total Flow (gpd)	Instantaneous Max (gpm)	Minutes per Day of Flow exceeding 23.1 gpm
1	0	0.00	
2	11484	20.33	
3	21401	20.08	
4	4112	20.16	
5	8420	20.11	
6	0	0.00	
7	453	16.08	
8	5324	20.42	
9	20526	20.91	
10	0	0.00	
11	6072	20.22	
12	4201	20.20	
13	4565	20.19	
14	9341	20.24	
15	0	0.00	
16	5746	20.13	
17	9457	20.35	
18	7841	20.17	
19	5264	20.19	
20	4927	20.30	
21	5804	20.16	
22	0	0.00	
23	2749	20.12	
24	20783	20.25	
25	6403	20.36	
26	15388	20.10	
27	4024	20.25	
28	9115	20.21	
29	0	0.00	
30	8848	20.17	
31	14318	20.18	

Total Monthly Flow (gal)	216,566	Did flow exceed limits?	NO
Daily Max Flow (gpd)	21,401	Flow above daily max (30,240 gpd)?	NO
Average Monthly Flow (gpd)	6,986		

Marsh Landing Generating Station

Reported to:
Environmental Engineer

NPDES
Monthly Analytical Report

Sample Point	Sample Number	Sample Date (m/d/y)	Sample Collection Time	Date Analyzed (m/d/y)	pH Analysis Time	Sample Medium	Sample Type (Grab, 24-Hour Composite)	pH
							Method:	SM 4500-H+B
							Unit:	standard
							Reporting Limit:	0.18
							Method Detection Limit:	0.06
FAC Combined Waste Water	ML-19-111	10/10/19	1300	10/10/19	1300	Wastewater	Grab	7.7

SM = Standard Method; ppm = parts per million; mg/L = milligrams per liter; N/A = not applicable

Environmental Engineer David Frandsen

Signature: David Frandsen

Date: Oct. 18, 2019

Sampling Technologist: James E Robinson

Signature: James E Robinson

Date: 10-Oct-19

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"When Quality Counts"

Analytical Report

WorkOrder:	1910506	**Amended:**	10/17/2019
		Revision:	1
Report Created for:	NRG Energy, LLC		
	3201 Wilbur Avenue Antioch, CA 94509		
Project Contact:	David Frandsen		
Project P.O.:	4501868678		
Project:	Marsh Landing, Quarterly		
Project Received:	10/10/2019		

Analytical Report reviewed & approved for release on 10/17/2019 by:

Yen Cao

Project Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.

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CA ELAP 1644 ♦ NELAP 4033 ORELAP

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Glossary of Terms & Qualifier Definitions

Client: NRG Energy, LLC
Project: Marsh Landing, Quarterly
WorkOrder: 1910506

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: NRG Energy, LLC
Project: Marsh Landing, Quarterly
WorkOrder: 1910506

Analytical Qualifiers

J	Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
j1	See attached narrative.

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Case Narrative

Client: NRG Energy, LLC
Project: Marsh Landing, Quarterly

Work Order: 1910506
October 17, 2019

Our standard ICP-MS analytical procedure is to analyze selenium using the Reaction mode.

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1910506
Date Received:	10/10/19 15:01	**Extraction Method:**	SM5210B
Date Prepared:	10/10/19	**Analytical Method:**	SM5210 B-2001
Project:	Marsh Landing, Quarterly	**Unit:**	mg/L

Biochemical Oxygen Demand (BOD)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1910506-001B**	**Water**	**10/10/2019 13:00**	**WetChem**	**186919**

Analytes	Result	MDL	RL	DF	Date Analyzed
BOD	**9.1**	4.0	4.0	1	10/15/2019 16:54

Analyst(s): AL

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1910506
Date Received:	10/10/19 15:01	**Extraction Method:**	SM5220 D-1997
Date Prepared:	10/15/19	**Analytical Method:**	SM5220 D-1997
Project:	Marsh Landing, Quarterly	**Unit:**	mg/L

Chemical Oxygen Demand (COD) as mg O2 /L

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1910506-001A**	**Water**	**10/10/2019 13:00**	**SPECTROPHOTOMETER**	**187116**

Analytes	Result	MDL	RL	DF	Date Analyzed
COD	**30**	7.2	10	1	10/15/2019 12:39

Analyst(s): RB

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1910506
Date Received:	10/10/19 15:01	**Extraction Method:**	E200.8
Date Prepared:	10/10/19	**Analytical Method:**	E200.8
Project:	Marsh Landing, Quarterly	**Unit:**	mg/L

Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1910506-001E**	**Water**	**10/10/2019 13:00**	**ICP-MS3 119SMPL.D**	**186890**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Arsenic	**0.00059**		0.00012	0.00050	1	10/14/2019 00:38
Cadmium	ND		0.000060	0.00050	1	10/14/2019 00:38
Chromium	ND		0.00036	0.00050	1	10/14/2019 00:38
Copper	**0.0095**		0.00043	0.00050	1	10/14/2019 00:38
Iron	**0.13**		0.058	0.10	1	10/14/2019 00:38
Lead	**0.00033**	J	0.00032	0.00050	1	10/14/2019 00:38
Mercury	ND		0.000033	0.000050	1	10/14/2019 00:38
Molybdenum	**0.0010**		0.00021	0.00050	1	10/14/2019 00:38
Nickel	**0.0027**		0.00058	0.0010	1	10/14/2019 00:38
Selenium	ND		0.00018	0.00050	1	10/14/2019 00:38
Silver	ND		0.000042	0.00050	1	10/14/2019 00:38
Zinc	**0.027**		0.011	0.020	1	10/14/2019 00:38

Surrogates	REC (%)	Limits	
Terbium	105	70-130	10/14/2019 00:38

Analyst(s): JC

Analytical Comments: j1

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1910506
Date Received:	10/10/19 15:01	**Extraction Method:**	SM2540 C-1997
Date Prepared:	10/14/19	**Analytical Method:**	SM2540 C-1997
Project:	Marsh Landing, Quarterly	**Unit:**	mg/L

Total Dissolved Solids

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1910506-001C**	**Water**	**10/10/2019 13:00**	**WetChem**	**187043**

Analytes	Result	MDL	RL	DF	Date Analyzed
Total Dissolved Solids	**355**	10.0	10.0	1	10/15/2019 11:00

Analyst(s): AL

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Analytical Report

Client:	NRG Energy, LLC	**WorkOrder:**	1910506
Date Received:	10/10/19 15:01	**Extraction Method:**	SM2540 D-1997
Date Prepared:	10/14/19	**Analytical Method:**	SM2540 D-1997
Project:	Marsh Landing, Quarterly	**Unit:**	mg/L

Total Suspended Solids

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
FAC Combined Wastewater	**1910506-001D**	**Water**	**10/10/2019 13:00**	**WetChem**	**186938**

Analytes	Result	MDL	RL	DF	Date Analyzed
Total Suspended Solids	**10.2**	2.00	2.00	2	10/14/2019 21:05

Analyst(s): HAD

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1910506
Date Prepared:	10/10/19	**BatchID:**	186919
Date Analyzed:	10/15/19	**Extraction Method:**	SM5210B
Instrument:	WetChem	**Analytical Method:**	SM5210 B-2001
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing, Quarterly	**Sample ID:**	MB/LCS/LCSD-186919

