DOCKETED

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Project Title:	Duke Energy North American's Moss Landing Power Plant Modernization Project (Compliance)
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Document Title:	Petition to Amend; Moss Landing Power Plant Project
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DYNEGY

DYNEGY MOSS LANDING, LLC
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831-633-6700

August 17, 2017

Ms. Mary Dyas
Compliance Project Manager
California Energy Commission
1516 Ninth Street, MS 2000
Sacramento, CA 95814-5512

Re: Petition to Amend; Moss Landing Power Plant Project (99-AFC-4C)
Combined Cycle Units 1 and 2

Dear Ms. Dyas:

Pursuant to the California Energy Commission (CEC) regulations,[1] Dynegy Moss Landing, LLC (DML) submits the enclosed Petition to Amend the Moss Landing Power Plant Project, i.e., combined cycle Units 1 and 2 (Project), Docket No. 99-AFC-4C.

DML has permanently shut down Boilers 6-1 and 7-1 at the Moss Landing Power Plant. As a result, DML requests removal of the Conditions of Certification (COCs) for Air Quality for the Project related to operation of the two Boilers and, accordingly, revision of the Moss Landing Power Plant's quarterly emission limits in the Air Quality COCs. Moreover, DML requests a few minor changes to the COCs for Air Quality to ensure consistency with the permit applications submitted to the Monterey Bay Air Resources District (MBARD) regarding changes to the Moss Landing Power Plant's Title V operating permit and its MBARD-issued Permits to Operate.

To summarize, this Petition requests approval for the following modifications:

- Remove COCs for Air Quality related to two Boilers at MLPP that are no longer operational;
- Revise the facility quarterly emission limits;
- Clarify the definition of steam turbine cold start-ups;
- Clarify the definition of combustor tuning;
- Clarify the definition of short-term excursion;
- Remove the CO data substitution language;
- Incorporate the Reporting Protocol; and
- Clarify the breakdown reporting requirement.

As demonstrated in the Petition, the proposed modifications will not affect the operation of combined cycle Units 1 and 2. In accordance with Section 1769(a) of the CEC regulations, the proposed modifications will not have a significant effect on the environment and will be beneficial, and the Project will remain in compliance with all applicable laws, ordinances, regulations and standards (LORS).

[1] California Code of Regulations, Title 20, Section 1769(a).

Should you have any questions or need additional information regarding this submittal, please contact Mr. Duke Collins, Sr. Environmental Professional at (831) 633-6738 or Chinghang (Candy) Tong at Sierra Research/Trinity Consultants at (916) 273-5123.

Sincerely,

REX A. LEWIS
Managing Director and Plant Manager
Moss Landing and Oakland Power Plants

DCollins/dc
Enclosure: Technical Document Prepared by Sierra Research/Trinity Consultants: "Petition to Amend" (95pp)

File: 413.20.05

Dynegy Moss Landing, LLC

Petition to Amend
Moss Landing Power Plant Project
(Docket Number 99-AFC-4C)
Combined Cycle Units 1 and 2

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Project 160506.0179

August 2017

Environmental solutions delivered uncommonly well

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1. OVERVIEW OF THE PETITION

Dynegy Moss Landing, LLC (Petitioner), the Project Owner, submits this Petition to Amend (Petition) the Final Decision, as previously amended, for the Moss Landing Power Plant Project (Project). The California Energy Commission (CEC) issued its Final Decision for the Project on October 25, 2000. Construction was completed in June 2002, and the Project began operation in July 2002. The Project is a 1,060 megawatt (MW) natural gas-fired, combined cycle facility, with two units (Unit 1 and Unit 2), each consisting of two combustion turbine generators, two heat recovery steam generators, and a condensing steam turbine generator. Moss Landing Power Plant, (MLPP) is located at the intersection of Highway 1 and Dolan Road, east of the community of Moss Landing near the Moss Landing Harbor, Monterey County.

The purpose of this Petition is to modify certain of the Project's Conditions of Certification (COCs) for Air Quality. Because the Petitioner has permanently retired Boilers 6-1 and 7-1 at the MLPP, the COCs for the Project related to operation of the two Boilers should be removed and the quarterly emission limits in the Project's Air Quality COCs should be modified to exclude the emissions from the two Boilers. Moreover, the Petitioner is requesting clarifying language regarding the definitions of steam turbine cold start-ups, combustor tuning, short-term excursion, carbon monoxide (CO) data substitution language, and breakdown reporting requirements. Finally, the Petitioner is currently working with the Monterey Bay Air Resources District (MBARD) to develop a Monitoring and Reporting Protocol for Monthly Reporting (Reporting Protocol), which contains specific requirements and procedures related to monthly reporting of emissions data. Therefore, the Petitioner is proposing to incorporate the Reporting Protocol into the COCs.

These proposed modifications would ensure consistency with the requirements set forth in the MBARD's revised Title V permit and Permits to Operate (PTOs) that are expected to be issued in the next few months. This Petition provides the appropriate information and environmental analysis for the proposed changes to the COCs. The information presented in this Petition demonstrates that the approval of the proposed changes to the COCs will not result in a significant impact to the environment. The Petition also contains information to ensure that the modifications comply with all applicable laws, ordinances, regulations, and standards (LORS).

1.1. INFORMATION REQUIREMENTS FOR THE POST-CERTIFICATION AMENDMENT

This Petition contains the information required under the CEC's Regulations for post-certification project modifications (California Code of Regulations [CCR] Title 20, Section 1769). This Petition, as summarized in Table 1-1 below, contains the information necessary for staff to determine that the proposed modifications to the Project will not significantly affect the environment, or cause the project not to comply with applicable LORS.

Table 1-1. Informational Requirements for Post-Certification Modifications

CCR Title 20, Section 1769 Requirement	Section of Petition Fulfilling Requirement
Complete description of the proposed modifications, including new language for any conditions that will be affected. Section 1769(a)(1)(A).	2.1 Proposed Modifications and Appendix A
A discussion of the necessity for the proposed modification. Section 1769(a)(1)(B).	2.2 Necessity of Proposed Modifications
If the modification is based on information that was known by the petitioner during the certification proceeding, an explanation of why the issue was not raised at that time. Section 1769(a)(1)(C).	2.3 Proposed Modifications Are Based Upon Information Previously Unknown to Petitioner

CCR Title 20, Section 1769 Requirement	Section of Petition Fulfilling Requirement
If the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision, an explanation of why the change should be permitted. Section 1769(a)(1)(D).	2.4 Proposed Modifications Do Not Change or Undermine the Assumptions, Rationale, Findings, or Other Bases of the Final Decision
An analysis of the impacts the modification may have on the environment and proposed measures to mitigate any significant adverse impacts. Section 1769(a)(1)(E).	2.5 Analysis of the Environmental Impacts from the Proposed Modifications
A discussion of the impact of the modification on the facility's ability to comply with applicable laws, ordinances, regulations, and standards. Section 1769(a)(1)(F).	2.6 Impacts of the Modifications on the Facility's Ability to Comply with Applicable LORS
A discussion of how the modification affects the public. Section 1769(a)(1)(G).	2.7 Impacts of the Modifications to the Public
A list of property owners potentially affected by the modification and a discussion of the potential effect on property owners, the public, and the parties to the application proceeding. Section 1769(a)(1)(H) and Section 1769(a)(1)(I).	2.8 Potential Effect on Nearby Property Owners, the Public, and the Parties in the Application Proceeding

2.1. PROPOSED MODIFICATIONS

The Petitioner submitted a Title V operating permit renewal application for MLPP to the MBARD on June 14, 2017. As part of the renewal application, the Petitioner has requested several changes to the Title V operating permit. These same changes are also requested in the permit amendment application for the Permits to Operate (PTOs) for the combined cycle units (gas turbines Units 1A through 4A) submitted to the MBARD in August 2017. Copies of the permit amendment application and Title V renewal technical support documents are included in Appendices B and C.

The following is a brief summary of the requested changes to both the Title V operating permit and PTOs (hereinafter referred to collectively as the "Permits"):

- Remove the COCs for Air Quality related to the two Boilers at MLPP that are no longer operational;
- Clarify the definition of steam turbine cold start-ups;
- Clarify the definition of combustor tuning;
- Clarify the definition of short-term excursion;
- Remove the CO data substitution language;
- Revise the facility quarterly emission limits;
- Incorporate the Reporting Protocol; and
- Clarify the breakdown reporting requirement.

2.1.1. Removal of the Equipment

The Petitioner permanently shut down Boilers 6-1 and 7-1 at the MLPP on December 31, 2016. In August 2017, the Petitioner submitted an application to MBARD to inactivate the Boilers' Permits to Operate (Appendix D). Therefore, the Petitioner is proposing to remove the COCs for Air Quality that are related to Boilers 6-1 and 7-1. The proposed changes are shown in Appendix A.

2.1.2. Clarifications for the Definitions of Steam Turbine Cold Start-ups and Combustor Tuning

Based on the current Permits, steam turbine cold startups are defined as "start-up periods that follow a shutdown of the steam turbine for at least 72 hours." The Permits also limit the total number of hours for "steam turbine cold start-up" to 30 hours per year, and contain emission limits for oxides of nitrogen (NOx as NO_2), CO, and volatile organic compounds (VOC as CH_4) for each cold start-up.

In order to enable the Project to operate in response to requests from the California Independent System Operator (CAISO), the Petitioner submitted a permit application to MBARD on September 1, 2016, seeking clarification of the definition of the term "steam turbine cold start-up." As discussed in the September 2016 application (Appendix E), the Petitioner believes that the annual 30-hour limit should restrict only those "steam turbine cold start-ups" that either:

- Last more than 4 hours; or
- Exceed the standard start-up emission limits.

MBARD approved the proposed clarification and issued revised permits GNR-001 7223 to 7226 for the gas turbines. This clarification was also approved by the MBARD under the Operational Flexibility provisions of

MBARD Rule 218, Section 5.5.1.3 for the Title V operating permit. Copies of the revised Permits to Operate and the approval letter are also included in Appendix E. Therefore, the Petitioner requests that the same clarifying language be added to Condition AQ-15 regarding steam turbine cold startups.

In addition, the Permits' conditions state that combustion tuning activities include "all testing, adjustment, tuning, and calibration activities recommended by the gas turbine manufacturer to insure safe and reliable steady state operation of the gas turbine following replacement of the combustor…." [Emphasis added] However, combustion tuning activities are also required for maintenance and seasonal adjustment of the gas turbines and, accordingly, the Petitioner has proposed clarifying language in the Permits. As a result, the Petitioner requests clarifying language to AQ-15 for combustor tuning activities. The proposed revisions to AQ-15 are shown in Appendix A.

2.1.3. Clarification for the Definition of Short-Term Excursions

The Permits define short-term excursions as the direct result of "pre-mix mode switchover" or "diffusion mode switchover." Both terms describe a change in combustion mode; therefore, the Petitioner has proposed the use of the general term "combustor mode switchover" rather than "diffusion" or "pre-mix" in the Permits. The Petitioner requests to use the same general term "combustor mode switchover" in AQ-18. The proposed revisions to AQ-18 are shown in Appendix A.

2.1.4. Removal of the CO Data Substitution Requirement

The Permits require continuous monitoring of CO from the boilers and gas turbines in accordance with 40 CFR Part 60 requirements. The Permits also require the following data substitution procedures for CO data:

> *For periods of missing CO data, CO hourly values shall be substituted from valid hourly average data from the previous thirty (30) unit operating days, excluding periods of start-up, shutdown and combustor tuning. The CO data shall be substituted based on equivalent incremental load ranges.*

However, 40 CFR 60.334 (b)(3)(iii) specifies that missing data periods to which 40 CFR Part 75 data substitution procedures are applied should be identified as missing data for the purposes of Part 60 monitoring/reporting. To ensure consistency with the 40 CFR Part 60 and the Permits' requirements, the Petitioner has proposed to remove the above CO data substitution language in the Permits. Thus, the Petitioner proposes to remove the above CO data substitution language from AQ-19. The proposed changes are shown in Appendix A.

2.1.5. Revision of the Facility Quarterly Emission Limits

The Permits limit the emissions from all power generation equipment at the MLPP (i.e., Boilers 6-1 and 7-1 and Gas Turbines Units 1A – 4A), including start-ups, and combustor tuning, to the levels shown in Table 2-1.

Table 2-1. Current Emission Limits at the Moss Landing Power Plant

Pollutant	Pounds of Emissions Per Calendar Quarter			
	First	Second	Third	Fourth
NOx (as NO_2)	286,778	285,301	409,492	336,584
SO_2	23,823	24,567	32,613	29,468
VOC	144,537	150,294	212,540	188,206
PM_{10}	213,533	221,488	307,505	273,879
CO	2,929,068	3,059,753	4,472,774	3,920,385

These quarterly emission limits were established by the MBARD as part of its approval of the two combined cycle units, and they were incorporated into the net emission increase calculations in the District's 2000 permit evaluation.[1] Because of the retirement of Boilers 6-1 and 7-1, the revised facility PTE should be based on emissions from the two combined cycle units (i.e. Gas turbines Units 1A through 4A), as shown in Table 2-2 below. The Petitioner has proposed revised quarterly emission limits in the Permits. Thus, the Petitioner proposes to revise the quarterly emission limits in AQ-19. The proposed changes to AQ-28 are shown in Appendix A.

Table 2-2. Potential to Emit at the Moss Landing Power Plant – Criteria Pollutants

Pollutant	Pounds of Emissions Per Calendar Quarter			
	First	Second	Third	Fourth
NOx (as NO_2)	169,840	169,840	169,840	169,840
SO_2	10,920	10,920	10,920	10,920
VOC	44,720	44,720	44,720	44,720
PM_{10}	75,600	75,600	75,600	75,600
$PM_{2.5}$	75,600	75,600	75,600	75,600
CO	662,880	662,880	662,880	662,880

1. $PM_{2.5}$ PTE is approximated as the same as PM_{10}.

2.1.6. Incorporation of the Reporting Protocol

As mentioned above, the Petitioner is currently working with the MBARD to develop a Reporting Protocol that addresses the monthly reporting of the continuous emissions monitoring system (CEMS) data, and data acquisition and handling system (DAHS) calculations, for the Project. The Reporting Protocol identifies all applicable federal and MBARD monthly reporting requirements. Therefore, upon approval of the Reporting Protocol, the Petitioner proposes to incorporate the Reporting Protocol by reference in the Permits. The proposed revisions to the corresponding COC AQ-33 are shown in Appendix A.

2.1.7. Clarification for the Breakdown Reporting Requirement

The Permits require a written breakdown report to be submitted to the District within five days of an occurrence. Based on MBARD's Rule 214 Section 4.1, the written breakdown report is required to be submitted to the District within five working days after the occurrence has been corrected. Therefore, the Petitioner has

[1] Amendments to the Preliminary Determination of Compliance for the Duke Energy Moss Landing LLC Power Plant modernization, 3/24/2000.

proposed to clarify the requirement by specifying "5 *working* days" in the Permits. The proposed revision to the corresponding COC AQ-42 is shown in Appendix A.

2.2. NECESSITY OF PROPOSED MODIFICATIONS

As described in more detail above, the proposed modifications to the COCs are necessary due to the retirement of Boilers 6-1 and 7-1 and to ensure consistency with other applicable requirements and recently submitted permit applications requesting changes to the Permits.

The Petitioner proposes to remove the COCs for air quality that are related to retired Boilers 6-1 and 7-1 (AQ-21 through AQ-27) and, accordingly, revise the facility quarterly emission limits (AQ-28). After the necessary revisions, the Project will be subject to appropriate COCs and quarterly emissions limits for the remaining power generation equipment at the MLPP.

Moreover, the proposed clarifications for the steam turbine cold start-up definition are necessary to address the specific conditions for which a steam turbine cold start-up is subject to the annual 30-hour limit (AQ-49). This allows the MLPP to continue to operate in response to requests from the CAISO within the annual operational limit.

In addition, the proposed modification to COC AQ-15 regarding the combustor tuning definition will ensure that the gas turbine complies with all necessary maintenance requirements, and the proposed removal of the CO data substitution language from AQ-19 is necessary to ensure consistency between the 40 CFR Part 60 and the Permits' requirements.

Finally, the proposed modifications to the definition of short-term excursions (AQ-18), the incorporation of the Reporting Protocol (AQ-33), and the clarification for the breakdown reporting requirement (AQ-42) are necessary to ensure consistency with the recently submitted permit applications requesting changes to the Permits.

2.3. PROPOSED MODIFICATIONS ARE BASED UPON INFORMATION PREVIOUSLY UNKNOWN TO PETITIONER

The proposed modifications are not based on information that was known by the Petitioner during the original certification proceeding or subsequent proceedings. Each of the proposed modifications is based on new information.

The Petitioner permanently retired Boilers 6-1 and 7-1 on December 31, 2016, such that the corresponding proposed modifications were not appropriate until that time. The Reporting Protocol is a document currently being developed by both the MLPP and the MBARD. Therefore, information regarding the Reporting Protocol was also previously unknown to the Petitioner.

This Petition is also based on permit applications only recently submitted to the MBARD requesting minor changes to the Permits, which clarify language pertaining to steam turbine cold start-ups, combustor tuning, short term excursions, CO data substitution language, and breakdown reporting requirements. Thus, these requested modifications are based on new information previously unknown to the Petitioner. The proposed changes are necessary to ensure consistency with the recently submitted permit applications.

2.4. PROPOSED MODIFICATIONS DO NOT CHANGE OR UNDERMINE THE ASSUMPTIONS, RATIONALE, FINDINGS, OR OTHER BASES OF THE FINAL DECISION

The proposed modifications do not change or undermine the assumptions, rationale, findings, or other bases of the Final Decision approving the Project or subsequent CEC amendments to the Final Decision. The proposed modifications are necessary to ensure consistency with the recently submitted permit applications requesting changes to the Permits and the recent retirement of Boilers 6-1 and 7-1, and they should be permitted as they will have no additional impacts beyond those analyzed in the CEC Decision for the Project.

2.5. ANALYSIS OF THE ENVIRONMENTAL IMPACTS FROM THE PROPOSED MODIFICATIONS

An analysis of environmental impacts from the proposed modifications on each environmental resource area is provided in Table 2-3 below. Further, because the proposed modifications will not have significant adverse impacts on the environment, there is no need for any mitigation measures to offset significant impacts to the environment as a result of the Project.

Table 2-3. Environmental Analysis

Resource Area	Analysis
Air Quality	The proposed modifications will not result in any increases in emissions for the Project and will not trigger any new air quality requirements (refer to the MBARD permit application provided in Appendix B for details). The proposed modifications related to the retirement of Boilers 6-1 and 7-1 will reduce the facility's quarterly potential to emit. Therefore, additional mitigation measures beyond those found in the CEC Decision are not necessary.
Biological Resources	The proposed modifications will not result in any increases in emissions for the Project. No impacts on biological resources are anticipated beyond those already evaluated by the CEC. The proposed modifications will not change any of the CEC's previous findings regarding biological resources.
Cultural Resources	The proposed modifications will not require construction activities or ground disturbances. Therefore, the proposed modifications will not result in any cultural resource impacts and will not change any of the CEC's previous findings regarding cultural resources.
Geology and Paleontology	The proposed modifications will not require construction activities or ground disturbances. Therefore, the proposed modifications will not result in geologic impacts any different than those analyzed by the CEC during licensing of the Project. The proposed modifications will not change any of the CEC's previous findings regarding geology and paleontology.
Hazardous Materials	The proposed modifications will not result in any new hazardous materials impacts that were not analyzed by the CEC during licensing of the Project. The proposed modifications will not change any of the CEC's previous findings regarding hazardous materials.
Land Use	The proposed modifications will not result in any land use impacts and will not change any of the CEC's previous findings regarding land use.
Noise and Vibration	The proposed modifications will not require construction activities or ground disturbances. Therefore, the modifications will not result in any

Resource Area	Analysis
	noise impacts and will not change any of the CEC's previous findings regarding noise and vibration.
Public Health	The proposed modifications will not result in any increases in emissions for the Project and will not trigger any new air quality requirements. Therefore, additional mitigation measures beyond those found in the CEC Decision are not necessary. The proposed modifications will not change any of the CEC's previous findings regarding public health.
Socioeconomic Resources	The proposed modifications will not require extensive labor. Therefore, the proposed modifications will not affect any of the CEC's previous findings regarding socioeconomic impacts of the Project.
Soil and Water Resources	The proposed modifications will not cause construction activities and will not require additional water resources. Therefore, the proposed modifications will not result in any soil or water impacts and will not change any of the CEC's previous findings regarding soil and water resources.
Traffic and Transportation	The proposed modifications will not require any additional offsite work or heavy haul equipment. Therefore, the proposed modifications will not result in any traffic and transportation impacts and will not change any of the CEC's previous findings regarding traffic and transportation.
Visual Resources	The proposed modifications will not change the physical appearance of Project. Therefore, the proposed modifications will not result in any visual impacts and will not change any of the CEC's previous findings regarding visual resources.
Waste Management	The proposed modifications will not result in any change in waste products. Therefore, waste management impacts will not be any different than those analyzed by the CEC during licensing of the Project and the proposed modifications will not change any of the CEC's previous findings regarding waste management.
Worker Safety	The proposed modifications will not affect any of the CEC's previous findings regarding worker safety.