QC Summary Report for BOD

Analyte	MB Result	MDL	RL			
BOD	ND	4.0	4.0	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
BOD	170	170	198	88	86	80-120	2.04	16

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1910506
Date Prepared:	10/15/19	**BatchID:**	187116
Date Analyzed:	10/15/19	**Extraction Method:**	SM5220 D-1997
Instrument:	SPECTROPHOTOMETER	**Analytical Method:**	SM5220 D-1997
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing, Quarterly	**Sample ID:**	MB/LCS/LCSD-187116 1910506-001AMS/MSD

QC Summary Report for COD

Analyte	MB Result	MDL	RL			
COD	ND	7.2	10	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
COD	100	91	100	100	91	90-110	9.42	20

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
COD	1	120	120	100	30.00	86	94	80-120	6.67	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1910506
Date Prepared:	10/10/19	**BatchID:**	186890
Date Analyzed:	10/11/19	**Extraction Method:**	E200.8
Instrument:	ICP-MS3	**Analytical Method:**	E200.8
Matrix:	Water	**Unit:**	µg/L
Project:	Marsh Landing, Quarterly	**Sample ID:**	MB/LCS/LCSD-186890

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Arsenic	ND	0.12	0.50	-	-	-
Cadmium	ND	0.060	0.50	-	-	-
Chromium	ND	0.36	0.50	-	-	-
Copper	ND	0.43	0.50	-	-	-
Iron	ND	58	100	-	-	-
Lead	ND	0.32	0.50	-	-	-
Mercury	ND	0.033	0.050	-	-	-
Molybdenum	ND	0.21	0.50	-	-	-
Nickel	ND	0.58	1.0	-	-	-
Selenium	ND	0.18	0.50	-	-	-
Silver	ND	0.042	0.50	-	-	-
Zinc	ND	11	20	-	-	-
Surrogate Recovery						
Terbium	500			500	99	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Arsenic	52	48	50	103	96	85-115	7.49	20
Cadmium	52	48	50	104	96	85-115	8.13	20
Chromium	50	47	50	99	93	85-115	6.14	20
Copper	51	48	50	102	96	85-115	6.82	20
Iron	4800	4900	5000	97	99	85-115	1.90	20
Lead	51	48	50	103	95	85-115	7.35	20
Mercury	1.2	1.3	1.25	98	101	85-115	2.89	20
Molybdenum	51	52	50	101	103	85-115	2.19	20
Nickel	50	47	50	101	94	85-115	6.65	20
Selenium	52	48	50	104	96	85-115	8.60	20
Silver	50	47	50	101	95	85-115	6.41	20
Zinc	530	490	500	106	98	85-115	7.17	20
Surrogate Recovery								
Terbium	510	510	500	101	103	70-130	1.57	20

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1910506
Date Prepared:	10/14/19	**BatchID:**	187043
Date Analyzed:	10/15/19	**Extraction Method:**	SM2540 C-1997
Instrument:	WetChem	**Analytical Method:**	SM2540 C-1997
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing, Quarterly	**Sample ID:**	MB/LCS/LCSD-187043

QC Summary Report for Total Dissolved Solids

Analyte	MB Result	MDL	RL			
Total Dissolved Solids	ND	10.0	10.0	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Total Dissolved Solids	1000	982	1000	100	98	80-120	1.92	10

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Quality Control Report

Client:	NRG Energy, LLC	**WorkOrder:**	1910506
Date Prepared:	10/11/19 - 10/14/19	**BatchID:**	186938
Date Analyzed:	10/11/19 - 10/14/19	**Extraction Method:**	SM2540 D-1997
Instrument:	WetChem	**Analytical Method:**	SM2540 D-1997
Matrix:	Water	**Unit:**	mg/L
Project:	Marsh Landing, Quarterly	**Sample ID:**	MB-186938 1910506-001D

QC Summary Report for Total Suspended Solids

Analyte	MB Result	MDL	RL			
Total Suspended Solids	ND	1.00	1.00	-	-	-

Analyte	SAMP Result	DUP Result	RPD	RPD Limit
Total Suspended Solids	10.2	9.40	8.16	10

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1910506 **ClientCode: GOA**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ▣ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag
▣ Detection Summary ▣ Dry-Weight

Report to:
David Frandsen
NRG Energy, LLC
3201 Wilbur Avenue
Antioch, CA 94509
(925) 427-3479 FAX: (925) 779-6679

Email: David.Frandsen@nrg.com
cc/3rd Party: David.Frandsen@nrg.com; Kathy.crist@nr
PO: 4501868678
Project: Marsh Landing

Bill to:
Accounts Payable
NRG
112 Telly Street
New Roads, LA 70760
invoices@clearwayenergy.com

Requested TATs: **5 days; 7 days;**

Date Received: **10/10/2019**
Date Logged: **10/10/2019**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
1910506-001	ML-19-105 FAC Combined Wastewater	Water	10/10/2019 13:00	☐		A		A								
1910506-001	ML-19-106 FAC Combined Wastewater	Water	10/10/2019 13:00	☐	B											
1910506-001	ML-19-107 FAC Combined Wastewater	Water	10/10/2019 13:00	☐					C							
1910506-001	ML-19-108 FAC Combined Wastewater	Water	10/10/2019 13:00	☐						D						
1910506-001	ML-19-109 FAC Combined Wastewater	Water	10/10/2019 13:00	☐			E									

Test Legend:

1	BOD_W	2	COD_W	3	METALSMS_TTLC_W	4	PRDisposal Fee
5	TDS_W	6	TSS_W	7		8	
9		10		11		12	

Project Manager: Angela Rydelius **Prepared by: Nancy Palacios**

Comments: Use QUOTE 192976 for any Marsh Landing projects to get correct analyte list.

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: NRG ENERGY, LLC
Client Contact: David Frandsen
Contact's Email: David.Frandsen@nrg.com

Project: Marsh Landing
Comments: Use QUOTE 192976 for any Marsh Landing projects to get correct analyte list.

Work Order: 1910506
QC Level: LEVEL 2
Date Logged: 10/10/2019

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1910506-001A	ML-19-105 FAC Combined Wastewater	Water	SM5220D (COD)	2	aVOA w/ H2SO4	☐	10/10/2019 13:00	5 days	None	☐	
1910506-001B	ML-19-106 FAC Combined Wastewater	Water	SM5210B (BOD)	1	1L HDPE, unprsv.	☐	10/10/2019 13:00	7 days	None	☐	
1910506-001C	ML-19-107 FAC Combined Wastewater	Water	SM2540C (TDS)	1	500mL HDPE, unprsv.	☐	10/10/2019 13:00	5 days	None	☐	
1910506-001D	ML-19-108 FAC Combined Wastewater	Water	SM2540D (TSS)	1	1L HDPE, unprsv.	☐	10/10/2019 13:00	5 days	None	☐	
1910506-001E	ML-19-109 FAC Combined Wastewater	Water	E200.8 (Metals) <Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Zinc>	1	250mL HDPE w/ HNO3	☐	10/10/2019 13:00	5 days	None	☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1910506

Chain of Custody

Page 1 of 2

Marsh Landing Generating Station
3201 Wilbur Avenue, P.O. Box 1687, Antioch, CA 94509
Phone: (925) 779-6500 Fax: (925) 779-6509

SAMPLES SUBMITTED TO		SEND INVOICE TO		PROJECT	
Laboratory:	McCampbell Analytical, Inc.	Company:	NRG Energy, Inc	Plant:	Marsh Landing
ELAP Cert. No.	1644	Attention:	Sandra Herndon	Title:	DDSD
Address:	1534 Willow Pass Road, Pittsburg, CA 94565-1701	Address:	112 Telly St. New Roads, LA 70760	Phase:	Quarterly
Phone/Fax:	925.252.9262/ 925.252.9269	P.O. No.:	4501868678	Manager:	David Frandsen

SAMPLE INFORMATION								CONTAINER INFORMATION				ANALYSIS REQUEST			
Sample Number	Sample Date	Sample Collection Time	Regulatory Driver	Regulatory Frequency	Sample Medium	Sample Type	Sample Description	Number	Type	Volume (each, mL)	Preserv.	COD (SM5220D)	BOD (SM 5210B)	TDS (SM 2540B)	TSS (SM 2540D)
ML-19-105	10-Oct-19	1300	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	2	Amber VOAs	43	H_2SO_4 (pH<2, 4°C)	X			
ML-19-106	10-Oct-19	1300	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	HDPE Bottle	1,000	None (ZHS, 4°C)		X		
ML-19-107	10-Oct-19	1300	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	HDPE Bottle	500	None (4°C)			X	
ML-19-108	10-Oct-19	1300	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	Poly	1,000	None				X
											HOLDING TIME:	28 days	48 hours	7 days	7 days

REPORTING		LABORATORY NOTES RE: SAMPLE RECEIPT/CONDITION	DIRECTIONS FOR LABORATORY
Original to:	David Frandsen		**STANDARDTAT (5-day).** Establish calibration standards so Minimum Level (ML) value is the lowest calibration standard, the lowest quantifiable concentration or Reporting Limit (RL). Report "Detected, but Not Quantified" (DNQ) with estimated J-flagged concentrations below the RL and include method detection limits (MDLs) in report.
Title:	Environmental Specialist/Engineer		
Address:	P.O. Box 1687 Antioch, CA 94509		***Include sample description with client sample ID.**
Phone/Fax:	925.324-3533/6509		
E-mail:	david.frandsen@nrg.com		
E-mail CC:	james.robinson@nrg.com		
E-mail CC:	joe.moura@nrg.com		
E-mail CC:	kathy.crett@nrg.com		
E-mail CC:	harry.bobe@nrg.com		

	PRINTED NAME	SIGNATURE	COMPANY	DATE	TIME
Sampled by:	James Robinson	James E. Robinson	NRG	10-Oct-19	1300
Relinquished by:	James Robinson	James E. Robinson	NRG	10-Oct-19	1501
Received by:		Maru Palacios	MAI	10-Oct-19	1501
Relinquished by:					
Received by:					
Relinquished by:					
Received by:					

1.0 WFT.

1910506

Chain of Custody

Page 2 of 2

Marsh Landing Generating Station
3201 Wilbur Avenue, P.O. Box 1687, Antioch, CA 94509
Phone: (925) 779-6500 Fax: (925) 779-6509

SAMPLES SUBMITTED TO		SEND INVOICE TO		PROJECT	
Laboratory:	McCampbell Analytical, Inc.	Company:	NRG Energy, Inc	Plant:	Marsh Landing
ELAP Cert. No.	1644	Attention:	Sandra Herndon	Title:	DDSD
Address:	1534 Willow Pass Road, Pittsburg, CA 94565-1701	Address:	112 Telly St. New Roads, LA 70760	Phase:	Quarterly
Phone/Fax:	925.252.9262/ 925.252.9269	P.O. No.:	4501868678	Manager:	David Frandsen

SAMPLE INFORMATION								CONTAINER INFORMATION				ANALYSIS REQUEST			
Sample Number	Sample Date	Sample Collection Time	Regulatory Driver	Regulatory Frequency	Sample Medium	Sample Type	Sample Description	Number	Type	Volume (each, mL)	Preserv.	Total Metals[1] (EPA Method 200.8)			
ML-19-109	10-Oct-19	1300	DDSD	Quarterly	Wastewater	C-24	FAC Combined Wastewater	1	HDPE Bottle	250	HNO3 (pH<2)	X			
											HOLDING TIME:	28 days			

REPORTING		LABORATORY NOTES RE: SAMPLE RECEIPT/CONDITION	DIRECTIONS FOR LABORATORY
Original to:	David Frandsen		**STANDARD TAT (5-day).** Establish calibration standards so Minimum Level (ML) value is the lowest calibration standard, the lowest quantifiable concentration or Reporting Limit (RL). Report "Detected, but Not Quantified" (DNQ) with estimated J-flagged concentrations below the RL and include method detection limits (MDLs) in report.
Title:	Environmental Specialist/Engineer		1. Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Mercury, Nickel, Molybdenum, Selenium (reaction mode), Silver, Zinc
Address:	P.O. Box 1687 Antioch, CA 94509		
Phone/Fax:	925.324-3533/6509		***Include sample description with client sample ID.**
E-mail:	david.frandsen@nrg.com		
E-mail CC:	james.robinson@nrg.com		
E-mail CC:	joe.moura@nrg.com		
E-mail CC:	Harry.bobis@nrg.com		
E-mail CC:	kathy.crist@nrg.com		

	PRINTED NAME	SIGNATURE	COMPANY	DATE	TIME
Sampled by:	James Robinson	James E. Robinson	NRG	10-Oct-19	1300
Relinquished by:	James Robinson	James E. Robinson	NRG	10-Oct-19	1501
Received by:		Ana Palacios	MAI	10-Oct-19	1501
Relinquished by:					
Received by:					
Relinquished by:					
Received by:					

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name:	**NRG Energy, LLC**	Date and Time Received	**10/10/2019 15:01**
Project:	**Marsh Landing**	Date Logged:	**10/10/2019**
		Received by:	Nancy Palacios
WorkOrder №:	**1910506** Matrix: Water	Logged by:	Nancy Palacios
Carrier:	Client Drop-In		

Chain of Custody (COC) Information

Chain of custody present?	Yes	☑	No	☐	
Chain of custody signed when relinquished and received?	Yes	☑	No	☐	
Chain of custody agrees with sample labels?	Yes	☑	No	☐	
Sample IDs noted by Client on COC?	Yes	☑	No	☐	
Date and Time of collection noted by Client on COC?	Yes	☑	No	☐	
Sampler's name noted on COC?	Yes	☑	No	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	NA ☑
Shipping container/cooler in good condition?	Yes	☑	No	☐	
Samples in proper containers/bottles?	Yes	☑	No	☐	
Sample containers intact?	Yes	☑	No	☐	
Sufficient sample volume for indicated test?	Yes	☑	No	☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	NA ☐
Samples Received on Ice?	Yes	☑	No	☐	
(Ice Type: WET ICE)					
Sample/Temp Blank temperature	Temp: 1°C				NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes	☑	No	☐	NA ☐
Sample labels checked for correct preservation?	Yes	☑	No	☐	
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	Yes	☑	No	☐	NA ☐
UCMR Samples:					
pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes	☐	No	☐	NA ☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes	☐	No	☐	NA ☑

Comments:

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 11.2 acre feet in 2017.