2.6. IMPACTS OF THE MODIFICATIONS ON THE FACILITY'S ABILITY TO COMPLY WITH APPLICABLE LORS

The proposed modifications will not impact the MLPP's ability to comply with all applicable LORS. Appendix B contains the August 2017 air permit application prepared on behalf of the Petitioner by its consultant Sierra Research/Trinity Consultants, which has been submitted to the MBARD for the Project. Included in the MBARD permit application is a regulatory analysis demonstrating compliance with the applicable District and federal air requirements for the Project.

2.7. IMPACTS OF THE MODIFICATIONS TO THE PUBLIC

The proposed modifications will not require new construction or alteration of the physical appearance of the facility. The Petitioner is proposing lower facility quarterly emission limits, and none of the other existing hourly, monthly, annual, or operating limits will be changed. Therefore, the proposed modifications will not negatively impact air quality or public health.

2.8. POTENTIAL EFFECT ON NEARBY PROPERTY OWNERS, THE PUBLIC, AND THE PARTIES IN THE APPLICATION PROCEEDING

Nearby property owners, the public, and Parties in the Application Proceeding will not be affected by the proposed modifications since the proposed modifications will have no significant environmental effects and will be in compliance with applicable LORS. Because there are no potentially affected property owners, a list of property owners is not included in this Petition.

APPENDIX A: PROPOSED MODIFICATIONS TO THE CONDITIONS OF CERTIFICATIONS

Proposed changes to the COCs are shown in underline and ~~strikeout~~ text.

CONDITIONS OF CERTIFICATION
DETERMINATION OF COMPLIANCE CONDITIONS

***

GAS TURBINE CONDITIONS:

***

AQ-15 The pollutant mass emission rates in the exhaust discharged to the atmosphere from each Gas Turbine shall not exceed the following limits:

Pollutant	Lbs/Hour	Lbs/Day
Oxides of Nitrogen (NO_x)	17.23	413.5
Carbon Monoxide (CO)	37.76	906.2
Particulate Matter <10 microns (PM_{10})	9.00	216.0
Volatile Organic Compounds (VOC)	4.79	115.0
Ammonia (NH_3)	12.75	306.0
Sulfur Dioxide (SO_2)	1.30	31.2

Protocol: These limits shall not apply during start-up, which is not to exceed four (4) hours, during shutdown, which is not to exceed two (2) hours, or during steam turbine cold startup or combustor tuning, which are not to exceed six (6) hours. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up**,** shutdown and combustor tuning to minimize pollutant emissions.

Steam turbine cold startup periods are start-up periods that **last more than four (4) hours or exceed the start-up emission limits in Condition 5, and** follow a shutdown of the steam turbine for at least 72 hours. Combustor tuning activities include all testing, adjustment, tuning, and calibration activities **associated with combustor replacement and maintenance,** recommended by the gas turbine manufacturer to ensure safe and reliable steady state operation of the gas turbines ~~following replacement of the combustor~~. This includes, but is not limited to, adjusting the amount of fuel distributed between the combustion turbine's staged fuel systems to simultaneously minimize NOx, CO and VOC production while ensuring combustor stability.

Verification: See **AQ-38 and 39**.

***

AQ-18 Compliance with the hourly NOx emission limits specified in Conditions 15 and 16 shall not be required during short-term excursions of less than 10 hours per rolling 12-month period.

Short-term excursions are defined as 15-minute periods designated by the owner/operator that are a direct result of a ~~pre-mix~~ **combustor** mode switchover, not to exceed four consecutive 15-minute periods, when the 15-minute average NOx concentration exceeds 2.5 ppm corrected to 15% O_2.

The maximum 1-hour average NOx concentration for periods that include short-term excursions shall not exceed 30 ppmvd corrected to 15% O_2. All emissions during short-term excursions shall be included in all calculations of daily, quarterly, and annual mass emissions required by this permit.

Verification: See **AQ-38** and **AQ-39**.

AQ-19 CEM Systems shall be installed and operated on each of the Gas Turbines. These systems shall be designed to continuously record the measured gaseous concentrations, and calculate and continuously monitor and record the CO, CO_2 or O_2, and NO_x concentrations corrected to fifteen (15) percent oxygen (O_2) on a dry basis.

The equipment installed for the continuous monitoring of CO shall be maintained and operated in accordance with 40 CFR Part 60 Appendix F, and the equipment installed for the continuous monitoring of CO_2 or O_2 and NO_x shall be maintained and operated in accordance with 40 CFR Parts 72 and 75.

~~For periods of missing CO data, CO hourly values shall be substituted from valid hourly average data from the previous thirty (30) unit operating days, excluding periods of startup, shutdown and combustor tuning. The CO data shall be substituted based on equivalent incremental load ranges.~~

Verification: See **AQ-38 and 39**

***

BOILER 6-1 AND 7-1 CONDITIONS:

AQ-21 The heat input rate to each Boiler shall not exceed 7,048 MMBtu/hr.

Verification: See **AQ-38 and 39.**

AQ-22 Effective December 31, 2000, the pollutant mass emission rates in the exhaust discharged to the atmosphere from one Boiler shall not exceed the following limits:

Pollutant	Lbs/Hour	Lbs/Day
Oxides of Nitrogen (NOx)	85.6	2,054.4
Carbon Monoxide (CO)	862.7	20,704.8
Particulate Matter <10 microns (PM10)	52.5	1,260.0
Volatile Organic Compounds (VOC)	38.0	912.0
Ammonia (NH3)	31.6	758.4
Sulfur Dioxide (SO2)	4.9	117.6

Protocol: These limits shall not apply during start-up, which is not to exceed twelve (12) hours, or shutdown, which is not to exceed eight (8) hours. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

Verification: See **AQ-38 and 39**.

AQ-23 Effective December 31, 2000, the pollutant concentrations discharged to the atmosphere from one Boiler shall not exceed the following limits, based upon a one (1) hour rolling average (unless otherwise noted) calculated at 3 percent O_2 on a dry basis:

Pollutant	Concentration (ppm)
Oxides of Nitrogen (as NO2)	10
Carbon Monoxide (CO)	400 (steady state compliance test based on a 60 consecutive minute avg.) 1000 (one hour clock-hour avg.)
Ammonia (NH3)	10 (3-60 minute avg.)

Protocol: These limits shall not apply during start-up, which is not to exceed twelve (12) hours, or shutdown, which is not to exceed eight (8) hours. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

Verification: See **AQ-38 and 39**.

AQ-24 During the period of December 31, 2000 through December 31, 2001, when both Units 6-1 and 7-1 are available, the owner/operator shall preferentially operate the unit subject to the emission limits contained in Condition 20, such that its MW-hours equal or exceed the MW-hours of the unit not subject to the requirements of Condition 22; provided that such preferential operation shall not impair the provision of reliable electric service.

Verification: See **AQ-38 and 39**.

AQ-25 Effective December 31, 2001, the pollutant mass emission rates in the exhaust discharged to the atmosphere from each Boiler shall not exceed the following limits:

Pollutant	Lbs/Hour	Lbs/Day
Oxides of Nitrogen (NOx)	85.6	2,054.4
Carbon Monoxide (CO)	862.7	20,704.8
Particulate Matter <10 microns (PM10)	52.5	1,260.0
Volatile Organic Compounds (VOC)	38.0	912.0
Ammonia (NH3)	31.6	758.4
Sulfur Dioxide (SO2)	4.9	117.6

Protocol: These limits shall not apply during start-up, which is not to exceed twelve (12) hours, or shutdown, which is not to exceed eight (8) hours. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

Verification: See **AQ-38 and 39**.

AQ-26 Effective December 31, 2001, the pollutant concentrations discharged to the atmosphere from each Boiler shall not exceed the following limits, based upon a one (1) hour rolling average (unless otherwise noted) calculated at 3 percent O_2 on a dry basis:

Pollutant	Concentration (ppm)
Oxides of Nitrogen (as NO2)	10
Carbon Monoxide (CO)	400 (steady state compliance test based on a 60 consecutive minute avg.) 1000 (one hour clock hour avg.)
Ammonia (NH3)	10 (3-60 minute avg.)

Protocol: These limits shall not apply during start-up, which is not to exceed twelve (12) hours, or shutdown, which is not to exceed eight (8) hours. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

Verification: See **AQ-38 and 39**.

AQ-27 CEM Systems shall be installed and operated on each of the Boilers. These systems shall be designed to continuously record the measured gaseous concentrations, and calculate and continuously monitor and record the CO, CO_2 or O_2, and NOx concentrations corrected to three (3) percent oxygen (O_2) on a dry basis.

The equipment installed for the continuous monitoring of CO shall be maintained and operated in accordance with 40 CFR Part 60 Appendix F, and the equipment installed for the continuous monitoring of CO2 or O2 and NOx shall be maintained and operated in accordance with 40 CFR Parts 72 and 75.

For periods of missing CO data, CO hourly values shall be substituted from valid hourly average data from the previous thirty (30) unit operating days, excluding periods of startup and shutdown. The CO data shall be substituted based on equivalent incremental load ranges.

Verification: See **AQ-38 and 39**.

GENERAL CONDITIONS:

AQ-28 Cumulative emissions, including emissions generated during Start-ups, Shutdowns and Combustor Tuning Activities, from all power generation equipment at the Moss Landing Power Plant shall not exceed the following quarterly limits:

Pollutant	Pounds of Emissions Per Calendar Quarter			
	First	Second	Third	Fourth
NOx (as NO_2)	~~286,778~~ **169,840**	~~285,301~~ **169,840**	~~409,492~~ **169,840**	~~336,584~~ **169,840**
SO_2	~~23,823~~ **10,920**	~~24,567~~ **10,920**	~~32,613~~ **10,920**	~~29,468~~ **10,920**
VOC	~~144,537~~ **44,720**	~~150,294~~ **44,720**	~~212,540~~ **44,720**	~~188,206~~ **44,720**
PM_{10}	~~213,533~~ **75,600**	~~221,488~~ **75,600**	~~307,505~~ **75,600**	~~273,879~~ **75,600**
CO	~~2,929,068~~ **662,880**	~~3,059,753~~ **662,880**	~~4,472,774~~ **662,880**	~~3,920,385~~ **662,880**

Verification: See **AQ-38 and 39**.

~~**AQ-29** Units 6-1 and 7-1 shall be abated by a properly operated and maintained Selective Catalytic Reduction System.~~

~~**Verification**: See **AQ-38 and 39**~~.

***

AQ-33 The owner/operator shall submit **monthly reports on the continuous emissions monitoring systems** to the Air Pollution Control District **in accordance with the Monitoring and Reporting Protocol for Monthly Reporting (Reporting Protocol) upon its approval by the District.** ~~a written report each month which shall include~~:

~~a. time intervals, date, and magnitude of excess emissions;~~
~~b. nature and cause of the excess emission, and corrective actions taken;~~
~~c. time and date of each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs and adjustments; and~~
~~d. a negative declaration when no excess emissions occurred.~~

Verification: See **AQ-38 and 39**.

***

AQ-42 The owner/operator shall report all breakdowns which result in the inability to comply with any emission standard or requirement contained on this permit to the Air Pollution Control Officer (APCO) within 1 hour of the occurrence, this one hour period may be extended up to six hours for good cause by the APCO. The APCO may elect to take no enforcement action if the owner/operator demonstrates to the APCO s satisfaction that a breakdown condition exists.

The estimated time for repair of the breakdown shall be supplied to the APCO within 24 hours of the occurrence and a written report shall be supplied to the APCO with**in** 5 **working** days after the occurrence has been corrected.

This report shall include at a minimum:

a. a statement that the condition or failure has been corrected and the date of correction; and
b. a description of the reasons for the occurrence; and
c. a description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future; and
d. an estimate of the emissions caused by the condition or failure.

Verification: See **AQ-38 and 39.**

***

APPENDIX B: PERMIT MODIFICATION APPLICATION SUBMITTED TO MBARD

Dynegy Moss Landing, LLC

Permit Modification Application for the Moss Landing Power Plant Gas Turbine Units 1A through 4A

Prepared By:

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916-444-6666

Project 160506.0179

August 2017

Environmental solutions delivered uncommonly well

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1. EXECUTIVE SUMMARY

Dynegy Moss Landing, LLC (DML) operates the Moss Landing Power Plant (MLPP or Facility), an electric generating facility located in Moss Landing, California. DML operates two combined-cycle gas turbine units (Gas Turbines 1A & 2A, 3A & 4A). Each turbine is equipped with dry low-NOx (DLN) combustors, a selective catalytic reduction (SCR) system, and an ammonia injection system. The four gas turbines are operated under existing Permits to Operate (PTOs) GNR-0017223 – GNR-0017226 issued by the Monterey Bay Air Resources District (MBARD or District) on November 21, 2016. The equipment is also permitted under current Title V Permit No. TV65-01A.

DML is submitting this permit modification application to the District requesting changes to the PTOs for the Gas Turbine (GT) Units 1A through 4A at the Facility. Due to the retirement of the Boilers 6-1 and 7-1, the facility quarterly emission limits in the current PTOs (Condition 8) should be modified to reflect emissions from the four gas turbines only. Moreover, DML is requesting a few clarifications/minor revisions to the current permit conditions.

In summary, DML is proposing the following changes to each PTO:

- Clarification of the definition of combustor tuning (Condition 3);
- Clarification of the definition of short-term excursion (Condition 6);
- Removal of the CO data substitution requirement (Condition 7);
- Revision of the facility quarterly emission limits (Condition 8);
- Incorporation of the Monitoring and Reporting Protocol for Monthly Reporting (Reporting Protocol)[1] as the guidance document for the monthly reporting (Condition 16);
- Minor revision of the permit condition (Condition 23); and
- Clarification for the breakdown reporting requirement (Condition 24).

These requested changes are discussed in more detail in Section 2.4.

The same changes were also requested as part of the Title V permit renewal application of current Title V Permit TV65-01A (Title V Renewal Application). The Title V Renewal Application was submitted to the District on June 14, 2017, and the renewal and minor modification application was deemed complete on July 25, 2017. Moreover, DML will submit an amendment petition to the California Energy Commission (CEC) to allow for conforming changes.

This Application is organized as follows:

- Section 1: Executive Summary
- Section 2: Project Description
- Section 3: Regulatory Analysis

[1] DML is currently working together with the District to develop the Monitoring and Reporting Protocol for Monthly Reporting (Reporting Protocol). This protocol sets forth specific requirements and procedures related to monthly reporting of emissions data for the DML MLPP to the District.

2.1. FACILITY INFORMATION

Name of Applicant:	Dynegy Moss Landing, LLC Moss Landing Power Plant
Mailing Address:	P.O. Box 690 Moss Landing, CA 95039-0690
Site Location:	Highway 1 and Dolan Road Moss Landing, CA 95039
Responsible Official:	Rex A. Lewis Managing Director (831) 633-6698
Facility Contact:	Duke Collins Senior Environmental Professional (831) 633-6378

2.2. TYPE OF APPLICATION

Pursuant to MBARD Rule 207 Section 2.33.5, "*any change to a District Authority to Construct or Permit to Operate to establish federally enforceable conditions in the permit that are accepted voluntarily by the source for purposes of limiting its potential emissions*" is a modification. Because of the retirement of the two boilers (Boilers 6-1 & 7-1), DML is proposing lower quarterly emission limits for the Facility (Condition 8 of the PTOs); therefore, this application is for a permit modification.

2.3. PERMIT APPLICATION FEES

The $5,112 application fees for the four PTOs will be paid online via the District's website. The amount of this filing fee was determined based on the MBARD's fee determination sheet, which is also included with this application.[2]

2.4. DESCRIPTION OF PROPOSED CHANGES

2.4.1. Clarification for the Definition of Combustor Tuning

Condition 3 of the PTOs (GNR-0017223 – GNR-0017226) currently states that combustion tuning activities include "all testing, adjustment, tuning, and calibration activities recommended by the gas turbine manufacturer to insure safe and reliable steady state operation of the gas turbine following replacement of the combustor." [emphasis added]

[2] MBARD's fee determination sheet, received from Mary Giraudo, dated 7/10/2017.

However, combustion tuning activities are also required for maintenance and seasonal adjustment of the gas turbines. As a result, DML requests a clarification to Condition 3 of each of the PTOs. The proposed revisions are shown below, denoted by underlined and strikeout text.

> *3. The pollutant mass emission rates in the exhaust discharged to the atmosphere from each Gas Turbine shall not exceed the following limits:*
> *…*
> *Combustion turning activities includes all testing, adjustment, tuning, and calibration activities* ***associated with combustor replacement and maintenance*** *recommended by the gas turbine manufacturer to ensure safe and reliable steady state operation of the gas turbine ~~following replacement of the combustor~~. This includes, but is not limited to, adjusting the amount of fuel distributed between the combustion turbine's staged fuel system to simultaneously minimize NOx, CO, and VOC production while ensuring combustor stability.*

2.4.2. Clarification for the Definition of Short-Term Excursion

Condition 6 of the PTOs (GNR-0017223 – GNR-0017226) currently states that short-term excursions are the direct result of "pre-mix mode switchover," while the corresponding Condition 8 of the Title V permit for the Facility states that short-term excursions are the result of "diffusion mode switchover." Both terms describe a change in combustion mode; therefore, DML proposes the use of the general term "combustor mode switchover" rather than "diffusion" or "pre-mix" in the permit condition. The proposed revisions to Condition 6 are shown below.

> *6. Exceedance of the hourly NOx emission limits specified in condition numbers 3 and 4 is allowed during short-term excursions which total less than 10 hours per rolling 12-month period.*
>
> *Short-term excursions are defined as 15-minute periods designated by Dynegy Moss Landing, LLC that are a direct result of a* ***combustor*** *~~pre-mix~~ mode switchover, not to exceed four consecutive 15-minute periods, when the 15-minute average NOx concentration exceeds 2.5 ppm corrected to 15% O_2.*
> *…*

2.4.3. Removal of the CO Data Substitution Requirement

Condition 7 of the PTOs requires continuous monitoring of CO from the gas turbines in accordance with 40 CFR Part 60 requirements. Condition 7 also requires the following data substitution procedures for CO data:

> *For periods of missing CO data, CO hourly values shall be substituted from valid hourly average data from the previous thirty (30) unit operating days, excluding periods of start-up, shutdown and combustor tuning. The CO data shall be substituted based on equivalent incremental load ranges.*

However, 40 CFR 60.334(b)(3)(iii) specifies that missing data periods to which 40 CFR Part 75 data substitution procedures are applied should be identified as missing data for the purposes of Part 60 monitoring/reporting. To ensure consistency with 40 CFR Part 60 and District's reporting requirements, DML proposes to remove the above CO data substitution language from Condition 7. Based on comments from the District's staff on the Reporting Protocol, it is our understanding that the District agrees that this CO data substitution language should be removed. The proposed revisions are shown below.

7. *The CEM system shall be operated on this gas turbine. This system shall be designed to continuously record the measured gaseous concentrations, and calculate and continuously monitor and record the CO, CO_2 or O_2, and NOx concentrations corrected to fifteen (15) percent oxygen (O_2) on a dry basis.*

   The equipment for the continuous monitoring of CO shall be maintained and operated in accordance with 40 CFR Part 60 Appendix F, and the equipment for the continuous monitoring of CO_2 or O_2 and NOx shall be maintained and operated in accordance with 40 CFR Parts 72 and 75.

   ~~*For periods of missing CO data, CO hourly values shall be substituted from valid hourly average data from the previous thirty (30) unit operating days, excluding periods of start-up, shutdown and combustor tuning. The CO data shall be substituted based on equivalent incremental load ranges.*~~

2.4.4. Revision of the Facility Quarterly Emission Limits

Rule 207 Section 2.50 states that the Potential to Emit (PTE) is the "maximum daily capacity of a permit unit to emit a pollutant under its physical and operational design. Any physical or operational limitation on the daily capacity of the unit to emit a pollutant, including pollution control equipment and restrictions in hours or operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of its design only if the limitation, or the effect it would have on daily emissions, is incorporated into the applicable Authority to Construct and Permit to Operate as an enforceable permit condition."

Condition 8 of the PTOs currently limits the emissions from all power generation equipment at the Moss Landing Power Plant (i.e., Boilers 6-1 and 7-1 and Gas Turbines Units 1A – 4A), including start-ups, and combustor tuning, to the levels shown in Table 2-1.

Table 2-1. Current Emission Limits at the Moss Landing Power Plant

Pollutant	Pounds of Emissions Per Calendar Quarter			
	First	Second	Third	Fourth
NOx (as NO_2)	286,778	285,301	409,492	336,584
SO_2	23,823	24,567	32,613	29,468
VOC	144,537	150,294	212,540	188,206
PM_{10}	213,533	221,488	307,505	273,879
CO	2,929,068	3,059,753	4,472,774	3,920,385

These quarterly emission limits were established by the District as part of the District's approval of the four combined cycle units, and they were incorporated into the net emission increase calculations in the District's evaluation 2000 permit evaluation.[3] As discussed in the Title V Renewal Application, DML proposes to establish the revised PTE for the Facility using the same calculation methodology shown in the District's Final Determination of Compliance (FDOC) of the Moss Landing Power Plant.[4]

[3] Amendments to the Preliminary Determination of Compliance for the Duke Energy Moss Landing LLC Power Plant modernization, 3/24/2000.

[4] Final Determination of Compliance for Duke Energy Moss Landing LLC Power Plant Modernization, 5/10/2000

Since the PTOs for the two boilers (Boilers 6-1 and 7-1) have been surrendered, the new facility PTE should be based on emissions from the four gas turbines (Units 1A through 4A), as shown in Table 2-2 below. Detailed PTE calculations are included in Appendix B of the Title V renewal application.

Table 2-2. Potential to Emit at the Moss Landing Power Plant – Criteria Pollutants

Pollutant	Pounds of Emissions Per Calendar Quarter			
	First	Second	Third	Fourth
NOx (as NO_2)	169,840	169,840	169,840	169,840
SO_2	10,920	10,920	10,920	10,920
VOC	44,720	44,720	44,720	44,720
PM_{10}	75,600	75,600	75,600	75,600
$PM_{2.5}$	75,600	75,600	75,600	75,600
CO	662,880	662,880	662,880	662,880

1. $PM_{2.5}$ PTE is approximated as the same as PM_{10}.

The proposed revisions to Condition 8 are shown below.

8. *Cumulative emissions, including emissions generated during start-ups, shutdowns and combustor tuning activities, from all power generation equipment at the Moss Landing Power Plant shall not exceed the following quarterly limits:*

Pollutant	*Pounds of Emissions Per Calendar Quarter*			
	First	*Second*	*Third*	*Fourth*
NOx (as NO_2)	~~*286,778*~~ ***169,840***	~~*285,301*~~ ***169,840***	~~*409,492*~~ ***169,840***	~~*336,584*~~ ***169,840***
SO_2	~~*23,823*~~ ***10,920***	~~*24,567*~~ ***10,920***	~~*32,613*~~ ***10,920***	~~*29,468*~~ ***10,920***
VOC	~~*144,537*~~ ***44,720***	~~*150,294*~~ ***44,720***	~~*212,540*~~ ***44,720***	~~*188,206*~~ ***44,720***
PM_{10}	~~*213,533*~~ ***75,600***	~~*221,488*~~ ***75,600***	~~*307,505*~~ ***75,600***	~~*273,879*~~ ***75,600***
CO	~~*2,929,068*~~ ***662,880***	~~*3,059,753*~~ ***662,880***	~~*4,472,774*~~ ***662,880***	~~*3,920,385*~~ ***662,880***

2.4.5. Incorporation of the Reporting Protocol

DML is currently working with the District to develop a Monitoring and Reporting Protocol for Monthly Reporting (Reporting Protocol) that addresses the monthly reporting of the continuous emissions monitoring system (CEMS) data, and data acquisition and handling system (DAHS) calculations, for the Facility. The Reporting Protocol identifies all applicable federal and District monthly reporting requirements. Therefore, DML proposes to incorporate the Reporting Protocol by reference in Condition 16. The proposed revisions to Condition 16 are shown below.

16. *Dynegy Moss Landing, LLC shall submit* ***monthly reports on the continuous emissions monitoring systems*** *to the* ~~*Air Pollution Control*~~ *District* ~~*a written report each month which shall include:*~~ ***in accordance to the Monitoring and Reporting Protocol for Monthly Reporting (Reporting Protocol) upon its approval by the District. The monthly report shall be submitted to the District within 30 days from the end of the month***.

~~*a) time intervals, date and magnitude of excess emissions,*~~

~~*b) nature and cause of the excess emission, and corrective actions taken;*~~

~~*c) time and date of each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of system repairs and adjustments; and*~~

~~*d) a negative declaration when no excess emissions occurred.*~~

2.4.6. Minor Revision of the Permit Condition

Condition 23 of the District's permits states that annual performance tests should be conducted in accordance with the "Monterey Bay Unified Air Pollution Control District" test procedures. Since the District has changed its name to "Monterey Bay Air Resources District", DML proposes to revise the condition accordingly. The proposed revision is shown below.

> *23. Annual performance tests shall be conducted in accordance with the ~~Monterey Bay Unified Air Pollution Control District~~ **Monterey Bay Air Resources District** test procedures, and the written results of the performance tests shall be provided to the District within thirty (30) days after testing. …*

2.4.7. Clarification for the Breakdown Reporting Requirement

Condition 24 of the District's permits specifies the breakdown reporting requirements. The condition requires a written breakdown report to be submitted to the District within 5 days after correction of an occurrence.

> *The estimated time for repair of the breakdown shall be supplied to the APCO within 24 hours of the occurrence and a written report shall be supplied to the APCO within 5 days after the occurrence has been corrected. …*

Pursuant to MBARD's Rule 214 Section 4.1, the written breakdown report should be submitted to the District within five working days after the occurrence has been corrected. Therefore, DML proposes to clarify the requirement by specifying "5 *working* days" in the condition. The proposed revision to Condition 24 is shown below.

> *24. Dynegy Moss Landing, LLC shall report all breakdowns which results in the inability to comply with any emission standard or requirement contained on this permit to the Air Pollution Control Officer (APCO) within 1 hour or within one hour of the time the owner or operator knew, or reasonably should have known of the occurrence. The APCO may elect to take no enforcement action if Dynegy Moss Landing, LLC demonstrates to the APCO's satisfaction that a breakdown condition exists.*
>
> *The estimated time for repair of the breakdown shall be supplied to the APCO within 24 hours of the occurrence and a written report shall be supplied to the APCO within 5 **working** days after the occurrence has been corrected. This report shall include at a minimum: …*

The Facility is subject to Federal and MBARD air regulations. This section summarizes the air permitting requirements and the key air quality regulations that apply to the emission units impacted by the proposed changes. Applicability to general provisions is not detailed in this narrative summary.

3.1. MBARD REQUIREMENTS

3.1.1. Regulation II – Permits

3.1.1.1. Rule 200 – Permit Required

Section 1.2 of Rule 200 specifies that any person who builds, erects, alters, or replaces any non-exempt equipment that causes or controls the emission of air pollutants must first obtain a permit from the District. Section 3.2 states that no PTO will be granted until the information required is presented to the MBARD to ensure that the equipment is in compliance with the standards set forth in the District's Rules and Regulations. Since the permit conditions of each PTO will be altered, the proposed changes are considered modifications under Rule 207 Section 2.33.5. DML is submitting this modification application to the District.

3.1.1.2. Rule 203 – Application

Rule 203 Section 3.1 requires that an application for an ATC or a PTO should be filed in the manner and form prescribed by the District and contain all necessary information for the District to make determinations, and Section 3.2 requires a separate application for each permit unit. This application contains separate application forms for each GT and the supporting document contains all necessary information for the District to make the determination.

3.1.1.3. Rule 205 – Provision of Sampling and Testing Facilities

Section 3.5 of Rule 205 requires the Facility to provide and maintain sampling and testing facilities as specified in the ATC or PTO. The existing PTOs for the gas turbines set forth conditions for the sampling and testing facilities requirement. DML is not proposing any change to these conditions, and the Facility will continue to comply with these requirements.

3.1.1.4. Rule 206 – Standard for Granting Applications

Section 3.2 of Rule 206 requires that the modified sources have been operated consistent with the conditions imposed by their respective ATCs or PTOs. Also, the District has determined that any offsets required as a condition of the ATC must commence at the time of or prior to initial operations of the new source or modification, and that the offsets will be maintained throughout the operation of the new or modified source. The Facility is in compliance with all of the emissions and operational conditions in the existing permit, and it will continue to comply with requirements. No offsets (as discussed below in Section 3.1.5) will be required for the proposed changes.

3.1.1.5. Rule 207 – Review of New or Modified Sources

Rule 207 applies to all new stationary sources and all modifications to existing stationary sources that emit or have the potential to emit any affected pollutants after the construction or modification. Based on Section 2.33.5 of Rule 207, "any change to a District Authority to Construct or Permit to Operate to establish federally enforceable conditions in the permit that are accepted voluntarily by the source for purposes of limiting its

potential emissions" is considered a modification. As discussed above, due to the retirement of the boilers, DML is proposing lower quarterly emissions limits for the Facility. Therefore, the proposed changes in quarterly emission limits will be a modification to the permit.

For each GT, the proposed changes are not physical changes nor changes in the method of operation to the GTs; and the changes will not impact the maximum equipment rating for the GTs used during the original permitting of the MLPP and/or emission limits and the operational limits in the existing PTO for each GT. For MLPP, DML is proposing lower facility quarterly emission limits. Therefore, there will be no emission increase for each of the GTs or the Facility as a whole.

3.1.1.5.1 General Requirements

Section 3.1 requires the applicant to conduct air ambient air quality monitoring as the District finds necessary to determine the effect that emissions from the stationary source or modification may have on air quality in the area. Since the proposed changes will not result in any increase in emissions, the modification will not have any negative impact on the air quality in the area.

Section 3.2 requires an analysis of impairment to visibility, soils, and vegetation, and the projected air quality impact for the area, which would occur as a result of the source or modification. The proposed changes are not physical changes to the GTs or the facility, and the proposed permit changes will not result in an increase in the emissions of any pollutant. Therefore, the Facility will not cause any impairment to visibility, soils, and vegetation in the area.

Section 3.3 states that no new or modified stationary source should cause or contribute to the violation of an ambient air quality standard or exceed any air quality increment. Based on the results of the air quality impact analysis in the Final Determination of Compliance (FDOC) for the MLPP,[5] the Facility would not cause or contribute to violations of the Ambient Air Quality Standards. As discussed above, the proposed changes will not result in increases in emissions of any pollutant. Therefore, the Facility will continue to comply with the standards.

3.1.1.5.2 Federal Clean Air Act Requirements and Part 5 California Clean Air Act (CCAA) Requirements

Section 5.1 requires that each project subject to New Source Review (NSR) undergo a review under the federal requirements of this Rule and a parallel review under the CCAA requirements in Part 5. In cases where the requirements under Part 4 and Part 5 differ, the most stringent applicable provisions apply.

Best Available Control Technology (BACT)

Section 4.1 requires BACT for a new source or a modification of an existing source that has the potential to result in a new emissions increase in excess of the limits stated in Section 4.1.1. Under the CCAA, Section 5.2 requires BACT for any new or modified permit unit with a PTE 25 pounds per day or more of VOCs or NOx. In this case, Section 5.2 has more stringent emission thresholds for VOC and NOx. Therefore, BACT requirements for VOC and NOx are determined under the CCAA requirements of Section 5.2, and Section 4.1 will apply to the BACT determination for the other pollutants specified in Section 4.1.1.

Section 2.50 states that PTE is based on the maximum daily capacity of a permit unit to emit a pollutant under its physical and operational design, and any physical or operational limitation on the daily capacity of the unit to

[5] Final Determination of Compliance for Moss Landing LLC Power Plant Modernization, prepared by the MBARD, dated May 12, 2000

emit a pollutant can be included as part of its design if the limitation is incorporated as an enforceable permit condition. Moreover, calculation requirements for determining BACT, as described in Section 7.4.1, indicate that emission profiles for the modified source should be based on PTE and the emission profiles for existing sources should be based on historical emissions; any emissions increase would be determined by comparing the two profiles. Since the proposed changes will not result in any emissions increase for the GTs, CCAA BACT will not apply for the GTs for VOC and NOx.

Section 2.37 defines a new emissions increase as the sum of all increases in potential emissions of any given pollutant from a new or modified stationary source. The proposed changes will not result in any new emissions increase for the GTs. Therefore, BACT will not apply for any of the other pollutants specified in Section 4.1.1.

Offsets Requirements

Section 4.2 requires offsets for a new or modified stationary source with net emissions increases equal to or exceeding 150 pounds per day of volatile organic compounds (VOCs), or nitrogen oxides (NOx), or sulfur oxides (SOx), or particulate matter (PM) or carbon monoxide (CO); or 82 pounds per day of PM_{10}. For the CCAA, Section 5.3.1 requires offsets for any new or modified stationary source with a potential to emit 137 pounds per day or more of VOCs or NOx. Section 5.3.1 has more stringent emission thresholds for VOC and NOx. Therefore, offset requirements for VOC and NOx should be determined under the CCAA requirements of Section 5.3.1 and Section 4.2 will apply to the offset determination for SOx, PM, CO, and PM_{10} emissions.

As discussed above, the proposed changes will not result in any emissions increase for the GTs. Therefore, CCAA offset requirements will not apply for the GTs for VOC and NOx.

Pursuant to Section 2.36, net emission increases are generally calculated as the sum of all increases in potential emissions of a pollutant from a new or modified stationary source minus any reductions in emissions of that pollutant at the stationary source. Since the proposed change will not result in any potential emissions increase for the GTs, there will no net emission increase and the proposed modification will not be subject to the Section 4.2 offset requirements for SOx, PM, CO and PM_{10} emissions.

3.1.1.6. Rule 213 – Continuous Emission Monitoring

Rule 213 applies to electric power generation equipment subject to Title IV (Acid Deposition Control) of the federal Clean Air Act and with nameplate generation capacities of at least 25 MW. In general, the Rule requires the applicant to install, certify, operate, and maintain continuous emissions monitoring systems (CEMS) that meet the standards of 40 CFR Parts 72 and 75. Certification, recordkeeping, reporting, and data reduction requirements that are outlined in this Rule are already incorporated in the current PTOs for the GTs. MLPP will continue to comply with the CEMS requirement in the existing PTOs.

3.1.1.7. Rule 214 – Breakdown Conditions

Sections 3.1 and 4.1 specify the breakdown procedures and the breakdown reporting requirements. These requirements are already included in Condition 24 of the existing permit. As discussed in Section 2.4.7 above, DML is proposing a clarification to the permit condition to specify, as stated in Rule 214 Section 4.1, that a written breakdown report should be submitted to the District within five working days after the occurrence has been corrected. DML will continue to comply with the breakdown conditions imposed by the permit.

3.1.1.8. Rule 218 – Title V: Federal Operating Permits

DML operates two combined cycle gas turbine units (Gas Turbines 1A & 2A, 3A & 4A) under the current Title V Permit No. TV65-01A. The proposed changes are considered a minor modification to the Title V permit because

they meet the definition for "minor modification" in Rule 218 Section 2.20. Per Section 3.1, a permit application must be submitted to the District for the minor modification. DML submitted the requests for the modifications as part of the Title V Renewal Application on June 14, 2017, and the renewal and minor modification application was deemed complete on July 25, 2017. Therefore, DML has complied with this Rule.

3.1.1.9. Rule 219 – Title IV: Acid Deposition Control

Rule 219 incorporates the Acid Rain Permit Program codified at 40 CFR Part 72 by reference, which is discussed in Section 3.2.4 of this application document.

3.1.2. Regulation III – Fees

3.1.2.1. Rule 300 – District Fees

Rule 300 establishes a fee schedule and requires fees to be paid for permit processing by the applicant. The $5,112 application fees for the four PTOs will be paid online via the District's website. The amount of this filing fee was determined based on the MBARD's fee determination sheet.

3.1.3. Regulation IV – Prohibitions

3.1.3.1. Rule 400 – Visible Emissions

Section 3.1.1 prohibits visible emissions exceeding 20% opacity (i.e., No. 1 on the Ringlemann Chart) for any period aggregating to three minutes in any one hour. The GTs will continue to operate with natural gas and emissions will be controlled by the DLN combustors and SCR systems after the proposed modifications; therefore, DML will continue to operate the GTs in a manner that complies with this rule.

3.1.3.2. Rule 402 – Nuisances

Part 3 of the Rule requires that no person shall discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or which endanger the comfort, repose, health, or safety of any such persons or the public; or which cause, or have a natural tendency to cause, injury or damage to business or property.

With the continued use of natural gas, DLN combustors, and SCR systems, the GTs are not expected to be a nuisance as described in this rule. DML will continue to comply with the requirements of this rule.

3.1.3.3. Rule 403 – Particulate Matter

Section 3.1 limits the PM emissions from any source to 0.15 grain per standard dry cubic foot of exhaust gas. However, this limit is superseded by the PM emission limitations imposed through NSR in the original permitting processing. DML will continue to comply with the requirements of this rule.

3.1.3.4. Rule 404 – Sulfur Compounds and Nitrogen Oxides

Section 1.3.2 exempts any source subject to an emission limit imposed by the BACT requirements from the requirements of this Rule. The GTs will continue to be subject to emission limits in the current PTOs, which are established based on BACT during the original permitting processing. Therefore, Rule 404 is not applicable to the GTs.

3.1.3.5. Rule 412 – Sulfur Content of Fuels

Part 3 of the Rule limits any gaseous fuel containing sulfur compounds to 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions. The GTs are operated using pipeline quality natural gas; therefore, DML will continue to comply with the limit in this Rule.

3.1.3.6. Rule 415 – Circumvention

Section 3.1 states that no equipment shall be installed to reduce or conceal an emission that would otherwise constitute a violation. Section 3.2 states that no scheduled source tests can be cancelled prior to authorization from the District and no source test can be terminated once it has started. DML is not in violation of any applicable regulations, and the proposed changes are not intended to reduce or conceal emissions from the Facility. DML will not cancel any scheduled source test without seeking approval from the District. Therefore, DML will continue to comply with this Rule.

3.1.3.7. Rule 421 – Violations and Determination of Compliance

The provisions of this Rule provide standards for compliance determinations required by, or derived from, federal law for the operation of any equipment within the District which may cause the issuance of air contaminants, or the use of which may eliminate, reduce, or control the issuance of air contaminants. DML will comply with all applicable District and Federal requirements, and continue to comply with the emission limits in the current PTOs. Therefore, the Facility is in compliance with this Rule.

3.1.3.8. Rule 423 – New Source Performance Standards (NSPS)

Rule 423 incorporates the NSPS codified at 40 CFR Part 60 by reference, which are discussed in Section 3.2.1 of this report.

3.1.3.9. Rule 424 – National Emission Standards for Hazardous Air Pollutants (NESHAP)

Rule 424 incorporates the requirements for NESHAP codified at 40 CFR Part 63 by reference, which are discussed in Section 3.2.2 of this report.