The average annual water usage is 8.8 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 to be paid in May 2020.

Marsh Landing Generating Station
Annual City Water Usage

ANNUAL

Min	Max	Avg
7.1	11.2	8.8

		MONTHLY		
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

CALTROL INC.
1385 PAMA LANE #111
LAS VEGAS, NV. 89119
PHONE: (877) 827-8131

Instrument Calibration Report

Attn: David Frandsen
3201-C Wilbur Ave
Antioch, Ca 94509

Magnetic Flow Meter

Tag/Instrument ID	**FT-400001**	Calibrated Range	**0 TO 500 Gal/M**
Description	**Mag-Meter**	Serial Number	**0338199**
Manufacturer	**Rosemount**	Model Number	**8732E**
Plant / Unit	**NRG**	Calibration Type	**SCHEDULED**
System		Calibrated	**15-Jan-19**
Location	**OUT BEHIND AMONIA TANK**	Scheduled	**15-Jan-20**

MagMeter Calibration

Stated Accuracy: % of Analog Output Required Accuracy(1): 0.50%

In Val	In Units	Out Val	Out Units	As Found	Error %	As Left	Error %
0.00	Gal/M	4.00	mA	4.00	0.00%	4.00	0.00%
3.00	Gal/M	5.60	mA	5.60	0.00%	5.60	0.00%
10.00	Gal/M	9.33	mA	9.33	0.02%	9.33	0.02%
30.00	Gal/M	20.00	mA	20.00	0.00%	20.00	0.00%
10.00	Gal/M	9.33	mA	9.33	0.02%	9.33	0.02%
3.00	Gal/M	5.60	mA	5.60	0.00%	5.60	0.00%
0.00	Gal/M	4.00	mA	4.00	0.00%	4.00	0.00%

Calibration Parameter Changes

	Customer Settings	Calibration Settings
Meter Tube Cal #:	984705909605005	1000015010000000
Units of Measure:	Gal/M	Ft/S
Lower Range Value:	0	0
Upper Range Value:	500	30
Coil Pulse Mode:	37 Hz	5 Hz

[X] All Settings returned to customer's Configuration

Totalizer Readings:	As Found	As Left
Gross:		
Net:		

Test Instruments Used During Calibration

Description	Manufacturer	Model Number	Serial Number	NIST Cert. Number
Hart Communicator	Emerson	475	12165400	N/A
Process Meter	Fluke	789	27190005	
Flow Simulator	Rosemount	8714D	14611770	14611770 (Trace#)

Notes about this calibration

1) CALIBRATION PASSED WITHOUT ISSUE, ALL CHECKS GOOD

QC Checklist:

N/A	Isolation valves
N/A	Filled legs
X	All wires relanded (If removed)
X	Verify data (model, tag, serial, mfg)

Calibration Result: PASS

Calibrated by: *Matthew Nixon*

Checkout By:

Quality Management System
Certified by DNV
======ISO 9001:2008======

CALIBRATION DUE: **15-Jan-20**

FT-400001

CALTROL INC.
1385 PAMA LANE #111
LAS VEGAS, NV. 89119
PHONE: (877) 827-8131

Instrument Calibration Report

Attn: David Frandsen
3201-C Wilbur Ave
Antioch, Ca 94509

Magnetic Flow Meter

Tag/Instrument ID	**FT-360004**	Calibrated Range	**0 TO 500 Gal/M**
Description	**Mag-Meter**	Serial Number	**378997**
Manufacturer	**Rosemount**	Model Number	**8732E**
Plant / Unit	**NRG**	Calibration Type	**SCHEDULED**
System		Calibrated	**15-Jan-19**
Location	**OUT BEHIND AMMONIA TANK**	Scheduled	**15-Jan-20**

MagMeter Calibration

Stated Accuracy: % of Analog Output Required Accuracy(1): 0.50%

In Val	In Units	Out Val	Out Units	As Found	Error %	As Left	Error %
0.00	Gal/M	4.00	mA	4.00	0.00%	4.00	0.00%
3.00	Gal/M	5.60	mA	5.60	0.01%	5.60	0.01%
10.00	Gal/M	9.33	mA	9.34	0.03%	9.34	0.03%
30.00	Gal/M	20.00	mA	20.00	0.01%	20.00	0.01%
10.00	Gal/M	9.33	mA	9.34	0.03%	9.34	0.03%
3.00	Gal/M	5.60	mA	5.60	0.01%	5.60	0.01%
0.00	Gal/M	4.00	mA	4.00	0.00%	4.00	0.00%

Calibration Parameter Changes

	Customer Settings	Calibration Settings
Meter Tube Cal #:	838305208252005	1000015010000000
Units of Measure:	Gal/M	Ft/S
Lower Range Value:	0	0
Upper Range Value:	500	30
Coil Pulse Mode:	37 Hz	5 Hz

[X] All Settings returned to customer's Configuration

Totalizer Readings:	As Found	As Left
Gross:		
Net:		

Test Instruments Used During Calibration

Description	Manufacturer	Model Number	Serial Number	NIST Cert. Number
Hart Communicator	Emerson	475	12165400	N/A
Process Meter	Fluke	789	27190005	
Flow Simulator	Rosemount	8714D	14611770	14611770 (Trace#)

Notes about this calibration

1) CALIBRATION PASSED WITHOUT ISSUE, ALL CHECKS GOOD

QC Checklist:

N/A	Isolation valves
N/A	Filled legs
X	All wires relanded (If removed)
X	Verify data (model, tag, serial, mfg)

Calibration Result: **PASS**

Calibrated by: *Matthew Nixon*

Checkout By:

Quality Management System
Certified by DNV
======ISO 9001:2008======

CALIBRATION DUE: **15-Jan-20**

FT-360004

CALTROL INC.
1385 PAMA LANE #111
LAS VEGAS, NV. 89119
PHONE: (877) 827-8131

Instrument Calibration Report

Attn: David Frandsen
3201-C Wilbur Ave
Antioch, Ca 94509

Magnetic Flow Meter

Tag/Instrument ID	**FT-950002**	Calibrated Range	**0 TO 80 Gal/M**
Description	**Mag-Meter**	Serial Number	**0337659**
Manufacturer	**Rosemount**	Model Number	**8732E**
Plant / Unit	**NRG**	Calibration Type	**SCHEDULED**
System		Calibrated	**15-Jan-19**
Location	**NEXT TO ADMIN BUILDING**	Scheduled	**15-Jan-20**

MagMeter Calibration

Stated Accuracy: % of Analog Output Required Accuracy(1): 0.50%

In Val	In Units	Out Val	Out Units	As Found	Error %	As Left	Error %
0.00	Gal/M	4.00	mA	4.00	0.00%	4.00	0.00%
3.00	Gal/M	5.60	mA	5.60	0.01%	5.60	0.01%
10.00	Gal/M	9.33	mA	9.33	0.02%	9.33	0.02%
30.00	Gal/M	20.00	mA	20.01	0.06%	20.01	0.06%
10.00	Gal/M	9.33	mA	9.33	0.02%	9.33	0.02%
3.00	Gal/M	5.60	mA	5.60	0.01%	5.60	0.01%
0.00	Gal/M	4.00	mA	4.00	0.00%	4.00	0.00%