3.1.4. Regulation X – Toxic Air Comtaminants

3.1.4.1. Rule 1000 – Permit Guidelines and Requirements for Sources Emitting Toxic Air Contaminants

Section 3.1 requires a risk assessment to be conducted as part of an Authority to Construct for any new or modified permit unit. Section 2.9 defines a modification as any alteration or process change which may result in a net increase in the PTE of any TACs. Section 2.50 states that PTE is based on the maximum daily capacity of a permit unit to emit a pollutant under its physical and operational design, and any physical or operational limitation on the daily capacity of the unit to emit a pollutant can be included as part of its design if the limitation is incorporated as an enforceable permit condition. As discussed above, the proposed changes will not result in any emissions increase of regulated or toxic air contaminants. Therefore, the proposed changes are not subject to the risk assessment requirements.

3.2. FEDERAL REQUIREMENTS

3.2.1. New Source Performance Standards (NSPS)

NSPS apply to certain types of equipment that are newly constructed, modified, or reconstructed after specified applicability dates. Only the NSPS subparts that may be potentially applicable to the GTs are addressed in this section.

3.2.1.1. 40 CFR 60 Subpart A – General Provisions

All affected sources are subject to the general provisions of NSPS Subpart A unless specifically excluded by the source-specific NSPS. Subpart A requires initial notification and performance testing, recordkeeping, monitoring; provides reference methods; and mandates general control device requirements for all other subparts as applicable. DML will continue to meet all applicable requirements of the general provisions outlined in 40 CFR 60 Subpart A.

3.2.1.2. 40 CFR Part 60 Subpart GG – NSPS for Stationary Gas Turbines

NSPS GG, *Standards of Performance for Stationary Gas Turbines*, applies to stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour, based on the lower heating value of the fuel fired, and that commence construction, modification, or reconstruction after October 3, 1977. Based on the construction dates and the heat input at peak loads, the GTs at the MLPP are subject to the requirements of this NSPS. Subpart GG specifices NOx concentration limits (ppmvd), SO_2 concentration limits (ppmvd), testing, and monitoring requirements. DML is not proposing any changes to the NOx and SOx concentration limits for the GTs or any of the testing or monitoring requirements. Therefore, DML will continue to comply with all applicable NSPS requirements as outlined in the current PTOs.

3.2.1.3. 40 CFR Part 60 Subpart TTTT - Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units

NSPS TTTT, *Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units*, applies to electric generating units that commenced construction after January 8, 2014, and/or commenced modification or reconstruction after June 18, 2014.

Under 40 CFR 60.2, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification.

Under 40 CFR 60.15 (b), a reconstruction is the replacement of components of an existing facility such that the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and it is technologically and economically feasible to meet the applicable standards set forth in this part.

The GTs at the MLPP were constructed prior to January 8, 2014, and have not undergone any modification or reconstruction after June 18, 2014 that result in an increase in emissions. As such, NSPS TTTT does not apply to the existing GTs at MLPP.

3.2.2. National Emission Standards for Hazardous Air Pollutants (NESHAP)

NESHAPs are established in 40 CFR Part 63 to control the emissions of hazardous air pollutants (HAPs). Only the NESHAP subparts that may be potentially applicable to the GTs are addressed in this section.

3.2.2.1. 40 CFR Part 63 Subpart YYYY – NESHAP for Stationary Gas Turbines

NESHAP YYYY applies to stationary gas turbines located at major sources of HAPs. Because the Facility is not a major source of HAPs (with a site-wide HAP PTE below 25 tons/year [combined HAPs] and 10 tons/year [single HAP], this standard does not apply to the GTs at MLPP.

3.2.3. Prevention of Significant Deterioration (PSD)

Under the PSD regulations, a major modification is defined as any physical change or change in the method of operation of a major stationary source that would result in a significant emissions increase (40 CFR 52.21.b.2.i). Since the proposed changes are not physical changes or changes in method of operation and will not result in any emissions increase, the proposed changes are not a modification under the PSD regulations. Therefore, the proposed changes are not subject to a PSD review.

3.2.4. Acid Rain Provisions

The MLPP is subject to the requirements of the federal Acid Rain program (40 CFR Part 72) because the electricity generated by the gas turbines is rated at greater than 25 MW. The District's Acid Rain permits are incorporated into the MLPP's Title V permit. DML will continue to comply with the permit requirements.

APPENDIX C: TITLE V PERMIT RENEWAL AND MINOR MODIFICATION APPLICATION SUBMITTED TO MBARD

Dynegy Moss Landing, LLC

Title V Permit TV65-01A Renewal Application for the Moss Landing Power Plant

Prepared By:

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1801 J Street
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916-444-6666

Project 160506.0251

Environmental solutions delivered uncommonly well

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1. SUMMARY

Dynegy Moss Landing, LLC (DML) is applying for the renewal of Title V Permit No. TV65-01A for the Moss Landing Power Plant (MLPP or Facility) located in Moss Landing, California. The existing Title V permit will expire on December 31, 2017. Pursuant to Monterey Bay Air Resources District (MBARD or District) Rule 218,[1] DML must submit a Title V Renewal Application between six and eighteen months prior to the expiration of the current permit. This submittal satisfies that application deadline.

The Moss Landing Power Plant is an electric generating facility. The current Title V permit includes two large boilers (Boilers 6-1 and 7-1), and two combined cycle gas turbine units (Gas Turbines 1A & 2A, 3A & 4A). In addition to the boilers and gas turbines, the Facility also operates ancillary equipment, such as aqueous ammonia storage tanks, startup package boiler, gasoline storage tank, abrasive blasting equipment, paint spray facility, emergency generator and fire pumps, and fume hoods. This equipment is also included in the Title V permit.

As part of this Title V permit renewal, DML is requesting the following changes to the Title V permit:

- Removal of certain equipment (Boilers 6-1 and 7-1, Start-up Package Boiler, Abrasive Blasting Facility and Abrasive Blasting Equipment) from the Title V permit;[2]
- Clarification of the definition of steam turbine cold start-ups (Condition 5);
- Clarification for the definition of combustor tuning (Condition 5);
- Clarification for the definition of short-term excursion (Condition 8);
- Minor revision to remove non-applicable compliance date (Condition 35);
- Removal of the CO data substitution requirement (Condition 46);
- Incorporation of the Monitoring and Reporting Protocol for Monthly Reporting (Reporting Protocol)[3] as the guidance document for the monthly reporting (Condition 58); and
- Clarification for the breakdown reporting requirement (Condition 59).

These requested changes are discussed in more detail below.

[1] MBARD Rule 218, Title V: Federal Operating Permits, Section 3.1.2 (11/17/2010)

[2] The units have been shut down, but still hold valid Permits to Operate. DML intends to surrender the PTOs for these units prior to issuance of the revised Title V permit.

[3] DML is currently working together with the District to develop the Monitoring and Reporting Protocol for Monthly Reporting (Reporting Protocol). This protocol sets forth specific requirements and procedures related to monthly reporting of emissions data for the DML Moss Landing Power Plant (MLPP) to the District.

2.1. FACILITY INFORMATION

Name of Applicant:	Dynegy Moss Landing, LLC Moss Landing Power Plant
Mailing Address:	P.O. Box 690 Moss Landing, CA 95039-0690
Site Location:	Highway 1 and Dolan Road Moss Landing, CA 95039
Nature of Business:	Electric Power Generation (SIC Code: 4911)
ORIS Code:	0260
Responsible Official:	Rex A. Lewis Managing Director (831) 633-6698
Alternative Responsible Official:	Kent Nelson Production Manager (831) 633-6733
Facility Contact:	Duke Collins Senior Environmental Specialist (831) 633-6378

2.2. TYPE OF APPLICATION

This is an application for a renewal of existing Title V Permit TV65-01A; a number of changes to permit conditions are requested as part of this permit renewal. A separate permit modification application will be submitted to the District for the changes to the existing Permit to Operates (PTO) for the gas turbines.

Pursuant to Rule 218 Section 2.20, a minor permit modification is:

- A modification that would not violate any federally enforceable requirement of the Act; or
- A modification that would not involve significant monitoring, reporting, or record keeping changes; or
- A modification that would not establish or change a case-by-case determination, such as for an emission limit or standard or a source specific determination for temporary sources of ambient impacts, or a visibility or air quality increment analysis; or
- A modification that would not establish or change any permit condition used to avoid a federally enforceable requirement to which the source would otherwise be subject; or
- A modification that is not a Title I modification.

The proposed changes will not have any significant impact on other monitoring, reporting, or record keeping requirements. Moreover, the proposed changes will not change any case-by-case determination that has been

performed for the Moss Landing Power Plant, and they will not violate any federally enforceable requirement or change any permit condition used to avoid a federally enforceable requirement to which the source would otherwise be subject. Finally, the proposed changes are not Title I modifications. Therefore, DML believes the requested changes qualify as minor permit modifications under MBARD Rule 218 Section 2.20.

2.3. PERMIT APPLICATION FEES

The $953 application fees will be paid online via the District's website. The amount of this filing fee was determined based on the MBARD's fee determination sheet. The fee determination sheet is also included with this application.[4]

2.4. DESCRIPTION OF PROPOSED CHANGES

2.4.1. Removal of the Equipment

DML permanently shut down Boilers 6-1 and 7-1 at the Moss Landing Power Plant on December 31, 2016. These units currently retain their Permits to Operate (PTO); however, DML will surrender the PTOs for Boiler 6-1 (PTO 14354) and Boiler 7-1 (PTO 14355) prior to issuance of the renewed Title V permit. Therefore, DML is proposing to remove Boilers 6-1 and 7-1 from the Title V permit.

In addition to the two boilers, DML has removed the Start-up Package Boiler (PTO 14989), the Abrasive Blasting Facility (PTO 13347) and the Abrasive Blasting Equipment #1 (PTO 13353) from the Facility. DML will also surrender the PTOs for these units prior to the issuance of the renewed Title V permit, and is therefore proposing to remove them from the Title V permit.

2.4.2. Clarification for the Definition of Steam Turbine Cold Start-ups

The Title V Permit (Condition 13) currently limits the total number of hours for "steam turbine cold start-up" or combustor tuning to 30 hours per year. In addition, Condition 7 contains limits on the duration of startups, and the emission limits for oxides of nitrogen (NOx as NO_2), carbon monoxide (CO), and volatile organic compounds (VOC as CH_4) for each standard and cold start-up.

In order to enable the facility to continue to operate in response to requests from the California Independent System Operator (CAISO), DML submitted a permit application to MBARD on September 1, 2016 seeking clarification of the definition of the term "steam turbine cold start-up." As discussed in the September 2016 application, DML believes that intent of Conditions 5 and 7 is that the annual 30-hour limit should restrict only those "steam turbine cold start-ups" that either:

- Last more than 4 hours; or
- Exceed the standard start-up emission limits in Condition 7.

MBARD approved the proposed clarification and issued revised permits GNR-001 7223 to 7226 for gas turbines 1A through 4A. Further, to insure continuing compliance under DML's Title V permit requirements, this clarification was also approved by the District under the Operational Flexibility provisions of MBARD Rule 218,

[4] MBARD's fee determination sheet, received from Armando Jimenez, dated 4/26/2017.

Section 5.5.1.3.[5] However, to ensure complete consistency in the operating requirements for the gas turbines in both the District Permit to Operate and the Title V Permit for this facility, DML requests that the same clarification be made to Condition 5 of the Title V permit. The proposed revisions to Condition 5 are shown in Section 4

2.4.3. Clarification for the Definition of Combustor Tuning

The Title V Permit (Condition 5) currently states that combustion tuning activities include "all testing, adjustment, tuning, and calibration activities recommended by the gas turbine manufacturer to insure safe and reliable steady state operation of the gas turbine following replacement of the combustor. …. [Emphasis added]"

However, combustion tuning activities are also required for maintenance and seasonal adjustment of the gas turbines. As a result, DML requests a revision to Condition 5 of the Title V permit to clarify that combustor tuning activities are covered by Condition 5. The proposed revisions to Condition 5 are shown in Section 4 below.

2.4.4. Clarification for the Definition of Short-term Excursion

The Title V Permit (Condition 5) currently states that short-term excursions are the direct result of "diffusion mode switchover," while the corresponding Condition 6 of the District permits[6] for the gas turbines state that short-term excursions are the result of "pre-mix mode switchover." Both terms describe a change in combustion mode; therefore, DML proposes the use of the general term "combustion mode switch over" rather than "diffusion" or "pre-mix" in the permit conditions. The proposed revisions to Condition 5 are shown in Section 4 below.

2.4.5. Minor Revision to Remove Non-applicable Compliance Date

The Title V Permit (Condition 35) currently states DML should revise and update the Risk Management Plans by January 23, 2014. Since this compliance date is no longer applicable, DML proposes to remove this date from the condition. The proposed revision to Condition 35 is shown in Section 4 below.

2.4.6. Removal of the CO Data Substitution Requirement

Condition 46 of the Title V Permit requires continuous monitoring of CO from the boilers and gas turbines in accordance with 40 CFR Part 60 requirements. Condition 46 also requires the following data substitution procedures for CO data:

> *For periods of missing CO data, CO hourly values shall be substituted from valid hourly average data from the previous thirty (30) unit operating days, excluding periods of start-up, shutdown and combustor tuning. The CO data shall be substituted based on equivalent incremental load ranges.*

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[5] The letter of approval from the District is included in Appendix A.

[6] Permits to Operate (PTO) GNR-0017223 – GNR-0017226 for Combined Cycle Gas Turbine Generator Units 1A through 4A, issued 11/21/2016.

However, 40 CFR 60.334 (b)(3)(iii) specifies that missing data periods to which 40 CFR Part 75 data substitution procedures are applied should be identified as missing data for the purposes of Part 60 monitoring/reporting. To ensure consistency with the 40 CFR Part 60 and the District's reporting requirements, DML proposes to remove the above CO data substitution language from Condition 46. Based on comments from the District's staff on the Reporting Protocol, it is our understanding that the District agrees that this CO data substitution language should be removed from the next version of the Title V permit. The proposed revisions to Condition 46 are shown in Section 4 below.

2.4.7. Incorporation of the Reporting Protocol

DML is currently working with the District to develop a Monitoring and Reporting Protocol for Monthly Reporting (Reporting Protocol) that addresses the monthly reporting by the continuous emissions monitoring system (CEMS) data and data acquisition and handling system (DAHS) calculations for the Moss Landing Power Plant to the District. The Reporting Protocol identifies all applicable Federal and District monthly reporting requirements. Therefore, DML proposes to incorporate the Reporting Protocol by reference in Condition 58. The proposed revisions to Condition 58 are shown in Section 4 below.

2.4.8. Clarification for the Breakdown Reporting Requirement

Condition 59 of the Title V Permit specifies the breakdown reporting requirements. The condition requires a written breakdown report to be submitted to the District within 5 days of an occurrence.

> *The estimated time for repair of the breakdown shall be supplied to the APCD within 24 hours of the occurrence and a written report shall be supplied to the APCD with 5 days after the occurrence has been corrected. …*

Pursuant to MBARD's Rule 214 Section 4.1, the written breakdown report should be submitted to the District within 5 working days after the occurrence has been corrected. Therefore, DML proposes to clarify the requirement by specifying "5 working days" in the condition. The proposed revision to Condition 59 is shown in Section 4 below.

3. POTENTIAL TO EMIT CALCULATION

Rule 218 Section 2.25 states that the Potential to Emit (PTE) is the "maximum capacity of the source to emit an air pollutant based on its physical and operational design. Any federally enforceable condition on a District permit to operate which limits the capacity of a source to emit an air pollutant shall be treated as part of its design. The federally enforceable condition(s) may include limits on emissions, requirements for air pollution control equipment, restrictions on hours of operation, … [Emphasis added]"

The Title V Permit (Condition 11) currently limits the emissions from all power generation equipment at the Moss Landing Power Plant (i.e., Boilers 6-1 and 7-1 and Gas Turbines Units 1A – 4A), including start-ups, and combustor tuning, to the following:

Table 3-1. Current Emission Limits at the Moss Landing Power Plant

Pollutant	Pounds of Emissions Per Calendar Quarter				Annual Emission (tpy)
	First	Second	Third	Forth	
NOx (as NO_2)	286,778	285,301	409,492	336,584	659
SO_2	23,823	24,567	32,613	29,468	55
VOC	144,537	150,294	212,540	188,206	348
PM_{10}	213,533	221,488	307,505	273,879	508
CO	2,929,068	3,059,753	4,472,774	3,920,385	7,191

These quarterly emission limits were established by the District as part of the District's approval of the four combined cycle units. These limits were incorporated into the net emission increase calculations in the District's evaluation 2000 permit evaluation.[7] DML proposes to estimate the PTE for the Facility using the same calculation methodology shown in the District's Final Determination of Compliance (FDOC) of the Moss Landing Power Plant.[8]

Since the PTOs for the two boilers (Boilers 6-1 and 7-1) will be surrendered prior to issuance of the revised Title V permit, the new facility PTE is based on emissions from the four gas turbines (Units 1A through 4A), as shown in Table 3-2 and Table 3-3 below. Detailed PTE calculations are included in Appendix B.

[7] Amendments to the Preliminary Determination of Compliance for the Duke Energy Moss Landing LLC Power Plant modernization, 3/24/2000.

[8] Final Determination of Compliance for Duke Energy Moss Landing LLC Power Plant Modernization, 5/10/2000

Table 3-2. Potential to Emit at the Moss Landing Power Plant – Criteria Pollutants

Pollutant	Pounds of Emissions Per Calendar Quarter				Annual Emission (tpy)
	First	Second	Third	Forth	
NOx (as NO_2)	169,840	169,840	169,840	169,840	340
SO_2	10,920	10,920	10,920	10,920	22
VOC	44,720	44,720	44,720	44,720	89
PM_{10}	75,600	75,600	75,600	75,600	151
$PM_{2.5}$	75,600	75,600	75,600	75,600	151
CO	662,880	662,880	662,880	662,880	1,326

1. $PM_{2.5}$ PTE is approximated as the same as PM_{10}.

Table 3-3. Potential to Emit at the Moss Landing Power Plant – Greenhouse Gases

Pollutant	CO_2e Emissions [metric tons per year (MT/year)]
	All Turbines
CO_2	3,333,866
CH_4	1,571
N_2O	1,872
Total CO_2e Emissions (MT/year)	3,337,309
Total CO_2e Emissions (tpy)	3,678,749

Table 3-4. Potential to Emit at the Moss Landing Power Plant – Non-Criteria Pollutants

Pollutant	Annual Emissions (tpy)
Ammonia (NH_3)	214
Hazardous Air Pollutants (HAPs)	
Acetaldehyde	1.40
Acrolein	0.22
Benzene	0.42
1,3-Butadiene	0.02
Ethylbenzene	1.12
Formaldehyde	3.83
Naphthalene	0.03
Total PAHs (excluding Naphthalene)	0.01
Propylene Oxide	1.01
Toluene	4.54
Xylenes	2.23
TOTAL HAPs	**14.84**

4. PROPOSED PERMIT CONDITIONS

Proposed changes are shown in ~~strikeout~~ and **bold/underline** font.

FACILITY DESCRIPTION

The Moss Landing Power Plant owned by Dynegy Moss Landing, LLC is an electric generating facility located in Moss Landing, California. The facility has a ~~present~~ net power production capacity of approximately ~~2,590~~ **1060** megawatts from ~~two large boilers and~~ two combined cycle gas turbine units. The ~~two large boilers, Units 6 and 7 (Boilers 6-1 and 7-1) began operation in 1967 and 1968, respectively, and the~~ two combined cycle gas turbine units had their first fires lit during the second quarter of 2002 and began commercial operation in the third quarter of 2002.

In addition to ~~the boilers and~~ the combined cycle gas turbine units, Dynegy Moss Landing, LLC operates ancillary equipment at the facility. This ancillary equipment will be included on the Title V permit for the facility.

Dynegy Moss Landing, LLC's facility is ~~considered~~ a federal Major Source and **is** subject to the Title V permitting program due to the potential to emit Oxides of Nitrogen (NOx), ~~and~~ Carbon Monoxide (CO)**, Particulate Matter < 10 microns (PM_{10}), Particulate Matter < 2.5 microns ($PM_{2.5}$), and Greenhouse Gases (GHGs)**.