Calibration Parameter Changes

	Customer Settings	Calibration Settings
Meter Tube Cal #:	926105209236005	1000015010000000
Units of Measure:	Gal/M	Ft/S
Lower Range Value:	0	0
Upper Range Value:	80	30
Coil Pulse Mode:	37 Hz	5 Hz

[X] All Settings returned to customer's Configuration

Totalizer Readings:	As Found	As Left
Gross:		
Net:		

Test Instruments Used During Calibration

Description	Manufacturer	Model Number	Serial Number	NIST Cert. Number
Hart Communicator	Emerson	475	12165400	N/A
Process Meter	Fluke	789	27190005	
Flow Simulator	Rosemount	8714D	14611770	14611770 (Trace#)

Notes about this calibration

1) CALIBRATION PASSED WITHOUT ISSUE, ALL CHECKS GOOD

QC Checklist:

N/A	Isolation valves
N/A	Filled legs
X	All wires relanded (If removed)
X	Verify data (model, tag, serial, mfg)

Calibration Result: **PASS**

Calibrated by: *Matthew Nixon*

Checkout By:

Quality Management System
Certified by DNV
======ISO 9001:2008======

CALIBRATION DUE: **15-Jan-20**

FT-950002

3.6 VIS-1

Current Condition:

The surface treatments of all structures and buildings are in very good condition, as the plant went commercial May 1, 2013.

Maintenance Activities During the Year:

- Painting of some additional vertical surface of concrete pads to make them more obvious to prevent Slips, Trips, and Falls.
- Painted the Fuel Gas Conditioning Skid equipment.

Anticipated Maintenance for Next Year:

- Some minor painting activities are anticipated for 2020 in the areas of Safety, Slips Trips and Falls.
- Corrosion prevention measures of areas identified within the Structural Survey under NRG's OPO-217.

3.7 VIS-2

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

In 2019 we replaced 0 trees.

Performed tree trimming along the West Fence line to prevent limbs from falling and damaging the fence.

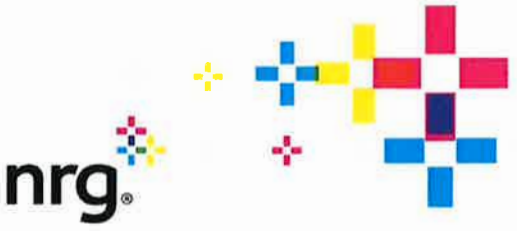
Performed weed abatement activities.

3.8 WASTE-7

The Operation Waste Management Plan has been revised and is included. See pages 5-6 for a description of changes.

The actual volume of wastes generated during the report period was between 32.9 tons. See attached CCHS Hazardous Waste Generator Reporting Form.

Marsh Landing LLC



Operation Waste Management Plan

Marsh Landing Generating Station
Antioch, California

Revision 6
January 2020

SITE MANAGER REVIEW

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

Signature	
Name	Joseph Moura
Title	Plant Manager
Date	1/14/2020

ENVIRONMENTAL PERSONNEL REVIEW

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

Signature	
Name	David Frandsen
Title	Environmental Specialist/Engineer
Date	Jan. 3, 2020

REGIONAL ENVIRONMENTAL MANAGER/DIRECTOR REVIEW

The Operation Waste Management Plan for Marsh Landing Generating Station has been reviewed by the Regional Environmental Manager/Director.

Signature	
Name	Scott Seipel
Title	Environmental Manager
Date	1/3/2020

Table of Contents

List of Figures

List of Tables

PLAN REVIEW AND CHANGE LOG

Revision No.	Revision Date	Reviewed/ Revised By	Description of Change	Revised Pages
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 Final Destination for Ramos Environemntal Services oi and water pickups • Added Appendix 1 EPA ID numbers	11 Appendix 1

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; NRG Energy, Inc. Environmental Policy and Procedures 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.

This Plan will be updated annually, or more often if necessary, to address current waste generation and management practices. In addition, the actual volume of wastes generated and the waste management methods used during the year will be documented in each Annual Compliance Report.

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.

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 (lubricating oil, dielectric, mineral, hydraulic), aqueous ammonia, cleaners and detergents, ethylene and propylene glycols, transmission fluid, and water treatment chemicals (sodium hypochlorite, acids, 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	Regularly	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	Continuously	2,000 gallons / year	Oil, metals/hazardous or non-RCRA hazardous
Waste paint, adhesives, and paint-related debris	Continuously	25 pounds / quarter	Metals, flammable VOCs/hazardous
Waste fuel (diesel, gasoline)	Infrequently	None expected	Hydrocarbons, flammable VOCs/hazardous
Waste oil (e.g., lubricating fuel, dielectric, mineral, hydraulic, etc.) and oily debris	Continuously, with larger amounts infrequently	450 pounds / month	Oil/ non-RCRA hazardous
Universal wastes (fluorescent light tubes,	Continuously	200 pounds / year	Mercury, metals/hazardous (universal waste)

Table 1 Waste Stream Summary Marsh Landing Generating Station			
Waste	**Frequency**	**Projected Average Amount**	**Hazards/Classification**
Compact fluorescent light bulbs, HID lamps, batteries, mercury-containing devices, electronic wastes, aerosol cans)			
Waste maintenance chemicals (oils, greases, paints, solvents, glycols, etc.)	Infrequently	200 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	30 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	40 gallons / year	Metals, acids, corrosives/hazardous
Waste natural gas liquids	Continuously	Minimal	Flammable VOCs/hazardous
Lead-acid batteries	Infrequently	4 batteries / year	Lead, corrosive/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	4,000 pounds / event	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 (i.e., California-only) hazardous waste, including universal wastes
- 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
Waste paint, adhesives, and paint-related debris	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 oil 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
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, state and/or federal agency(ies), 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 which complies with applicable law; and

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, approved waste vendor or agency has visited and audited the disposal/recycling site specified within the previous five years, and the audit report has been reviewed and approved by the Environmental Compliance Team. For Non-Hazardous waste (such as general trash) and recycling materials such as paper, plastic and aluminum, audit reports are not required.

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 the Environmental Compliance Team.

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 or MP Environmental
Routine Waste	Allied Waste
Waste Flammable Liquid (Lab Pack)	Veolia - Azusa
Waste Aerosols, Waste Flammables, Lead Debris	Veolia - Azusa
Universal Waste (Batteries, Lamps, Mercury Switches, Electronic Wastes, etc.) Non RCRA Hazardous Waste (Soil, Oily Debris, Ash, Pipes Contaminated with Fuel Oil, Oily Water, Waste Oil, Lab Packs, Wood Waste, Asphalt, Non PCB Ballasts, Urea, Soil Mixed With Asphalt, Waste Ethylene and Propylene Glycol Solutions)	Veolia – Azusa or Richmond
Hazardous Waste (Oily Pipe and Contaminated Soil)	Veolia – Keller or Azusa
Scrap Metal	Aaron Metals
Oil/Water/Sludge	Safety-Kleen – Newark Veolia – Azusa Ramos Environmental Services / World Oil Compton

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 annually a waste minimization/pollution prevention plan that describes an internal program for preventing, reducing, recycling, reusing, and minimizing waste, and emissions. 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 annually by the Facility Manager or his/her designee and the Regional Environmental Manager/Director or his/her designee.

The following areas must be examined as part of the waste minimization/pollution prevention plan: (a) description of the primary waste materials produced; (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 24 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

Aerial Photo Source: ©Google Earth Pro
Image Date: 3/11/2017

0 .25 .5
Approx. Scale (mile)

N

Figure 1
Site Vicinity Map
Marsh Landing Generating Station
NRG Marsh Landing, LLC
3201-C Wilbur Avenue
Antioch, California

ERM 01/18

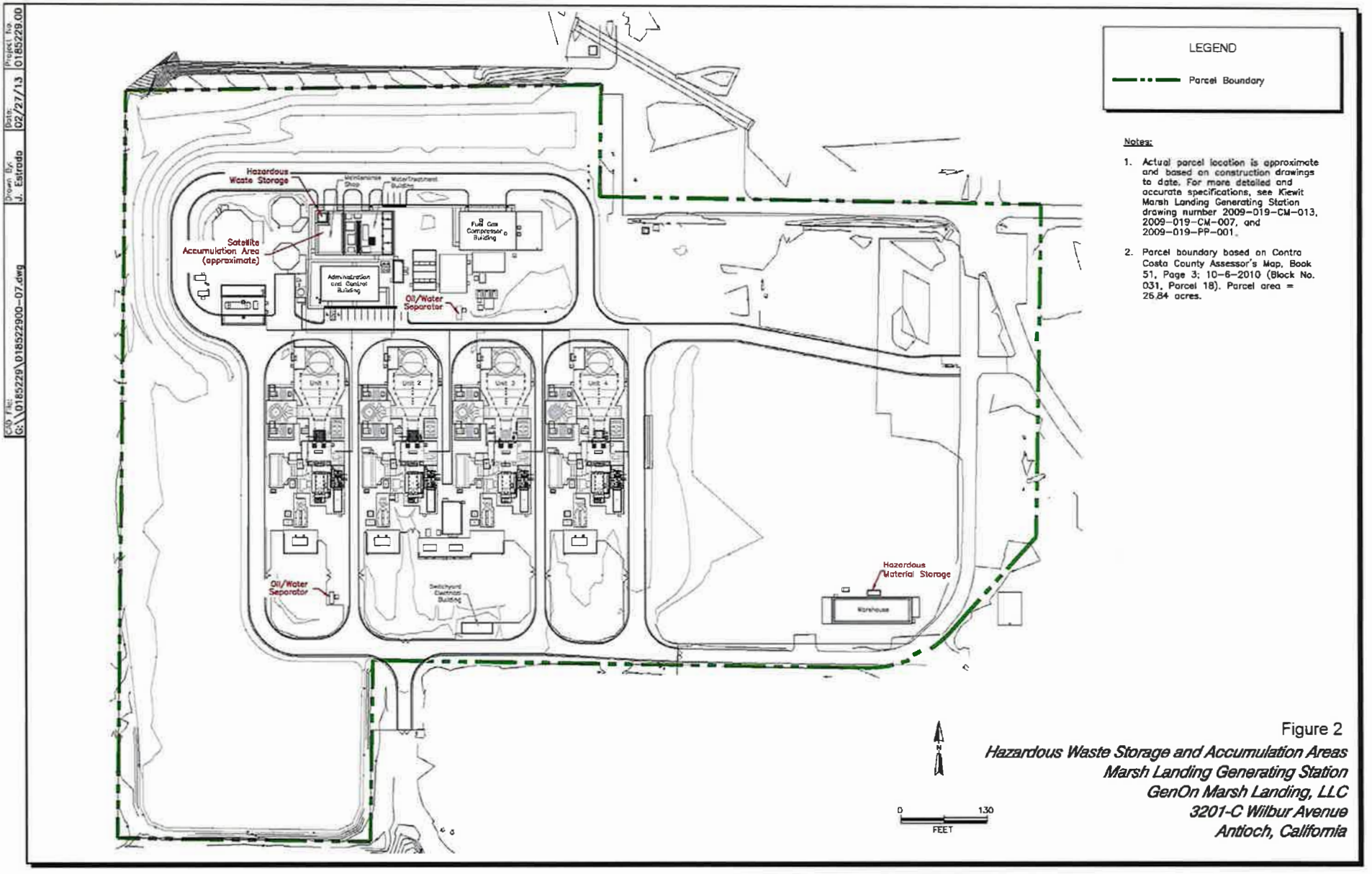


Figure 2

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

Appendix

Appendix 1 EPA ID Numbers for Marsh Landing

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

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 2018. 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 2019 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 2019 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 2019 HWG Reporting Form. Type in "HWG Reporting Form" in the document title section and then click *Save & Finish*.
FAX: You may fax the completed Reporting Form to (925) 646-2073.
EMAIL: You may email the completed Reporting Form to cchazmat@cchealth.org
MAIL: Contra Costa Health Services Hazardous Materials Programs

Hazardous Waste Generator Reporting Form

Total Tonnage of Hazardous Waste Disposed Of During 2019

- ☐ Zero tons
- ☐ Less than 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: Joe Murra **Date:** 1/29/2020

Print Name: Joe Murra **Phone:** 925-779-6685

Joe.Murra@NRG.com

3.9 BIO-8

The California Wildlife Foundation Annual Report for 2019 is included.

California Wildlife Foundation
428 13th Street, Suite 10A
Oakland, CA 94612

www.californiawildlifefoundation.org
tel 510.208.4436
fax 510.268.9948

January 13, 2020

Mr. Daniel Leach, Sr. Engineer
NRG Energy Inc.
P. O. Box 1687
Antioch, CA 94509

Dear Daniel:

Enclosed please find the USFWS' Annual Antioch Dunes Report for the period of January 2019 through December 2019 explaining how NRG's donation assisted the Service and the community.

Thank you again for your support of Antioch Dunes and the people, plants and wildlife that benefit from this special place. Your contribution is very much appreciated.

Please feel free to contact me at 510-763-0211, if you need additional information.

Sincerely,

Janet S. Cobb, Executive Officer
California Wildlife Foundation

Enclosure

Cc: Bradley B. Brownlow, Esq.
Holland & Knight LLP

Ryan Olah and Stephanie Jentsch, FWS

Projects and Accomplishments at Antioch Dunes NWR
Funded by NRG Energy, Inc.
January 2019 to December 2019 Summary Report

For the 2019 calendar year NRG Energy, Inc. generously donated $23,311.00 to the Antioch Dunes National Wildlife Refuge on May 8th 2019. This report will summarize the transactions and activities supported by the funds donated by NRG Energy, INC. in 2019 combined with a balance of funds previously donated by NRG. 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*), and Lange's metalmark butterfly (*Apodemia mormo langei*) and their habitat between January 1st 2019 and Dec 31st 2019.

The Antioch Dunes NWR partners with the California Wildlife Foundation (CWF) in order to complete these tasks. The CWF is a nonprofit organization that administers restoration of land and water projects and works with partners to maintain habitat for the benefit of people, plants and wildlife. The funds donated by NRG Energy, INC help the CWF and the Antioch Dunes NWR complete our missions. The mission of the United States Fish & Wildlife Service is "Working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people". These donated funds also help to complete the vision statement for the Antioch Dunes NWR, which 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".