EQUIPMENT DESCRIPTION

POWER GENERATION FACILITY CONSISTING OF:

~~TWO 765 MW UNITS - BOILERS NUMBER 6-1 AND 7-1 EACH CONSISTING OF:~~

~~Steam Generator, Babcock and Wilcox Company, Once-Through, Radiant, Reheat, Pressurized Furnace Type, Nominal 6500 MMBtu/hr, Natural Gas-Fired~~

~~Combustion Control And Burner Management Provided By Foxboro Integrated Distributed Control System.~~

~~Steam Production Rate: Nominal 5,100,000 Lb/hr (At 1005° F And 3830 Psia)~~

~~Forced Draft Fans:~~

~~Two Forced Draft Fans, Howden Variax Variable Pitch Axial Flow Type ANT-2650/1200M, Each Powered By Teco Westinghouse 6,860 Hp Electric Motor.~~

~~Induced Draft Fans:~~

~~Two Induced Draft Fans, Howden Variax Variable Pitch Axial Flow Type ANN-3400/2000B, Each Powered By Teco Westinghouse 6,440 Hp Electric Motor.~~

~~Air Preheaters:~~

~~Two (2) Ljungstrom Regenerative Air Preheaters, Each With 334,800 Ft^2 Of Heating Surface And Equipped With Stainless Steel Intermediate And Cold-End Baskets.~~

~~Air Preheater Drain System And Stack Wash Collection System.~~

~~Burners And Overtire Air Ports:~~

~~Sixteen (16) Burner Cells Total, Eight (8) Front Wall, Eight (8) Back Wall.~~

~~Each Burner Cell Equipped With Three (3) Babcock & Wilcox S-Type Low NOx Burners, And Two (2) Ignitors.~~

~~Each S-Burner Equipped With Total Air Sliding Damper, Adjustable Spin Vanes, Core Air Sliding Disk, And Gas Spud Assembly.~~

~~Eight (8) Dual Zone Overtire Air Ports, Four (4) Front Wall, Four (4) Back Wall.~~

~~Gas Recirculation Fans:~~

~~Two (2) Flue Gas Recirculation Fans, Centrifugal Type, Each Rated At 252,000 CFM @ 12.5 Inches H_2O Static Pressure.~~

~~Selective Catalytic Reduction (SCR) System:~~

~~Single Reactor Vessel With Associated Duct Work.~~

~~Catalyst, 169 M3 Cormetech Type CM-37 Vanadium, Titanium, And Tungsten Oxide Honeycomb Catalyst, With The Ability To Add An Additional 84 M^3 If Necessary.~~

~~Ammonia Injection System, Two-Train Ammonia Flow Control System Providing Vaporized Aqueous Ammonia Via Flow Control Valves, Vaporizers, And Dilution Air Blowers To The Ammonia Injection Grid Located In The Economizer Outlet.~~

~~Continuous Emissions Monitoring System:~~

~~Two CiSCO Sample Acquisition Probes Located Approximately 120' Above Grade Inside The Stack.~~

~~Instrumentation Shelter, 8' x 10', Located At The Base Of The Stack. Shelter Houses Sample Transport And Conditioning Systems, And Analyzers.~~

~~Analyzers; Rosemount Model 951C Chemiluminescence Analyzer Measuring NO_2; And Siemens Ultramat/Oxymat 6E Analyzer Measuring CO Via Non-Dispersive Infrared Measurement O_2 Via Paramagnetic Measurement.~~

~~Data Acquisition System, VIM Technologies, Installed On An IBM Compatible Computer Located In The Energy Management Center.~~

~~Exhaust Stack:~~

~~500 Ft High Above Grade, 66 Ft O.D. At Base, 20 Ft O.D. At Top.~~

...

~~START-UP PACKAGE BOILER~~

~~One Self Contained Packaged Forced Draft Steam Boiler, With A Low NOx Burner Rated At 88.0 MMBtu/hr, Natural Gas Fired.~~

…

~~ABRASIVE BLASTING EQUIPMENT~~

~~Abrasive Blasting Booth With Stationary Blast Equipment, Compressed Air Provided By Electric Compressor, And Portable Abrasive Blasting Equipment With Compressed Air Provided By Electric Or Diesel Fired Compressor.~~

FEDERALLY ENFORCEABLE EMISSION LIMITS AND STANDARDS

~~1.~~ ~~The heat input rate to each Boiler (6-1 and 7-1) shall not exceed 7,048 MMBtu/hr. [District Rule 207]~~

…

~~3.~~ ~~The pollutant mass emission rates in the exhaust discharged to the atmosphere from each Boiler (6-1 and 7-1) shall not exceed the following limits [District Rule 207, District Rule 431 limits of 0.3 lbs NOx/MMBtu and 9.64 tons NOx/day when averaged over the May 1 through October 31 annually.]:~~

~~Pollutant~~	~~Lbs/Hour~~	~~Lbs/Day~~
~~Oxides of Nitrogen (NOx)~~	~~85.6~~	~~2,054.4~~
~~Carbon Monoxide (CO)~~	~~862.7~~	~~20,704.8~~
~~Particulate Matter < 10 microns (PM_{10})~~	~~52.5~~	~~1,260.0~~
~~Volatile Organic Compounds (VOC)~~	~~38.0~~	~~912.0~~
~~Ammonia (NH_3)~~	~~31.6~~	~~758.4~~
~~Sulfur Dioxide (SO_2)~~	~~4.9~~	~~117.6~~

…

~~5~~**3.** The pollutant mass emission rates in the exhaust discharged to the atmosphere from each Gas Turbine shall not exceed the following limits [District Rule 207]:

…

Steam turbine cold start-up periods are start-up periods that **last more than four (4) hours or exceed the start-up emission limits in Condition 5, and** follow a shutdown of the steam turbine for at least 72 hours. Combustion turning activities includes all testing, adjustment, tuning, and calibration activities **associated with combustor replacement and maintenance,** recommended by the gas turbine manufacturer to insure safe and reliable steady state operation of the gas turbine ~~following replacement of the combustor~~. This includes, but is not limited to, adjusting the amount of fuel distributed between the combustion turbine's staged fuel system to simultaneously minimize NOx, CO, and VOC production while ensuring combustor stability. …

~~8~~**6**. Exceedance of the hourly NOx emission limits specified in condition numbers ~~5~~**3** and ~~6~~**4** is allowed during short-term excursions which total less than 10 hours per rolling 12-month period. [District Rule 207]

Short-term excursions are defined as 15-minute periods designated by Dynegy Moss Landing, LLC that are a direct result of a **combustor** ~~diffusion~~ mode switchover, not to exceed four consecutive 15-minute periods, when the 15-minute average NOx concentration exceeds 2.5 ppm corrected to 15% O_2.

…

~~11~~**9**. Cumulative emissions, including emissions generated during Start-ups, Shutdowns and Combustor Tuning Activities, from all power generation equipment and the start-up package boiler at the Moss Landing Power Plant shall not exceed the following quarterly limits [District Rule 207]:

Pollutant	Pounds of Emissions Per Calendar Quarter			
	First	Second	Third	Fourth
NOx (as NO_2)	~~286,778~~ **169,840**	~~285,301~~ **169,840**	~~409,492~~ **169,840**	~~336,584~~ **169,840**
SO_2	~~23,823~~ **10,920**	~~24,567~~ **10,920**	~~32,613~~ **10,920**	~~29,468~~ **10,920**
VOC	~~144,537~~ **44,720**	~~150,294~~ **44,720**	~~212,540~~ **44,720**	~~188,206~~ **44,720**
PM_{10}	~~213,533~~ **75,600**	~~221,488~~ **75,600**	~~307,505~~ **75,600**	~~273,879~~ **75,600**
CO	~~2,929,068~~ **662,880**	~~3,059,753~~ **662,880**	~~4,472,774~~ **662,880**	~~3,920,385~~ **662,880**

…

~~14. Boiler 6-1, Boiler 7-1, and the Gas Turbines shall be abated by properly operated and maintained Selective Catalytic Reduction Systems. [District Rule 207]~~

~~15. Boiler and stack inspection and cleaning shall be conducted during Boiler 6-1 and 7-1 outages of21 days or more. [District Rule 207]~~

~~16~~**12**. Dynegy Moss Landing, LLC shall hold Sulfur Dioxide Allowances not less than the total annual emissions of sulfur dioxide for the previous calendar year from ~~Boilers 6-1 and 7-l and~~ Combined Cycle Units 1 (Gas Turbines 1A & 2A) and 2 (Gas Turbines 3A & 4A). [District Rule 219]

~~18~~**14**. Notwithstanding the requirements of Condition ~~17~~**13**, no air contaminant shall be discharged into the atmosphere for a two (2) hour period from the gas turbine exhaust during start-up for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker than Ringelmann 2, or equivalent 40% opacity. Good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions. [District Rule 400 Adopted 8/15/12]

…

~~21~~**17**. Oxides of Nitrogen, calculated as nitrogen dioxide (NO_2), from ~~the Start-up Package Boiler or~~ the Emergency Generator shall not exceed 140 lbs/hr. [District Rule 404]

…

~~28. The emission concentration of oxides of nitrogen, as NO_2, from Boilers 6-1 and 7-1 shall not exceed 10 ppm during operation on natural gas. This limit is based on a one (1) hour average at three (3) percent oxygen (O2) on a dry basis. [District Rule 431]~~

~~29. The NH_3 emission concentration from any emissions control device installed and operated pursuant to the requirements of District Rule 431 shall not exceed 10 ppm, based upon the average of three 60-consecutive minute averages at three (3) percent oxygen (O_2) on a dry basis. [District Rule 431]~~

…

~~30. The CO emission concentration from Boilers 6-1 and 7-1 shall not exceed 400 ppm during steady-state compliance tests based upon a 60-consecutive minute average and shall not exceed 1000 ppm during normal operations based upon a one (1) hour clock-hour average at three (3) percent oxygen (O_2) on a dry basis. [District Rule 431]~~

~~31. The limits contained in condition numbers 3, 28, 29, and 30 shall not apply during start-up, the time period during which the boiler has no fires in it, until the unit that it serves has reached minimum operating load, the catalytic reaction temperature and main breaker closure, or shutdown, the time period during which a unit is reduced below minimum load or catalytic reduction temperature, to a condition where the fires in the boiler are extinguished, not to exceed eight (8) hours. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions. [District Rule 431]~~

~~35~~**27**. Dynegy Moss Landing, LLC shall comply with the requirements of 40 CFR Part 68 - Risk Management Plans. Dynegy Moss Landing, LLC's Risk Management Plan must be revised and updated ~~by January 23, 2014~~ as required by 40 CFR §68.190~~.~~ Dynegy Moss Landing, LLC shall certify compliance with these requirements as part of the annual compliance certification required by 40 CFR Part 70 and this permit. [40 CFR Part 68]

…

TESTING REQUIREMENTS AND PROCEDURES

~~37~~**29**. Annual performance tests of ~~Boilers 6-1and7-1 and~~ the Gas Turbines shall be conducted in accordance with the Monterey Bay ~~Unified Air Pollution Control~~ **Air Resources** District test procedures, and the written results of the performance tests shall be provided to the District within thirty (30) days after testing. …

~~38~~**30**. No testing is specified for the generic (District Rule 400) opacity requirement from condition numbers ~~17~~**13** or ~~18~~**14**. The equipment is assumed to be in compliance with the opacity requirement due to historical operations and local compliance inspections without opacity violations. If testing is conducted for condition numbers ~~17~~**13** or ~~18~~**14**, Dynegy Moss Landing, LLC should conduct testing in accordance with the methodology contained in EPA Method 9 or equivalent method and the averaging/aggregating period contained in District Rule 400. [District Rule 218]

~~39~~**31**. No testing is specified for the (District Rule 403) particulate matter emission standard from condition number ~~19~~**15**. The fuel burning equipment is assumed to be in compliance with the particulate matter emission standard based upon the engineering calculations contained in the evaluation report. If testing is conducted for condition number ~~19~~**15**, Dynegy Moss Landing, LLC should conduct testing in accordance with the methodology contained in EPA Method 5 or equivalent method. [District Rule 218]

~~40~~**32**. No testing is specified for the (District Rule 404) sulfur concentration limit in condition number ~~20~~**16**. The fuel burning equipment is assumed to be in compliance with this sulfur concentration limit based upon the engineering calculations contained in the evaluation rep01t. If testing is conducted for condition number ~~20~~**16**, Dynegy Moss Landing, LLC should conduct testing in accordance with the methodology contained in EPA Method 6 or equivalent method. [District Rule 218]

~~41~~**33**. No testing is specified for the (District Rule 404) NOx (oxides of nitrogen) limit in condition number ~~21~~**17**. The fuel burning equipment is assumed to be in compliance with these NOx limits based upon the engineering calculations contained in the evaluation report. If testing is conducted for condition number ~~21~~**17**, Dynegy Moss Landing, LLC should conduct testing in accordance with the methodology contained in EPA Method 7E or equivalent method. [District Rule 218]

~~42~~**34**. Dynegy Moss Landing, LLC shall cause testing to be performed to verify compliance with the Ammonia (NH_3) slip limits established in condition number~~s 6~~**4** and ~~29~~ as follows:

~~a) Boiler testing shall be performed at the frequency as required by 40 CFR Part 75 for relative accuracy test audits (RATA); and~~

~~b~~**a**) Gas turbine testing shall be performed every EPA operating quarter, as defined in 40 CFR Part 72, or in the next EPA operating quarter if a gas turbine cannot be tested in an EPA operating quarter due to the unit being non-operational at the time of scheduled testing.

~~43. No testing is specified for the (District Rule 431) normal operation CO limit contained in condition number 30. Continuing compliance with these limits will be assured by the continuous emission monitoring (CEM) system. Compliance with the steady state limit will be verified by the testing required by condition number 37. [District Rules 207 & 218]~~

~~44~~**35**. CEM Systems shall be installed and operated on ~~Boilers 6-1 and 7-1 and~~ Combined Cycle Units 1 (Gas Turbines IA & 2A) and 2 (Gas Turbines 3A & 4A). …

~~45~~**36**. The equipment installed on ~~Boilers 6-1 and 7-1 and~~ Combined Cycle Units 1 (Gas Turbines IA & 2A) and 2 (Gas Turbines 3A & 4A) for the continuous monitoring of CO_2 or O_2 and NOx shall be maintained and operated in accordance with 40 CFR Parts 72 and 75. [District Rule 219]

~~46~~**37**. The equipment for the continuous monitoring of CO on ~~Boilers 6-1 and 7-1 and~~ Combined Cycle Units 1 (Gas Turbines IA & 2A) and 2 (Gas Turbines 3A & 4A) shall be maintained and operated in accordance with 40 CFR Part 60 Appendix F and with the ability to calculate CO emission concentrations connected to ~~three (3) percent oxygen for the Boilers and~~ fifteen (15) percent oxygen for the Turbines on a dry basis. [District Rule 431] ~~For periods of missing CO data, CO hourly values shall be substituted from valid hourly average data from the previous thirty (30) unit operating days, excluding periods of start-up, shutdown and combustor tuning. The CO data shall be substituted based on equivalent incremental load ranges.~~

~~47~~**38**. A written Quality Assurance program for ~~Boilers 6-1 and 7-1 and~~ Combined Cycle Units I (Gas Turbines IA & 2A) and 2 (Gas Turbines 3A & 4A) CEMs must be established in accordance with 40 CFR Part 75, Appendix B for NOx and 40 CFR Part 60, Appendix F for CO which includes, but is not limited to: procedures for daily calibration testing, quarterly linearity and leak testing, record keeping and reporting implementation, and relative accuracy testing. [District Rule 219]

…

~~50~~**41**. To demonstrate compliance with condition number ~~13~~**11**, Dynegy Moss Landing, LLC shall record the start time, end time and duration of each steam turbine cold start-up and each combustor tuning period. This information shall be compiled and supplied to the District in the semiannual monitoring report as specified in Condition ~~62~~**54**. [District Rule 207]

…

~~52~~**43**. Dynegy Moss Landing, LLC shall monitor SO_2 emissions from ~~Boilers 6-1 and 7-1 and~~ Combined Cycle Units 1 (Gas Turbines 1A & 2A) and 2 (Gas Turbines 3A & 4A) in accordance with 40 CFR Part 72 and 75. [District Rule 219]

~~53~~**44**. Dynegy Moss Landing, LLC shall maintain daily records to document compliance with condition number ~~24~~**20**. [District Rule 416 Adopted 4/20/94]

…

REPORTING REQUIREMENTS

~~58~~**49**. Dynegy Moss Landing, LLC shall submit monthly reports on the continuous emissions monitoring systems to the District **in accordance to the Monitoring and Reporting Protocol for Monthly Reporting (Reporting Protocol) upon its approval by the District.** ~~, in a District approved format,~~ **The monthly Report shall be submitted to the District** within 30 days from the end of the month ~~and these shall include~~ [District Rules 207, 213, & 218]:

~~a) the time intervals, date and magnitude of excess emissions, nature and cause of the excess (if known), corrective actions and preventative measures adopted; and~~

~~b) the averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard for the pollutant iii question; and~~

~~c) time and date of each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of system repairs and adjustments; and~~

~~d) a negative declaration specifying when no excess emissions occurred; and~~

~~e) a summary of actual monthly emissions from the CEM for all equipment which operated during the month.~~

~~59~~**50**. Dynegy Moss Landing, LLC shall report all breakdowns which results in the inability to comply with any emission standard or requirement contained on this permit to the Air Pollution Control Officer (APCO)

within 1 hour of the occurrence; this one hour period may be extended up to six hours for good cause by the APCO. The APCO may elect to take no enforcement action if Dynegy Moss Landing, LLC demonstrates to the APCO's satisfaction that a breakdown condition exists.

The estimated time for repair of the breakdown shall be supplied to the APCO within 24 hours of the occurrence and a written report shall be supplied to the APCO with**in** 5 **working** days after the occurrence has been corrected. This report shall include at a minimum [District Rule 214]: …

…

~~61~~**52**. Dynegy Moss Landing, LLC shall submit quarterly Electronic Data Reports (EDR) to EPA for ~~Boilers 6-1 and 7-1 and~~ Combined Cycle Units 1 (Gas Turbines 1A & 2A) and 2 (Gas Turbines 3A & 4A). These reports must be submitted within 30 days following the end of each calendar quarter and shall include all information required in §75.64. [40 CFR Part 75]

APPENDIX D: REQUEST TO INACTIVATE BOILERS

Monterey Bay Air Resources District

24580 Silver Cloud Court
Monterey, CA 93940
(831) 647-9411

Request to Inactivate a Permit to Operate

Section A - Permit Information

Company Name (Business Name of Operator As It Appears On The Permit):
DYNEGY MOSS LANDING, LLC

Permit Number: 14354 **Date Issued:** 11/02/2009

Equipment Description: BOILER POWER PLANT, 6-1

Section B - Equipment Location Address

Circle One: (✓) **Fixed Location** ( ) **Various Location**
(For equipment operated at various locations, provide address of initial site.)

HIGHWWAY 1 & DOLAN ROAD
Street Address

MOSS LANDING, CA 95039
City Zip

Mr. DUKE COLLINS — Sr. ENV'L PROF'L
Contact Name Title

(831) 633-6738 — (831) 633-6625
Phone # Ext. Fax #

duke.collins@dynegy.com
Email

Section C - Permit Mailing Address

Permit and Correspondence Information:
[ ] Check here if same as equipment location address

PO BOX 690
Address

MOSS LANDING, CA 95039-0690
City Zip

Mr. DUKE COLLINS — Sr. ENV'L PROF'L
Contact Name Title

(831) 633-6738 — (831) 633-6625
Phone # Ext. Fax #

duke.collins@dynegy.com
Email

Section D - Reason for Inactivation

Cancellation of the Permit to Operate described above is hereby requested for the following reason(s):

[ ] Equipment ( ) Sold ( ) Destroyed or Removed from site. Effective Date: N/A

[ ] Equipment was replaced. New Permit Number: N/A

[✓] Equipment will no longer be operated. Date Operation Ended: 12/31/2016

[ ] Equipment is exempt from permit requirements by Rule 201. Indicate Rule Section: N/A

[ ] Business & Equipment Sold. Effective Date: N/A

Name and Address of new owner:

Name: N/A

Address: N/A

Contact: N/A Phone #: N/A

[ ] Other (explain): N/A

It is understood that any future use of this equipment may require a new permit application in accordance with the laws then in effect.