The 2019 NRG donation of $23,311.00 was combined with a remaining $47,492.78 held by the California Wildlife Foundation from NRG previous year's donations. The 2019 donation increased the total budget to $70,803.78 at the date of May 8th 2019 (Table 2). The remaining balance held by the CWF at the end of the 2019 year was $56,010.83. During the 2019 year, $11,391.82 was expended on the rental of debris boxes from Allied Waste Disposal (Republic Services). This amounted to 67% of the expenses used to rent debris boxes from Allied Waste Disposal. $3,332.50 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. This amount equaled to 20% of the total funds expended in 2019. $2,331.10 or 13% was used to support the California Wildlife Foundation and their services. The remaining funds donated by NRG Energy, INC. was conserved by the CWF for projects and activities at the Antioch Dunes NWR in the 2020 year. All funds were used in support of restoration and conservation purposes on multiple projects ongoing at the Antioch Dunes NWR (Tables 1 & 2). Including support for non-native invasive plant control projects throughout the Refuge. This report will also describe future project proposals for the coming 2020 year (Table 3).

Invasive Plant Control:

In 2019 the Antioch Dunes NWR used NRG donated funds to hire Vegetation Solutions, INC (a local small business) to conduct non-native invasive plant control on and around the sand dune restoration sites on the Stamm Unit (Map 1). Vegetation Solutions staff helped manually control invasive plants and also applicated herbicides around the new dune restoration site. The management of the sand dune restoration site is a priority conservation strategy for the Antioch Dunes NWR. The sand dune restoration site at the time was 68,300 cubic yards of dredged sand material on the Stamm Unit. In October of 2019 approximately 19,510 cubic yards of dredged sand material was deposited onto a second adjacent restoration site on the Stamm Unit.

In 2020 the refuge will again seek help from Vegetation Solutions, and/or other local contractors to 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. NRG 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.

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 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. In the hot and dry summer, the invasive plant vegetation also act as fuel for wildfires. In the past the Antioch Dunes NWR has had relatively large wildfires that have directly impacted the populations of all three endangered species. This is why the rental and use of dumpsters to remove non-native invasive plants and dead and dried plant material is such a vital and a valuable management tool on the refuge.

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 $425.24 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 the refuge staff, biological technicians, interns, hired contractors, and volunteers (see Photos 1 & 2 & 3). Non-native invasive plants, such as winter vetch, yellow starthistle (*Centaurea solstitialis*), Russian thistle (*Salsola tragus*), and tree-of-Heaven (*Ailanthus altissima*) are pulled and deposited into the dumpsters. After the dumpsters are filled, they are hauled away by Allied Waste trucks.

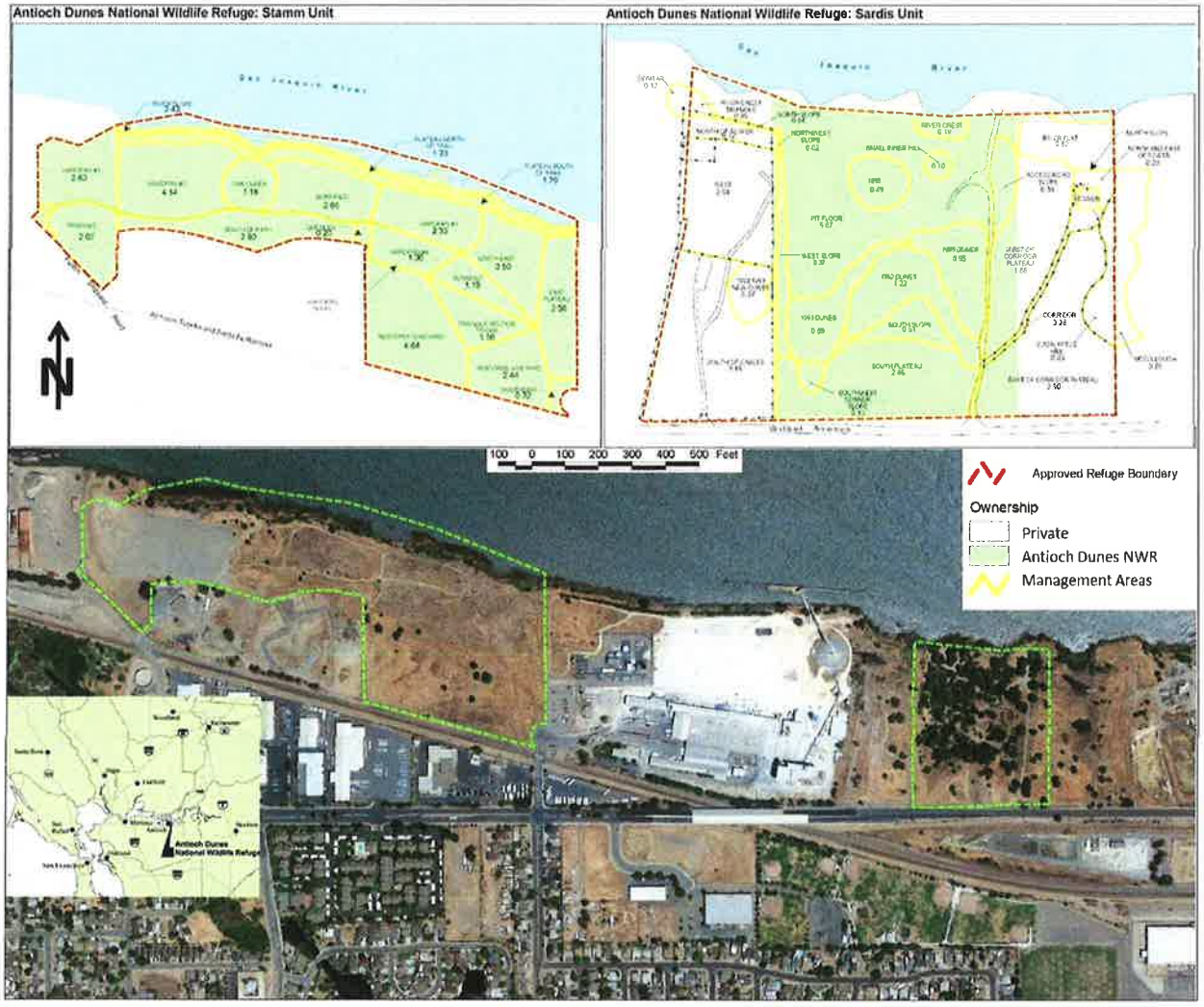
In 2019 $11,391.82 or 67% of the total expenses was spent on the rental of debris boxes from Allied Waste (Table 1 & 2). The rental and use of the debris boxes from Allied Waste remains a very valuable resource needed for the control and management of non-native invasive plants on the refuge. Invasive plant control on both the Stamm and Sardis Units are

supported by the rental of the dumpsters from Allied Waste. Non-native invasive plants are controlled on and around the new sand dunes restoration site on the Stamm Unit, and also in and around host plants for the endangered Lange's metalmark butterfly and the endangered CCW and ADEP plants on the Sardis Unit (Map 1). Standing dry vegetation are also manually removed and deposited into the dumpsters during vital wildfire management work throughout the refuge. Vegetation is also cleared out and removed in order to make more room for native plant restoration plantings conducted by refuge staff and the local community. Thus, the rental of these dumpsters supports multiple priority conservation strategies for the Antioch Dunes NWR. Those strategies include sand dune restoration management, invasive plant management, native plant restoration, and wildfire prevention.