Section E - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Signature of Responsible Official:	Title of Responsible Official:
Rex A Lewis	MANAGING DIRECTOR
Print Name of Responsible Official:	**Date:**
REX A. LEWIS	7-19-17
Phone #:	**Fax #:**
(831) 633-6698	(831) 633-6625

Return form by mail to address above "Attn: Engineering" or email to jduran@mbard.org.

Monterey Bay Air Resources District

24580 Silver Cloud Court
Monterey, CA 93940
(831) 647-9411

Request to Inactivate a Permit to Operate

Section A - Permit Information

Company Name (Business Name of Operator As It Appears On The Permit):
DYNEGY MOSS LANDING, LLC

Permit Number: 14355 **Date Issued:** 11/02/2009

Equipment Description: BOILER POWER PLANT, 7-1

Section B - Equipment Location Address

Circle One: (✓) **Fixed Location** ( ) **Various Location**
(For equipment operated at various locations, provide address of initial site.)

HIGHWWAY 1 & DOLAN ROAD
Street Address

MOSS LANDING, CA 95039
City Zip

Mr. DUKE COLLINS — Sr. ENV'L PROF'L
Contact Name — Title

(831) 633-6738 — (831) 633-6625
Phone # Ext. Fax #

duke.collins@dynegy.com
Email

Section C - Permit Mailing Address

Permit and Correspondence Information:
[ ] Check here if same as equipment location address

PO BOX 690
Address

MOSS LANDING, CA 95039-0690
City Zip

Mr. DUKE COLLINS — Sr. ENV'L PROF'L
Contact Name — Title

(831) 633-6738 — (831) 633-6625
Phone # Ext. Fax #

duke.collins@dynegy.com
Email

Section D - Reason for Inactivation

Cancellation of the Permit to Operate described above is hereby requested for the following reason(s):

[ ] Equipment ( ) Sold ( ) Destroyed or Removed from site. Effective Date: N/A

[ ] Equipment was replaced. New Permit Number: N/A

[✓] Equipment will no longer be operated. Date Operation Ended: 12/31/2016

[ ] Equipment is exempt from permit requirements by Rule 201. Indicate Rule Section: N/A

[ ] Business & Equipment Sold. Effective Date: N/A

Name and Address of new owner:

Name: N/A

Address: N/A

Contact: N/A Phone #: N/A

[ ] Other (explain): N/A

It is understood that any future use of this equipment may require a new permit application in accordance with the laws then in effect.

Section E - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Signature of Responsible Official:	**Title of Responsible Official:**
Rex A. Lewis	MANAGING DIRECTOR
Print Name of Responsible Official:	**Date:**
REX A. LEWIS	7-19-17
Phone #:	**Fax #:**
(831) 633-6698	(831) 633-6625

Return form by mail to address above "Attn: Engineering" or email to jduran@mbard.org.

APPENDIX E: PERMIT MODIFICATION AND RELATED DOCUMENTS FOR STEAM TURBINE COLD START-UPS

This appendix contains the following documents:

- Permit modification application submitted to MBARD in September, 2016
- Revised Permits to Operate GNR-001 7223 to 7226 issued by the MBARD
- Notice of Operational Flexibility Approval for Title V Permit TV65-01A

DYNEGY MOSS LANDING, L.L.C
PO BOX 690,
MOSS LANDING CA 95039
831-633-6700

DYNEGY

September 1, 2016

Mary Giraudo
Air Quality Engineer III
Monterey Bay Air Resources District
24580 Silver Cloud Court
Monterey, CA 93940

Subject: Title V Facility Administrative Permit Amendment Application for the Dynegy Moss Landing Power Plant (Title V Permit TV65-01)

Dear Ms. Giraudo:

Dynegy Moss Landing, LLC (DML) is pleased to submit the enclosed permit application to the Monterey Bay Air Resources District (District or MBARD) requesting a change to Condition 5 of the Title V Operating Permit TV65-01 for the Moss Landing Power Plant issued on Mar 15, 2013. We are requesting the following change to the Title V permit:

- Clarification to the cold startups definition in Condition 5 such that the 30-hour limit in Condition 13 restricts only those "steam turbine cold start-ups" that do not meet the standard (non-cold) start-up duration or emission limits in Condition 7.

The requested condition change is discussed in more detail below.

Type of Application

Dynegy Moss Landing, LLC (DML) is requesting a clarification to the definition of the term "steam turbine cold start-up" which is consistent with the intent of the original permit condition language and would allow the facility to continue to operate under the recent changes to its dispatch pattern by the California Independent System Operator (CAISO). The proposed clarification will not result in an exceedance of emissions allowable under the facility Title V Operating Permit, nor will it violate any federally enforceable requirements. Therefore, pursuant to District Rule 218, Section 2.1.2, this proposed permit amendment merely "identifies a minor administrative change at the stationary source," and, as such, DML requests that this application be processed as a Title V Administrative Permit Amendment application.

Alternatively, under the "Operational Flexibility" provisions of District Rule 218, Section 5.5.1, upon request of the owner or operator, the APCO may allow certain changes in facility operations without requiring a permit revision, provided the changes allowed would not constitute a significant or minor permit modification or result in an exceedance of the emissions allowable under the permit.

Since the proposed clarification to Title V Facility Permit TV65-01 Condition 5 would not constitute a significant or minor permit modification, or result in an exceedance of the emissions allowable under the permit, we believe that this change is eligible for approval under the Operational Flexibility Section 5.5.1.3 for the following reasons:

- The change does not violate federally enforceable requirements or contravene any federally enforceable permit terms and conditions that are monitoring, record keeping, reporting, or compliance certification requirements;

- The requested clarification language does not cause or allow any exceedance of any emission limitation or emission standard which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis; and
- The change does not cause or allow any exceedance of any standard of performance that requires continuous emission reduction, including any requirement relating to the operation or maintenance of a facility or emission unit to assure continuous emission reduction.

As a result, the proposed change to Condition 5 should also qualify for Operational Flexibility under District Rule 218, Section 5.5.1.3. Should the District decide this is the preferable permitting approach, DML will prepare the written notice required by Section 5.5.1.3.3 upon notification of this determination by the District.

Description of the Proposed Change

Clarification Regarding Steam Turbine Cold Start-up

Condition 13 of the Moss Landing Title V Operating Permit currently limits the total number of hours for "steam turbine cold start-up" or combustor tuning to 30 hours per year. The term "steam turbine cold start-up" is defined in Condition 5 as follows:

> 5. *The pollutant mass emission rates in the exhaust discharged to the atmosphere from each Gas Turbine shall not exceed the following limits [District Rule 207]: . . .*
>
> *These limits shall not apply during start-up, which is not to exceed four (4) hours, during shutdown, which is not to exceed two (2) hours, or during* ***steam turbine cold start-up*** *or combustor tuning or energy regulatory agency required performance testing, which are not to exceed six (6) hours.*
>
> ***Steam turbine cold start-up*** *periods are start-up periods that follow a shutdown of the steam turbine for at least 72 hours.* [Emphasis added.]

Additionally, Condition 7 contains limits on the duration of startups, and the emission limits for oxides of nitrogen (NOx as NO_2), carbon monoxide (CO), and volatile organic compounds (VOC as CH_4) for each standard (non-cold) and cold start-up as shown in Table 1.

Table 1
Emission and Duration Limits for Standard (Non-cold) and Cold Start-ups
Title V Permit TV65-01, Condition 7

	Standard (non-cold) Start-ups (per startup)	**Cold Start-up (per startup)**
Duration	4 hours	6 hours
NOx	320.0 lbs	480.0 lbs
CO	3,608.0 lbs	5,412.0 lbs
VOC	64.0 lbs	214.0 lbs

The somewhat vague definition of the term "steam turbine cold start-up" in Condition 5 of the current Title V permit was not an issue for the operating scenarios considered in the original permitting of the facility. The Dynegy Moss Landing Power Plant was built with the intention to operate it as a baseload power plant, and cold startup events were expected to occur infrequently. However, due to the recent unforeseen changes in gas prices and the resulting CAISO dispatch pattern for Dynegy Moss Landing Power Plant, DML is experiencing more cold starts (based on a narrow interpretation of Condition 5) than

originally anticipated for base load power plant operation, and, as a result, the facility could exceed the 30-hour cold start-up limit in Condition 13 of the current permit within the next 30 to 45 days.[1]

We believe that the intent of Conditions 5 and 7 is that the annual 30-hour limit restricts only those "steam turbine cold start-ups" that either

- Last more than 4 hours; or
- Exceed the standard (non-cold) start-up emission limits in Condition 7.

A steam turbine cold start-up that neither exceeds 4 hours nor exceeds the standard (non-cold) startup limits in Condition 7 is no different than any other standard non-cold startup, and, therefore, should not be treated any differently than a standard, non-cold startup. There are no hourly limits in Title V Permit TV65-01 on non-cold startups, only daily and quarterly emission limits effectively restrict the number of allowable startups.

Therefore, DML requests that a clarification be added to permit Condition 5 for the definition of steam turbine cold start-ups. This proposed change will not cause any change in the emissions of any air pollutants or allow an exceedance of any emission limitation in the current Title V permit, and the proposed change will have no impact on other permit requirements (i.e., operating limits, monitoring/testing requirements, reporting requirements, etc.). The requested change to Condition 5 is as follows:

> 5. *The pollutant mass emission rates in the exhaust discharged to the atmosphere from each Gas Turbine shall not exceed the following limits [District Rule 207] . . .*
>
> *Steam turbine cold start-up periods are start-up periods that* ***(1) last more than four hours OR exceed the start-up emission limits in Condition 7 AND (2)*** *follow a shutdown of the steam turbine for at least 72 hours. . . .*

Permit Application Fees

Attached are the District application forms for the requested changes to the permit conditions. DML will pay the application fees, which it understands to be $410 to cover the filing fees for the administrative permit change,[2] through the GovPayNet website link on the District's website.

If you have any questions or need further information, please don't hesitate to contact me.

Sincerely,

Rex A. Lewis

Rex A. Lewis
Managing Director
Moss Landing, Oakland and Morro Bay Power Plants
(831) 633-6698

Attachment

[1] DML is seeking an Interim Variance in order to obtain relief from Condition 13 during the interim period for this matter.
[2] District Rule 301, Table 1 Fee Schedule, Schedule 2 for administrative amendment ($272) and for Rule 308 Title V Fees ($138).

Monterey Bay Air
Resources District
Serving Monterey, San Benito and Santa Cruz Counties
www.montereybaycleanair.org

24580 Silver Cloud Court
Monterey, CA 93940
PHONE: (831) 647-9411 • FAX: (831) 647-8501

November 21, 2016

Rex Lewis
Managing Director
Dynegy Moss Landing, LLC
P.O. Box 690
Moss Landing, CA 95039-0690

SUBJECT: PERMITS TO OPERATE GNR-0017223 - GNR-0017226
COMBINED CYCLE GAS TURBINE GENERATOR UNITS 1A, 2A, 3A & 4A

Dear Rex Lewis:

The Monterey Bay Air Resources District (District) has completed its evaluation of Dynegy Moss Landing, LLC's (DML) September 6, 2016 permit applications requesting to clarify the term "steam turbine cold start-up" as defined in Condition 3 of Permits to Operate (PTOs) 15557, 15558, 15559, and 15560 for Combined Cycle Gas Turbine Generator Units 1A, 2A, 3A, and 4A. Specifically, DML proposed to clarify the definition to read as follows:

> *"Steam turbine cold start-up periods are start-up periods that last more than four hours or exceed the start-up emission limits in Condition 5, and follow a shutdown of the steam turbine for at least 72 hours."*

The District has determined that since DML is not proposing to revise Condition 11, which requires a 30-hour limit on steam turbine cold start-ups or combustor tuning per turbine per year per, nor modify any of the hourly, daily, or quarterly emissions limits set forth in Conditions 2, 3, 4, 5, or 8, the facility will continue to be constrained by the applicable gas turbine and facility-wide emission limits set forth in the current permits.

Accordingly, I have enclosed the following revised PTOs to clarify the definition of a steam turbine cold start-up:

EQUIPMENT DESCRIPTION	NEW PTO	PRIOR PTO
Combined Cycle Gas Turbine Generator Unit 1A	GNR-0017223	15557
Combined Cycle Gas Turbine Generator Unit 2A	GNR-0017224	15558
Combined Cycle Gas Turbine Generator Unit 3A	GNR-0017225	15559
Combined Cycle Gas Turbine Generator Unit 4A	GNR-0017226	15560

The permits must be posted or kept readily available at the operating premises, and replace the respective PTOs listed above. Please review the permits and note the conditions which have been included on them. These conditions are necessary to ensure that the equipment will operate in accordance with District regulations. The permits remain renewable on January 1 of each year.

With the issuance of these permits, the long term variance requested on September 23, 2016 is no longer necessary. Accordingly, please contact Ann O'Rourke, Executive Assistant, to withdrawal your application, Docket #16-004.

Although this permitting action resolves the immediate issue regarding the new California Independent System Operator dispatch patterns, the District looks forward to continued progress in the adoption of DML's Monitoring and Reporting Protocol for Monthly Reporting, additional permit clarification on annual source testing requirements, and a dialogue on further refining language for a "gas turbine start-up".

If you have any questions, please contact me at the District office.

Sincerely,

Mary Giraudo

Mary Giraudo
Air Quality Engineer

Enclosures: Permits to Operate GNR-0017223 – GNR0017226

cc: Gary Rubenstein, grubenstein@sierraresearch.com

MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT

PERMIT TO OPERATE

GNR-0017226

24580 SILVER CLOUD CT., MONTEREY, CA 93940 TELEPHONE (831) 647-9411 • FAX (831) 647-8501

OPERATION UNDER THIS PERMIT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS INCLUDED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED. THE EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD CONDITION AT ALL TIMES. THIS PERMIT TO OPERATE MUST BE POSTED OR ACCESSIBLE.

LEGAL OWNER OR OPERATOR: DYNEGY MOSS LANDING, LLC

EQUIPMENT LOCATED AT: Highway One & Dolan Road
Moss Landing, California

EQUIPMENT DESCRIPTION AND CONDITIONS: THIS PERMIT TO OPERATE IS ISSUED AND IS VALID FOR THIS EQUIPMENT ONLY WHILE IT IS IN THE CONFIGURATION SET FORTH IN THE FOLLOWING DESCRIPTION:

COMBINED CYCLE GAS TURBINE GENERATOR UNIT 4A:

1. Gas Turbine Generator, General Electric Frame 7, Model PG7241, Serial #297605, Rated At 1,870 MMBtu/Hr Maximum Heat Input And 180 MW Nominal Electrical Output, Dry Low-NO_x Combustor.

2. Water Tube Type Heat Recovery Steam Generator (HRSG), Nominal Ratings: High Pressure Steam Capacity: 409,900 Lbs/Hr @ 1,903 psia And 1,047°F, Intermediate Pressure Steam Capacity: 484,500 Lbs/Hr @ 358 psia And 1,022°F, Low Pressure Steam Capacity: 55,300 Lbs/Hr @ 71 psia And 499°F.

3. Steam Turbine Generator And Condenser Serving Gas Turbine Units 3A And 4A, Quadruple Admission, Triple Extraction, 196.8 MW Nominal Rated Electrical Output.

4. Selective Catalytic Reduction NO_x Control System Consisting Of 2,244 Ft3 Cormetech Type CM-21 Vanadium, Titanium, And Tungsten Oxide Honeycomb Catalyst Located Within The HRSG.

5. Ammonia Injection System.

THIS PERMIT BECOMES VOID UPON ANY CHANGE OF OWNERSHIP OR ADDRESS, OR ANY ALTERATION.

Mary Giraudo, for
AIR POLLUTION CONTROL OFFICER

DATE NOV 21 2016

APCD 3

6. CEM System Consisting Of:

   a) CiSCO Sample Acquisition Probe Located Approximately 130' Above Grade.

   b) Instrumentation Shelter, 8' x 10', Located Approximately 20 Feet From The Stack. Shelter Houses Sample Transport And Conditioning Systems, And Analyzers.

   c) Analyzers:

      i) Rosemount Model 951C Chemiluminescence Analyzer Measuring NO_2.

      ii) Siemens Ultramat/Oxymat 6E Analyzer Measuring CO Via Non-Dispersive Infrared Measurement And O_2 Via Paramagnetic Measurement.

   d) Data Acquisition System, VIM Technologies, Installed On An IBM Compatible Computer Located In The Control Room.

THE EQUIPMENT FOR WHICH THIS PERMIT TO OPERATE IS ISSUED MAY BE OPERATED ONLY WHEN IN COMPLIANCE WITH THE FOLLOWING CONDITIONS:

Conditions:

1. The heat input rate to this gas turbine shall not exceed 1,870 MMBtu/hr.

2. The maximum daily combined emissions from the gas turbines, including start-ups and shutdowns and combustor tuning periods, shall not exceed the following limits:

Pollutant	Lbs/Day
Oxides of Nitrogen (NO_x)	2,589.4
Carbon Monoxide (CO)	17,301.8
Particulate Matter <10 microns (PM_{10})	864.0
Volatile Organic Compounds (VOC)	620.0
Ammonia (NH_3)	1,224.0
Sulfur Dioxide (SO_2)	124.8

3. The pollutant mass emission rates in the exhaust discharged to the atmosphere from this gas turbine shall not exceed the following limits:

Pollutant	Lbs/Hour	Lbs/Day
Oxides of Nitrogen (NO_x)	17.23	413.5
Carbon Monoxide (CO)	37.76	906.2
Particulate Matter (PM_{10})	9.00	216.0
Volatile Organic Compounds (VOC)	4.79	115.0
Ammonia (NH_3)	12.75	306.0
Sulfur Dioxide (SO_2)	1.30	31.2

These limits shall not apply during start-up, which is not to exceed four (4) hours, during shutdown, which is not to exceed two (2) hours, or during steam turbine cold start-up or combustor tuning, which are not to exceed six (6) hours. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up, shutdown, and combustor tuning to minimize pollutant emissions.

Steam turbine cold start-up periods are start-up periods that last more than four (4) hours or exceed the start-up emission limits in Condition 5, and follow a shutdown of the steam turbine for at least 72 hours.

Combustor tuning activities include all testing, adjustment, tuning, and calibration activities recommended by the gas turbine manufacturer to ensure safe and reliable steady state operation of the gas turbines following replacement of the combustor. This includes, but is not limited to adjusting the amount of fuel distributed between the combustion turbine's staged fuel systems to simultaneously minimize NO_x, CO and VOC production while ensuring combustor stability.

4. The pollutant concentrations discharged to the atmosphere from this gas turbine shall not exceed the following limits, calculated at 15 percent O_2 on a one-hour rolling average unless otherwise noted:

Pollutant	Concentration (ppm)
Oxides of Nitrogen (as NO_2)	2.5
Carbon Monoxide (CO)	9.0 rolling three-hour average)
Ammonia (NH_3)	5.0 (three 60 minute averages)

These limits shall not apply: during start-up, which is not to exceed four (4) hours; during shutdown, which is not to exceed two (2) hours; or during steam turbine cold start-up or combustor tuning, which are not to exceed six (6) hours. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up, shutdown, and combustor tuning to minimize pollutant emissions.

5. The pollutant emission rates discharged to the atmosphere from this gas turbine during start-up, shutdown, or combustor tuning activities shall not exceed the following limits. These limits apply to any start-up period which shall not exceed four (4) hours, to any shutdown, which shall not exceed two (2) hours, and to any steam turbine cold start-up or combustor tuning, which shall not exceed six (6) hours.

Pollutant	Lbs/Start-up	Lbs/Cold Start-up or Combustor Tuning	Lbs/Shutdown
NO_x (as NO_2)	320.0	480.0	160.0
CO	3,608.0	5,412.0	1,804.0
VOCs (as CH_4)	64.0	214.0	32.0

6. Exceedance of the hourly NO_x emission limits specified in Conditions 3 and 4 is allowed during short-term excursions which total less than 10 hours per rolling 12-month period.

Short-term excursions are defined as 15-minute periods designated by Dynegy Moss Landing, LLC that are a direct result of a pre-mix mode switchover, not to exceed four consecutive 15-minute periods, when the 15-minute average NO_x concentration exceeds 2.5 ppm corrected to 15% O_2.

The maximum 1-hour NO_x concentration for periods that include short-term excursions shall not exceed 30 ppmvd corrected to 15% O_2. All emissions during short-term excursions shall be included in all calculations of daily, quarterly, and annual mass emissions required by this permit.

7. The CEM system shall be operated on this gas turbine. This system shall be designed to continuously record the measured gaseous concentrations, and calculate and continuously monitor and record the CO, CO_2 or O_2, and NO_x concentrations corrected to fifteen (15) percent oxygen (O_2) on a dry basis.

   The equipment for the continuous monitoring of CO shall be maintained and operated in accordance with 40 CFR Part 60 Appendix F, and the equipment for the continuous monitoring of CO_2 or O_2 and NO_x shall be maintained and operated in accordance with 40 CFR Parts 72 and 75.

   For periods of missing CO data, CO hourly values shall be substituted from valid hourly average data from the previous thirty (30) unit operating days, excluding periods of start-up, shutdown, and combustor tuning. The CO data shall be substituted based on equivalent incremental load ranges.

8. Cumulative emissions, including emissions generated during start-ups, shutdowns, and combustor tuning activities from all power generation equipment at the Moss Landing Power Plant shall not exceed the following quarterly limits:

Pollutant	Pounds Of Emissions Per Calendar Quarter			
	First	Second	Third	Fourth
NO_x (as NO_2)	286,778	285,301	409,492	336,584
SO_x	23,823	24,567	32,613	29,468
VOC	144,537	150,294	212,540	188,206
PM_{10}	213,533	221,488	307,505	273,879
CO	2,929,068	3,059,753	4,472,774	3,920,385

9. This equipment shall be abated by a properly operated and maintained Selective Catalytic Reduction System.

10. No more than one of the gas turbines shall be operated in support of a steam turbine cold start-up or undergo combustor tuning at any one time.

11. The total number of hours during which each gas turbine may be operated to support a steam turbine cold start-up or may undergo combustor tuning shall not exceed 30 hours per year.

12. To demonstrate compliance with Condition 11, Dynegy Moss Landing, LLC shall record the start time, end time, and duration of each steam turbine cold start-up and each combustor tuning period. On an annual basis, Dynegy Moss Landing, LLC shall report the total number of hours during which each gas turbine operated to support a steam turbine cold start-up or in combustor tuning mode during the year.

13. Dynegy Moss Landing, LLC shall demonstrate compliance by using properly operated and maintained continuous emission monitors (during all hours of operation including equipment start-up and shutdown periods and combustor tuning activities, except for periods of CEM maintenance performed in accordance with District requirements) for all of the following parameters:

    a) Firing hours and Fuel Flow Rates.

    b) Oxygen (O_2) Concentrations, Nitrogen Oxide (NO_x) Concentrations, and Carbon Monoxide (CO) Concentrations.

c) Ammonia Injection Rates.

Dynegy Moss Landing, LLC shall record all of the above parameters every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, Dynegy Moss Landing, LLC shall calculate and record the total Firing Hours, the average hourly Fuel Flow Rates, and pollutant emission concentrations.

Dynegy Moss Landing, LLC shall use the parameters measured above and District-approved calculation methods to calculate the following parameters:

d) Heat Input Rate.

e) Corrected NO_x concentrations, NO_x mass emissions (as NO_2), corrected CO concentrations, and CO mass emissions.

For each source, Dynegy Moss Landing, LLC shall record the parameters specified in Sections (d) and (e) of this condition every 15 minutes (excluding normal calibration periods). As specified below, Dynegy Moss Landing, LLC shall calculate and record the following data:

f) Total Heat Input Rate for every clock hour;

g) The NO_x mass emissions (as NO_2), and corrected average NO_x emission concentration for every clock hour;

h) The CO mass emissions, and corrected average CO emission concentration for every rolling three-hour period;

i) On an hourly basis, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions;

j) For each calendar day, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions;

k) For each calendar quarter, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions; and,

l) For each calendar year, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions.

14. Dynegy Moss Landing, LLC shall calculate and record on a daily basis, the volatile organic compound (VOC) mass emissions, fine particulate matter (PM_{10}) mass emissions, sulfur dioxide (SO_2) mass emissions, and ammonia (NH_3) mass emissions from each source. Dynegy Moss Landing, LLC shall use the actual heat input rates, actual start-up times, actual shutdown times, actual combustor tuning times and District-approved emission factors to calculate these emissions. The calculated emissions shall be presented as follows:

a) For each calendar day, VOC, PM_{10}, SO_2, and NH_3 mass emissions shall be summarized for each source.

b) On a daily basis, the cumulative total VOC, PM_{10}, SO_2 and NH_3 mass emissions shall be summarized for each calendar quarter and for the calendar year.

15. Instrumentation must be operated to measure the SCR catalyst inlet temperature and pressure differential across the SCR catalyst.

16. Dynegy Moss Landing, LLC shall submit to the Air Pollution Control District a written report each month which shall include:

    a) time intervals, date, and magnitude of excess emissions;

    b) nature and cause of the excess emission, and corrective actions taken;

    c) time and date of each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs and adjustments; and,

    d) a negative declaration when no excess emissions occurred.

17. Dynegy Moss Landing, LLC shall monitor and report SO_2 emissions in accordance with 40 CFR Parts 72 and 75.

18. Dynegy Moss Landing, LLC shall hold Sulfur Dioxide Allowances in the compliance subaccounts not less than the total annual emissions of sulfur dioxide for the previous calendar year.

19. A written Quality Assurance program must be established in accordance with 40 CFR Part 75, Appendix B and 40 CFR Part 60, Appendix F which includes, but is not limited to: procedures for daily calibration testing, quarterly linearity and leak testing, record keeping and reporting implementation, and relative accuracy testing.

20. Pursuant to Title IV, Part 75, Section 75.50, and District Rule 431, Section 4.3, permanent records shall be maintained for a period of five years after creation. The records at a minimum shall include all items specified in Section 75.50 and in District Rule 431.

21. Dynegy Moss Landing, LLC shall submit quarterly Electronic Data Reports (EDR) to EPA. These reports must be submitted within 30 days following the end of the calendar quarter. The reports must be in electronic format and at a minimum must include all items listed in 40 CFR Section 75.64.

22. Dynegy Moss Landing, LLC shall cause testing to be performed to verify compliance with the ammonia (NH_3) slip limit every EPA operating quarter, as defined in 40 CFR Part 72, or in the next EPA operating quarter if this unit cannot be tested in an EPA operating quarter due to the unit being non-operational at the time of scheduled testing. Dynegy Moss Landing, LLC shall conduct this testing in accordance with the collection method specified in BAAQMD Source Test Procedure ST-1B and the analysis specified in EPA method 350.3.

23. Annual performance tests shall be conducted in accordance with the Monterey Bay Unified Air Pollution Control District test procedures, and the written results of the performance tests shall be provided to the District within thirty (30) days after testing. A testing protocol shall be submitted to the District no later than thirty (30) days prior to the testing, and

notification to the District at least ten (10) days prior to the actual date of testing shall be provided so that a District observer may be present. Changes to the test date made subsequent to the initial ten day notification may be communicated by telephone or other acceptable means no less than forty-eight (48) hours prior to the new test date.

24. Dynegy Moss Landing, LLC shall report all breakdowns which result in the inability to comply with any emission standard or requirement contained on this permit to the Air Pollution Control Officer (APCO) within 1 hour or within one hour of the time the owner or operator knew, or reasonably should have known of the occurrence. The APCO may elect to take no enforcement action if Dynegy Moss Landing, LLC demonstrates to the APCO's satisfaction that a breakdown condition exists.

    The estimated time for repair of the breakdown shall be supplied to the APCO within 24 hours of the occurrence and a written report shall be supplied to the APCO within 5 days after the occurrence has been corrected. This report shall include at a minimum:

    a) a statement that the condition or failure has been corrected and the date of correction;

    b) a description of the reasons for the occurrence;

    c) a description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future; and,

    d) an estimate of the emissions caused by the condition or failure.

25. Dynegy Moss Landing, LLC shall maintain adequate stack sampling ports and platforms to enable the performance of source testing.

26. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker than Ringelmann 1, or equivalent 20% opacity.

27. Notwithstanding the requirements of Condition 26, no air contaminant shall be discharged into the atmosphere for a two (2) hour period from the gas turbine exhaust during start-up for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker than Ringelmann 2, or equivalent 40% opacity. Good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

28. No emissions shall constitute a public nuisance.

29. Dynegy Moss Landing, LLC shall fund the operation of the "Stationary Source" percentage of the District's Salinas air monitoring station.

NOTE: This permit replaces Permit to Operate 15560 issued to Dynegy Moss Landing, LLC on April 30, 2013.

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MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT

PERMIT TO OPERATE

GNR-0017225

24580 SILVER CLOUD CT., MONTEREY, CA 93940 TELEPHONE (831) 647-9411 • FAX (831) 647-8501

OPERATION UNDER THIS PERMIT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS INCLUDED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED. THE EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD CONDITION AT ALL TIMES. THIS PERMIT TO OPERATE MUST BE POSTED OR ACCESSIBLE.

LEGAL OWNER OR OPERATOR: DYNEGY MOSS LANDING, LLC

EQUIPMENT LOCATED AT: Highway One & Dolan Road
Moss Landing, California

EQUIPMENT DESCRIPTION AND CONDITIONS: THIS PERMIT TO OPERATE IS ISSUED AND IS VALID FOR THIS EQUIPMENT ONLY WHILE IT IS IN THE CONFIGURATION SET FORTH IN THE FOLLOWING DESCRIPTION:

COMBINED CYCLE GAS TURBINE GENERATOR UNIT 3A:

1. Gas Turbine Generator, General Electric Frame 7, Model PG7241, Serial #297604, Rated At 1,870 MMBtu/Hr Maximum Heat Input And 180 MW Nominal Electrical Output, Dry Low-NO_x Combustor.

2. Water Tube Type Heat Recovery Steam Generator (HRSG), Nominal Ratings: High Pressure Steam Capacity: 409,900 Lbs/Hr @ 1,903 psia And 1,047°F, Intermediate Pressure Steam Capacity: 484,500 Lbs/Hr @ 358 psia And 1,022°F, Low Pressure Steam Capacity: 55,300 Lbs/Hr @ 71 psia And 499°F.

3. Steam Turbine Generator And Condenser Serving Gas Turbine Units 3A And 4A, Quadruple Admission, Triple Extraction, 196.8 MW Nominal Rated Electrical Output.

4. Selective Catalytic Reduction NO_x Control System Consisting Of 2,244 Ft3 Cormetech Type CM-21 Vanadium, Titanium, And Tungsten Oxide Honeycomb Catalyst Located Within The HRSG.

5. Ammonia Injection System.

THIS PERMIT BECOMES VOID UPON ANY CHANGE OF OWNERSHIP OR ADDRESS, OR ANY ALTERATION.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSIONS OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY ARTICLE 1, CHAPTER 3, PART 4, DIVISION 26 OF THE HEALTH & SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES AND REGULATIONS OF THE AIR POLLUTION CONTROL DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATION OR STATUTES OF OTHER GOVERNMENTAL AGENCIES.

Mary Giraudo, for
AIR POLLUTION CONTROL OFFICER

DATE NOV 21 2016

APCD 3

6. CEM System Consisting Of:

   a) CiSCO Sample Acquisition Probe Located Approximately 130' Above Grade.

   b) Instrumentation Shelter, 8' x 10', Located Approximately 20 Feet From The Stack. Shelter Houses Sample Transport And Conditioning Systems, And Analyzers.

   c) Analyzers:

      i) Rosemount Model 951C Chemiluminescence Analyzer Measuring NO_2.

      ii) Siemens Ultramat/Oxymat 6E Analyzer Measuring CO Via Non-Dispersive Infrared Measurement And O_2 Via Paramagnetic Measurement.

   d) Data Acquisition System, VIM Technologies, Installed On An IBM Compatible Computer Located In The Control Room.

THE EQUIPMENT FOR WHICH THIS PERMIT TO OPERATE IS ISSUED MAY BE OPERATED ONLY WHEN IN COMPLIANCE WITH THE FOLLOWING CONDITIONS:

Conditions:

1. The heat input rate to this gas turbine shall not exceed 1,870 MMBtu/hr.

2. The maximum daily combined emissions from the gas turbines, including start-ups and shutdowns and combustor tuning periods, shall not exceed the following limits:

Pollutant	Lbs/Day
Oxides of Nitrogen (NO_x)	2,589.4
Carbon Monoxide (CO)	17,301.8
Particulate Matter <10 microns (PM_{10})	864.0
Volatile Organic Compounds (VOC)	620.0
Ammonia (NH_3)	1,224.0
Sulfur Dioxide (SO_2)	124.8

3. The pollutant mass emission rates in the exhaust discharged to the atmosphere from this gas turbine shall not exceed the following limits:

Pollutant	Lbs/Hour	Lbs/Day
Oxides of Nitrogen (NO_x)	17.23	413.5
Carbon Monoxide (CO)	37.76	906.2
Particulate Matter (PM_{10})	9.00	216.0
Volatile Organic Compounds (VOC)	4.79	115.0
Ammonia (NH_3)	12.75	306.0
Sulfur Dioxide (SO_2)	1.30	31.2

These limits shall not apply during start-up, which is not to exceed four (4) hours, during shutdown, which is not to exceed two (2) hours, or during steam turbine cold start-up or combustor tuning, which are not to exceed six (6) hours. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up, shutdown, and combustor tuning to minimize pollutant emissions.

Steam turbine cold start-up periods are start-up periods that last more than four (4) hours or exceed the start-up emission limits in Condition 5, and follow a shutdown of the steam turbine for at least 72 hours.

Combustor tuning activities include all testing, adjustment, tuning, and calibration activities recommended by the gas turbine manufacturer to ensure safe and reliable steady state operation of the gas turbines following replacement of the combustor. This includes, but is not limited to adjusting the amount of fuel distributed between the combustion turbine's staged fuel systems to simultaneously minimize NO_x, CO and VOC production while ensuring combustor stability.

4. The pollutant concentrations discharged to the atmosphere from this gas turbine shall not exceed the following limits, calculated at 15 percent O_2 on a one-hour rolling average unless otherwise noted:

Pollutant	Concentration (ppm)
Oxides of Nitrogen (as NO_2)	2.5
Carbon Monoxide (CO)	9.0 rolling three-hour average)
Ammonia (NH_3)	5.0 (three 60 minute averages)

These limits shall not apply: during start-up, which is not to exceed four (4) hours; during shutdown, which is not to exceed two (2) hours; or during steam turbine cold start-up or combustor tuning, which are not to exceed six (6) hours. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up, shutdown, and combustor tuning to minimize pollutant emissions.

5. The pollutant emission rates discharged to the atmosphere from this gas turbine during start-up, shutdown, or combustor tuning activities shall not exceed the following limits. These limits apply to any start-up period which shall not exceed four (4) hours, to any shutdown, which shall not exceed two (2) hours, and to any steam turbine cold start-up or combustor tuning, which shall not exceed six (6) hours.

Pollutant	Lbs/Start-up	Lbs/Cold Start-up or Combustor Tuning	Lbs/Shutdown
NO_x (as NO_2)	320.0	480.0	160.0
CO	3,608.0	5,412.0	1,804.0
VOCs (as CH_4)	64.0	214.0	32.0

6. Exceedance of the hourly NO_x emission limits specified in Conditions 3 and 4 is allowed during short-term excursions which total less than 10 hours per rolling 12-month period.

Short-term excursions are defined as 15-minute periods designated by Dynegy Moss Landing, LLC that are a direct result of a pre-mix mode switchover, not to exceed four consecutive 15-minute periods, when the 15-minute average NO_x concentration exceeds 2.5 ppm corrected to 15% O_2.

The maximum 1-hour NO_x concentration for periods that include short-term excursions shall not exceed 30 ppmvd corrected to 15% O_2. All emissions during short-term excursions shall be included in all calculations of daily, quarterly, and annual mass emissions required by this permit.

7. The CEM system shall be operated on this gas turbine. This system shall be designed to continuously record the measured gaseous concentrations, and calculate and continuously monitor and record the CO, CO_2 or O_2, and NO_x concentrations corrected to fifteen (15) percent oxygen (O_2) on a dry basis.

   The equipment for the continuous monitoring of CO shall be maintained and operated in accordance with 40 CFR Part 60 Appendix F, and the equipment for the continuous monitoring of CO_2 or O_2 and NO_x shall be maintained and operated in accordance with 40 CFR Parts 72 and 75.

   For periods of missing CO data, CO hourly values shall be substituted from valid hourly average data from the previous thirty (30) unit operating days, excluding periods of start-up, shutdown, and combustor tuning. The CO data shall be substituted based on equivalent incremental load ranges.

8. Cumulative emissions, including emissions generated during start-ups, shutdowns, and combustor tuning activities from all power generation equipment at the Moss Landing Power Plant shall not exceed the following quarterly limits:

Pollutant	Pounds Of Emissions Per Calendar Quarter			
	First	Second	Third	Fourth
NO_x (as NO_2)	286,778	285,301	409,492	336,584
SO_x	23,823	24,567	32,613	29,468
VOC	144,537	150,294	212,540	188,206
PM_{10}	213,533	221,488	307,505	273,879
CO	2,929,068	3,059,753	4,472,774	3,920,385

9. This equipment shall be abated by a properly operated and maintained Selective Catalytic Reduction System.

10. No more than one of the gas turbines shall be operated in support of a steam turbine cold start-up or undergo combustor tuning at any one time.

11. The total number of hours during which each gas turbine may be operated to support a steam turbine cold start-up or may undergo combustor tuning shall not exceed 30 hours per year.

12. To demonstrate compliance with Condition 11, Dynegy Moss Landing, LLC shall record the start time, end time, and duration of each steam turbine cold start-up and each combustor tuning period. On an annual basis, Dynegy Moss Landing, LLC shall report the total number of hours during which each gas turbine operated to support a steam turbine cold start-up or in combustor tuning mode during the year.

13. Dynegy Moss Landing, LLC shall demonstrate compliance by using properly operated and maintained continuous emission monitors (during all hours of operation including equipment start-up and shutdown periods and combustor tuning activities, except for periods of CEM maintenance performed in accordance with District requirements) for all of the following parameters:

    a) Firing hours and Fuel Flow Rates.

    b) Oxygen (O_2) Concentrations, Nitrogen Oxide (NO_x) Concentrations, and Carbon Monoxide (CO) Concentrations.

c) Ammonia Injection Rates.

Dynegy Moss Landing, LLC shall record all of the above parameters every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, Dynegy Moss Landing, LLC shall calculate and record the total Firing Hours, the average hourly Fuel Flow Rates, and pollutant emission concentrations.

Dynegy Moss Landing, LLC shall use the parameters measured above and District-approved calculation methods to calculate the following parameters:

d) Heat Input Rate.

e) Corrected NO_x concentrations, NO_x mass emissions (as NO_2), corrected CO concentrations, and CO mass emissions.

For each source, Dynegy Moss Landing, LLC shall record the parameters specified in Sections (d) and (e) of this condition every 15 minutes (excluding normal calibration periods). As specified below, Dynegy Moss Landing, LLC shall calculate and record the following data:

f) Total Heat Input Rate for every clock hour;

g) The NO_x mass emissions (as NO_2), and corrected average NO_x emission concentration for every clock hour;

h) The CO mass emissions, and corrected average CO emission concentration for every rolling three-hour period;

i) On an hourly basis, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions;

j) For each calendar day, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions;

k) For each calendar quarter, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions; and,

l) For each calendar year, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions.

14. Dynegy Moss Landing, LLC shall calculate and record on a daily basis, the volatile organic compound (VOC) mass emissions, fine particulate matter (PM_{10}) mass emissions, sulfur dioxide (SO_2) mass emissions, and ammonia (NH_3) mass emissions from each source. Dynegy Moss Landing, LLC shall use the actual heat input rates, actual start-up times, actual shutdown times, actual combustor tuning times and District-approved emission factors to calculate these emissions. The calculated emissions shall be presented as follows:

a) For each calendar day, VOC, PM_{10}, SO_2, and NH_3 mass emissions shall be summarized for each source.

b) On a daily basis, the cumulative total VOC, PM_{10}, SO_2 and NH_3 mass emissions shall be summarized for each calendar quarter and for the calendar year.