Proposed Projects for the 2020 year:

The following is a general proposal for the remaining funds donated by NRG Energy, INC. including funds saved from previous NRG donations. The remaining funds add up to $56,010.83 as of December 2019. Table 3 displays four proposed projects or tasks and the estimated expenses for the 2020 year. Proposed projects include $18,000 used to hire biological technicians through HR Options. Approximately $12,000.00 will be used to rent large debris boxes from Allied Waste for non-native invasive plant and dead vegetation disposal. The California Wildlife Foundation will be paid approximately $2,330.00 for a 10 percent services fee. Approximately $20,000.00 will be used to hire local contractors to help control non-native invasive plants throughout the Antioch Dunes NWR. We plan on conserving approximately $3,680.83 for the 2021 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 2020 year.

On behalf of the Antioch Dunes National Wildlife Refuge staff we would like to thank our partners at the California Wildlife Foundation and NRG, Energy Inc. for their continued support and partnership at Antioch Dunes NWR. We would especially like to thank NRG, Energy, INC. for their continuous generous donations to the Antioch Dunes National Wildlife Refuge for the past nine years. 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. Funds also help to provide environmental education to the local community (see Photos 2 & 4). Projects funded by NRG Energy, INC. donations provide resources for projects that have benefited local Girl Scouts, volunteers, as well as Antioch High School, Sutter Elementary School, Antioch Charter Academy, Willow Cove Elementary, and the local community. These donations from NRG Energy, Inc. 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.



Map 1. Antioch Dunes NWR Map. New Sand Dunes located on western end of Stamm Unit.

Photo 1. California Conservation Corp members load invasive plants into Allied Waste dumpster (Aug 2019)

Photo 2. Student Conservation Association members load invasive plants into Allied Waste dumpster (July 2019)

Photo 3. CCC member trims vegetation in order to clear space for the endangered Lange's metalmark butterfly host plants (June 2019)

Photo 4. 5th graders from Willow Cove Elementary take time off from planting to learn about local wildlife, like this legless lizard (Feb 2019)

Photo 5. An endangered Antioch Dunes evening primrose growing on the new dunes restoration site at the Antioch Dunes NWR (April 2019). In 2019 the highest ever recorded population of ADEP was counted on the refuge.

Table 1. Jan 2019 - Dec 2019 Expended Funds Summary

Project / Partner	$ Cost	% of Total
Allied Waste Dumpsters	$11,391.82	67%
Invasive Plant Control	$3,332.50	20%
Biological Technician	0	0%
CWF 10% Fee for 2019	$2,331.10	13%
Total Funds Expended	$17,055.42	

Table 2. Jan 2019 – Dec 2019 Funds Activity

Date	Action	Name	Memo	Transaction	Balance
	Balance	Balance			**$49,755.25**
Jan 10 2019	Charge	Allied Waste	Dumpster rental for invasive plants	$469.28	$49,285.97
Feb 11 2019	Charge	Allied Waste	Dumpster rental for invasive plants	$597.73	$48,688.24
Mar 12 2019	Charge	Allied Waste	Dumpster rental for invasive plants	$597.73	$48,090.51
Apr 11 2019	Charge	Allied Waste	Dumpster rental for invasive plants	$597.73	$47,492.78
May 8 2019	**Deposit**	**NRG Energy, Inc.**	**2019 NRG Energy, Inc. Donation**	**$23,311.00**	$70,803.78
May 8 2019	Charge	CWF	10% Service Fee	$2,331.10	$68,472.68
May 13 2019	Charge	Allied Waste	Dumpster rental for invasive plants	$597.73	$67,874.95
Jun 12 2019	Charge	Allied Waste	Dumpster rental for invasive plants	$938.56	$66,936.39
Jul 17 2019	Charge	Allied Waste	Dumpster rental for invasive plants	$2,705.64	$64,230.75
Aug 12 2019	Charge	Allied Waste	Dumpster rental for invasive plants	$1,413.50	$62,817.25
Sep 17 2019	Charge	Allied Waste	Dumpster rental for invasive plants	$504.91	$62,312.34
Oct 8 2019	Charge	Allied Waste	Dumpster rental for invasive plants	$469.28	$61,843.06
Oct 31 2019	Charge	Vegetation Solutions, Inc	Invasive plant control on Stamm Unit, herbicide application	$3,332.50	$58,510.56
Nov 14 2019	Charge	Allied Waste	Dumpster rental for invasive plants	$1,902.00	$56,608.56
Dec 10 2019	Charge	Allied Waste	Dumpster rental for invasive plants	$597.73	$56,010.83
			Total Expended Jan 2019 - Dec 2019	$17,055.42	
			Total Remaining as of Dec 2019		**$56,010.83**

Table 3. NRG Energy, Inc. Funds Proposal for 2020.

Task/Name	Est. Cost	Task Description
Total Balance for 2019	**$56,010.83**	Balance remaining from 2019
Allied Waste / Republic Service	$12,000.00	Rental of debris box dumpsters for vegetation removal
HR Options	$18,000.00	Bio Tech hired by CWF via HR Options
California Wildlife Foundation	$2,330.00	10% Service Fee
Contractors	$20,000.00	Invasive Plant Control
Total Proposed Expenditures	$52,330.00	Total proposed for 2020
Proposed Remaining Balance	$3,680.83	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
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 2019.

6.0 Other Governmental Agency Filings and Permits Issued

Permit Required	Date of Approval Given
1. Annual Permit to Operate by BAAQMD, Plant # 19169	1/19/2019 Actual 5/1/2019 Update 12/1/2019 Current
2. Clean Air Act Title IV Permit by BAAQMD (Acid Rain Permit)	11/3/2015 Actual
3. Clean Air Act Title V Permit by BAAQMD (to be obtained within 12 months after commencing operation)	11/3/2015 Actual
4. Application with BAAQMD for Title V permit modification for emergency fire pump addition and operation filed June 11, 2018.	1/7/2019 Actual
5. Application with BAAQMD for Title V permit modification for black start equipment addition and operation filed March 13, 2018. Authority to Construct Issued	4/23/2019
6. Application filed with the BAAQMD to change facility name filed on 11/8/18.	12/1/2019
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	5/14/2015 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. Authority to Construct Diesel Fire Pump – Request to renew submitted to BAAQMD, November 23, 2016.	Pending

Permit Required	Date of Approval Given
8. Department of Transportation Hazardous Materials Certificate of Registration Effective: 07-01-2019, Expires: 06-30-2020	7/01/2019 Actual
9. Department of Toxic Substance Control – Well Inspection Report provided by PG&E.	1/17/2018 Actual
10. San Joaquin Regional Water Quality Control Board – Request to rescind the Industrial General Permit for Storm Water. The board agreed.	5/03/2017 Actual
11. CUPA Hazardous Material Storage Certificate for 2019/2020	7/01/2019 Actual

7.0 Project Compliance Activity Schedule for 2020

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

9.0 Review of Unplanned Facility Closure Plan

The on-site contingency plan for unplanned facility closure has been reviewed and updated. Report sent separately.

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

No Notices of Violations were issued to the facility during 2019.

The Contra Costa Health Services Hazardous Materials Program (CCHSHMP) division conducted an audit in March 2019. No deficiencies were identified, however, a "partial deficiency" was noted related to annual coordination with local emergency response agencies. Marsh Landing is working with CCHSHMP to address the deficiency.