15. Instrumentation must be operated to measure the SCR catalyst inlet temperature and pressure differential across the SCR catalyst.

16. Dynegy Moss Landing, LLC shall submit to the Air Pollution Control District a written report each month which shall include:

    a) time intervals, date, and magnitude of excess emissions;

    b) nature and cause of the excess emission, and corrective actions taken;

    c) time and date of each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs and adjustments; and,

    d) a negative declaration when no excess emissions occurred.

17. Dynegy Moss Landing, LLC shall monitor and report SO_2 emissions in accordance with 40 CFR Parts 72 and 75.

18. Dynegy Moss Landing, LLC shall hold Sulfur Dioxide Allowances in the compliance subaccounts not less than the total annual emissions of sulfur dioxide for the previous calendar year.

19. A written Quality Assurance program must be established in accordance with 40 CFR Part 75, Appendix B and 40 CFR Part 60, Appendix F which includes, but is not limited to: procedures for daily calibration testing, quarterly linearity and leak testing, record keeping and reporting implementation, and relative accuracy testing.

20. Pursuant to Title IV, Part 75, Section 75.50, and District Rule 431, Section 4.3, permanent records shall be maintained for a period of five years after creation. The records at a minimum shall include all items specified in Section 75.50 and in District Rule 431.

21. Dynegy Moss Landing, LLC shall submit quarterly Electronic Data Reports (EDR) to EPA. These reports must be submitted within 30 days following the end of the calendar quarter. The reports must be in electronic format and at a minimum must include all items listed in 40 CFR Section 75.64.

22. Dynegy Moss Landing, LLC shall cause testing to be performed to verify compliance with the ammonia (NH_3) slip limit every EPA operating quarter, as defined in 40 CFR Part 72, or in the next EPA operating quarter if this unit cannot be tested in an EPA operating quarter due to the unit being non-operational at the time of scheduled testing. Dynegy Moss Landing, LLC shall conduct this testing in accordance with the collection method specified in BAAQMD Source Test Procedure ST-1B and the analysis specified in EPA method 350.3.

23. Annual performance tests shall be conducted in accordance with the Monterey Bay Unified Air Pollution Control District test procedures, and the written results of the performance tests shall be provided to the District within thirty (30) days after testing. A testing protocol shall be submitted to the District no later than thirty (30) days prior to the testing, and

notification to the District at least ten (10) days prior to the actual date of testing shall be provided so that a District observer may be present. Changes to the test date made subsequent to the initial ten day notification may be communicated by telephone or other acceptable means no less than forty-eight (48) hours prior to the new test date.

24. Dynegy Moss Landing, LLC shall report all breakdowns which result in the inability to comply with any emission standard or requirement contained on this permit to the Air Pollution Control Officer (APCO) within 1 hour or within one hour of the time the owner or operator knew, or reasonably should have known of the occurrence. The APCO may elect to take no enforcement action if Dynegy Moss Landing, LLC demonstrates to the APCO's satisfaction that a breakdown condition exists.

    The estimated time for repair of the breakdown shall be supplied to the APCO within 24 hours of the occurrence and a written report shall be supplied to the APCO within 5 days after the occurrence has been corrected. This report shall include at a minimum:

    a) a statement that the condition or failure has been corrected and the date of correction;

    b) a description of the reasons for the occurrence;

    c) a description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future; and,

    d) an estimate of the emissions caused by the condition or failure.

25. Dynegy Moss Landing, LLC shall maintain adequate stack sampling ports and platforms to enable the performance of source testing.

26. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker than Ringelmann 1, or equivalent 20% opacity.

27. Notwithstanding the requirements of Condition 26, no air contaminant shall be discharged into the atmosphere for a two (2) hour period from the gas turbine exhaust during start-up for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker than Ringelmann 2, or equivalent 40% opacity. Good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

28. No emissions shall constitute a public nuisance.

29. Dynegy Moss Landing, LLC shall fund the operation of the "Stationary Source" percentage of the District's Salinas air monitoring station.

NOTE: This permit replaces Permit to Operate 15559 issued to Dynegy Moss Landing, LLC on April 30, 2013.

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MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT

PERMIT TO OPERATE

GNR-0017224

24580 SILVER CLOUD CT., MONTEREY, CA 93940 TELEPHONE (831) 647-9411 • FAX (831) 647-8501

OPERATION UNDER THIS PERMIT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS INCLUDED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED. THE EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD CONDITION AT ALL TIMES. THIS PERMIT TO OPERATE MUST BE POSTED OR ACCESSIBLE.

LEGAL OWNER OR OPERATOR: DYNEGY MOSS LANDING, LLC

EQUIPMENT LOCATED AT: Highway One & Dolan Road
Moss Landing, California

EQUIPMENT DESCRIPTION AND CONDITIONS: THIS PERMIT TO OPERATE IS ISSUED AND IS VALID FOR THIS EQUIPMENT ONLY WHILE IT IS IN THE CONFIGURATION SET FORTH IN THE FOLLOWING DESCRIPTION:

COMBINED CYCLE GAS TURBINE GENERATOR UNIT 2A:

1. Gas Turbine Generator, General Electric Frame 7, Model PG7241, Serial #297603, Rated At 1,870 MMBtu/Hr Maximum Heat Input And 180 MW Nominal Electrical Output, Dry Low-NO_x Combustor.

2. Water Tube Type Heat Recovery Steam Generator (HRSG), Nominal Ratings: High Pressure Steam Capacity: 409,900 Lbs/Hr @ 1,903 psia And 1,047°F, Intermediate Pressure Steam Capacity: 484,500 Lbs/Hr @ 358 psia And 1,022°F, Low Pressure Steam Capacity: 55,300 Lbs/Hr @ 71 psia And 499°F.

3. Steam Turbine Generator And Condenser Serving Gas Turbine Units 1A And 2A, Quadruple Admission, Triple Extraction, 196.8 MW Nominal Rated Electrical Output.

4. Selective Catalytic Reduction NO_x Control System Consisting Of 2,244 Ft3 Cormetech Type CM-21 Vanadium, Titanium, And Tungsten Oxide Honeycomb Catalyst Located Within The HRSG.

5. Ammonia Injection System.

THIS PERMIT BECOMES VOID UPON ANY CHANGE OF OWNERSHIP OR ADDRESS, OR ANY ALTERATION.

Mary Giraudo, for
AIR POLLUTION CONTROL OFFICER

DATE NOV 21 2016

APCD 3

6. CEM System Consisting Of:

   a) CiSCO Sample Acquisition Probe Located Approximately 130' Above Grade.

   b) Instrumentation Shelter, 8' x 10', Located Approximately 20 Feet From The Stack. Shelter Houses Sample Transport And Conditioning Systems, And Analyzers.

   c) Analyzers:

      i) Rosemount Model 951C Chemiluminescence Analyzer Measuring NO_2.

      ii) Siemens Ultramat/Oxymat 6E Analyzer Measuring CO Via Non-Dispersive Infrared Measurement And O_2 Via Paramagnetic Measurement.

   d) Data Acquisition System, VIM Technologies, Installed On An IBM Compatible Computer Located In The Control Room.

THE EQUIPMENT FOR WHICH THIS PERMIT TO OPERATE IS ISSUED MAY BE OPERATED ONLY WHEN IN COMPLIANCE WITH THE FOLLOWING CONDITIONS:

Conditions:

1. The heat input rate to this gas turbine shall not exceed 1,870 MMBtu/hr.

2. The maximum daily combined emissions from the gas turbines, including start-ups and shutdowns and combustor tuning periods, shall not exceed the following limits:

Pollutant	Lbs/Day
Oxides of Nitrogen (NO_x)	2,589.4
Carbon Monoxide (CO)	17,301.8
Particulate Matter <10 microns (PM_{10})	864.0
Volatile Organic Compounds (VOC)	620.0
Ammonia (NH_3)	1,224.0
Sulfur Dioxide (SO_2)	124.8

3. The pollutant mass emission rates in the exhaust discharged to the atmosphere from this gas turbine shall not exceed the following limits:

Pollutant	Lbs/Hour	Lbs/Day
Oxides of Nitrogen (NO_x)	17.23	413.5
Carbon Monoxide (CO)	37.76	906.2
Particulate Matter (PM_{10})	9.00	216.0
Volatile Organic Compounds (VOC)	4.79	115.0
Ammonia (NH_3)	12.75	306.0
Sulfur Dioxide (SO_2)	1.30	31.2

These limits shall not apply during start-up, which is not to exceed four (4) hours, during shutdown, which is not to exceed two (2) hours, or during steam turbine cold start-up or combustor tuning, which are not to exceed six (6) hours. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up, shutdown, and combustor tuning to minimize pollutant emissions.

Steam turbine cold start-up periods are start-up periods that last more than four (4) hours or exceed the start-up emission limits in Condition 5, and follow a shutdown of the steam turbine for at least 72 hours.

Combustor tuning activities include all testing, adjustment, tuning, and calibration activities recommended by the gas turbine manufacturer to ensure safe and reliable steady state operation of the gas turbines following replacement of the combustor. This includes, but is not limited to adjusting the amount of fuel distributed between the combustion turbine's staged fuel systems to simultaneously minimize NO_x, CO and VOC production while ensuring combustor stability.

4. The pollutant concentrations discharged to the atmosphere from this gas turbine shall not exceed the following limits, calculated at 15 percent O_2 on a one-hour rolling average unless otherwise noted:

Pollutant	Concentration (ppm)
Oxides of Nitrogen (as NO_2)	2.5
Carbon Monoxide (CO)	9.0 rolling three-hour average)
Ammonia (NH_3)	5.0 (three 60 minute averages)

These limits shall not apply: during start-up, which is not to exceed four (4) hours; during shutdown, which is not to exceed two (2) hours; or during steam turbine cold start-up or combustor tuning, which are not to exceed six (6) hours. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up, shutdown, and combustor tuning to minimize pollutant emissions.

5. The pollutant emission rates discharged to the atmosphere from this gas turbine during start-up, shutdown, or combustor tuning activities shall not exceed the following limits. These limits apply to any start-up period which shall not exceed four (4) hours, to any shutdown, which shall not exceed two (2) hours, and to any steam turbine cold start-up or combustor tuning, which shall not exceed six (6) hours.

Pollutant	Lbs/Start-up	Lbs/Cold Start-up or Combustor Tuning	Lbs/Shutdown
NO_x (as NO_2)	320.0	480.0	160.0
CO	3,608.0	5,412.0	1,804.0
VOCs (as CH_4)	64.0	214.0	32.0

6. Exceedance of the hourly NO_x emission limits specified in Conditions 3 and 4 is allowed during short-term excursions which total less than 10 hours per rolling 12-month period.

Short-term excursions are defined as 15-minute periods designated by Dynegy Moss Landing, LLC that are a direct result of a pre-mix mode switchover, not to exceed four consecutive 15-minute periods, when the 15-minute average NO_x concentration exceeds 2.5 ppm corrected to 15% O_2.

The maximum 1-hour NO_x concentration for periods that include short-term excursions shall not exceed 30 ppmvd corrected to 15% O_2. All emissions during short-term excursions shall be included in all calculations of daily, quarterly, and annual mass emissions required by this permit.

7. The CEM system shall be operated on this gas turbine. This system shall be designed to continuously record the measured gaseous concentrations, and calculate and continuously monitor and record the CO, CO_2 or O_2, and NO_x concentrations corrected to fifteen (15) percent oxygen (O_2) on a dry basis.

   The equipment for the continuous monitoring of CO shall be maintained and operated in accordance with 40 CFR Part 60 Appendix F, and the equipment for the continuous monitoring of CO_2 or O_2 and NO_x shall be maintained and operated in accordance with 40 CFR Parts 72 and 75.

   For periods of missing CO data, CO hourly values shall be substituted from valid hourly average data from the previous thirty (30) unit operating days, excluding periods of start-up, shutdown, and combustor tuning. The CO data shall be substituted based on equivalent incremental load ranges.

8. Cumulative emissions, including emissions generated during start-ups, shutdowns, and combustor tuning activities from all power generation equipment at the Moss Landing Power Plant shall not exceed the following quarterly limits:

Pollutant	Pounds Of Emissions Per Calendar Quarter			
	First	Second	Third	Fourth
NO_x (as NO_2)	286,778	285,301	409,492	336,584
SO_x	23,823	24,567	32,613	29,468
VOC	144,537	150,294	212,540	188,206
PM_{10}	213,533	221,488	307,505	273,879
CO	2,929,068	3,059,753	4,472,774	3,920,385

9. This equipment shall be abated by a properly operated and maintained Selective Catalytic Reduction System.

10. No more than one of the gas turbines shall be operated in support of a steam turbine cold start-up or undergo combustor tuning at any one time.

11. The total number of hours during which each gas turbine may be operated to support a steam turbine cold start-up or may undergo combustor tuning shall not exceed 30 hours per year.

12. To demonstrate compliance with Condition 11, Dynegy Moss Landing, LLC shall record the start time, end time, and duration of each steam turbine cold start-up and each combustor tuning period. On an annual basis, Dynegy Moss Landing, LLC shall report the total number of hours during which each gas turbine operated to support a steam turbine cold start-up or in combustor tuning mode during the year.

13. Dynegy Moss Landing, LLC shall demonstrate compliance by using properly operated and maintained continuous emission monitors (during all hours of operation including equipment start-up and shutdown periods and combustor tuning activities, except for periods of CEM maintenance performed in accordance with District requirements) for all of the following parameters:

    a) Firing hours and Fuel Flow Rates.

    b) Oxygen (O_2) Concentrations, Nitrogen Oxide (NO_x) Concentrations, and Carbon Monoxide (CO) Concentrations.

c) Ammonia Injection Rates.

Dynegy Moss Landing, LLC shall record all of the above parameters every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, Dynegy Moss Landing, LLC shall calculate and record the total Firing Hours, the average hourly Fuel Flow Rates, and pollutant emission concentrations.

Dynegy Moss Landing, LLC shall use the parameters measured above and District-approved calculation methods to calculate the following parameters:

d) Heat Input Rate.

e) Corrected NO_x concentrations, NO_x mass emissions (as NO_2), corrected CO concentrations, and CO mass emissions.

For each source, Dynegy Moss Landing, LLC shall record the parameters specified in Sections (d) and (e) of this condition every 15 minutes (excluding normal calibration periods). As specified below, Dynegy Moss Landing, LLC shall calculate and record the following data:

f) Total Heat Input Rate for every clock hour;

g) The NO_x mass emissions (as NO_2), and corrected average NO_x emission concentration for every clock hour;

h) The CO mass emissions, and corrected average CO emission concentration for every rolling three-hour period;

i) On an hourly basis, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions;

j) For each calendar day, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions;

k) For each calendar quarter, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions; and,

l) For each calendar year, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions.

14. Dynegy Moss Landing, LLC shall calculate and record on a daily basis, the volatile organic compound (VOC) mass emissions, fine particulate matter (PM_{10}) mass emissions, sulfur dioxide (SO_2) mass emissions, and ammonia (NH_3) mass emissions from each source. Dynegy Moss Landing, LLC shall use the actual heat input rates, actual start-up times, actual shutdown times, actual combustor tuning times and District-approved emission factors to calculate these emissions. The calculated emissions shall be presented as follows:

a) For each calendar day, VOC, PM_{10}, SO_2, and NH_3 mass emissions shall be summarized for each source.

b) On a daily basis, the cumulative total VOC, PM_{10}, SO_2 and NH_3 mass emissions shall be summarized for each calendar quarter and for the calendar year.

15. Instrumentation must be operated to measure the SCR catalyst inlet temperature and pressure differential across the SCR catalyst.

16. Dynegy Moss Landing, LLC shall submit to the Air Pollution Control District a written report each month which shall include:

    a) time intervals, date, and magnitude of excess emissions;

    b) nature and cause of the excess emission, and corrective actions taken;

    c) time and date of each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs and adjustments; and,

    d) a negative declaration when no excess emissions occurred.

17. Dynegy Moss Landing, LLC shall monitor and report SO_2 emissions in accordance with 40 CFR Parts 72 and 75.

18. Dynegy Moss Landing, LLC shall hold Sulfur Dioxide Allowances in the compliance subaccounts not less than the total annual emissions of sulfur dioxide for the previous calendar year.

19. A written Quality Assurance program must be established in accordance with 40 CFR Part 75, Appendix B and 40 CFR Part 60, Appendix F which includes, but is not limited to: procedures for daily calibration testing, quarterly linearity and leak testing, record keeping and reporting implementation, and relative accuracy testing.

20. Pursuant to Title IV, Part 75, Section 75.50, and District Rule 431, Section 4.3, permanent records shall be maintained for a period of five years after creation. The records at a minimum shall include all items specified in Section 75.50 and in District Rule 431.

21. Dynegy Moss Landing, LLC shall submit quarterly Electronic Data Reports (EDR) to EPA. These reports must be submitted within 30 days following the end of the calendar quarter. The reports must be in electronic format and at a minimum must include all items listed in 40 CFR Section 75.64.

22. Dynegy Moss Landing, LLC shall cause testing to be performed to verify compliance with the ammonia (NH_3) slip limit every EPA operating quarter, as defined in 40 CFR Part 72, or in the next EPA operating quarter if this unit cannot be tested in an EPA operating quarter due to the unit being non-operational at the time of scheduled testing. Dynegy Moss Landing, LLC shall conduct this testing in accordance with the collection method specified in BAAQMD Source Test Procedure ST-1B and the analysis specified in EPA method 350.3.

23. Annual performance tests shall be conducted in accordance with the Monterey Bay Unified Air Pollution Control District test procedures, and the written results of the performance tests shall be provided to the District within thirty (30) days after testing. A testing protocol shall be submitted to the District no later than thirty (30) days prior to the testing, and

notification to the District at least ten (10) days prior to the actual date of testing shall be provided so that a District observer may be present. Changes to the test date made subsequent to the initial ten day notification may be communicated by telephone or other acceptable means no less than forty-eight (48) hours prior to the new test date.

24. Dynegy Moss Landing, LLC shall report all breakdowns which result in the inability to comply with any emission standard or requirement contained on this permit to the Air Pollution Control Officer (APCO) within 1 hour or within one hour of the time the owner or operator knew, or reasonably should have known of the occurrence. The APCO may elect to take no enforcement action if Dynegy Moss Landing, LLC demonstrates to the APCO's satisfaction that a breakdown condition exists.

    The estimated time for repair of the breakdown shall be supplied to the APCO within 24 hours of the occurrence and a written report shall be supplied to the APCO within 5 days after the occurrence has been corrected. This report shall include at a minimum:

    a) a statement that the condition or failure has been corrected and the date of correction;

    b) a description of the reasons for the occurrence;

    c) a description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future; and,

    d) an estimate of the emissions caused by the condition or failure.

25. Dynegy Moss Landing, LLC shall maintain adequate stack sampling ports and platforms to enable the performance of source testing.

26. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker than Ringelmann 1, or equivalent 20% opacity.

27. Notwithstanding the requirements of Condition 26, no air contaminant shall be discharged into the atmosphere for a two (2) hour period from the gas turbine exhaust during start-up for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker than Ringelmann 2, or equivalent 40% opacity. Good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

28. No emissions shall constitute a public nuisance.

29. Dynegy Moss Landing, LLC shall fund the operation of the "Stationary Source" percentage of the District's Salinas air monitoring station.

NOTE: This permit replaces Permit to Operate 15558 issued to Dynegy Moss Landing, LLC on April 30, 2013.

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MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT

PERMIT TO OPERATE

GNR-0017223

24580 SILVER CLOUD CT., MONTEREY, CA 93940 TELEPHONE (831) 647-9411 • FAX (831) 647-8501

OPERATION UNDER THIS PERMIT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS INCLUDED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED. THE EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD CONDITION AT ALL TIMES. THIS PERMIT TO OPERATE MUST BE POSTED OR ACCESSIBLE.

LEGAL OWNER OR OPERATOR: DYNEGY MOSS LANDING, LLC

EQUIPMENT LOCATED AT: Highway One & Dolan Road
Moss Landing, California

EQUIPMENT DESCRIPTION AND CONDITIONS: THIS PERMIT TO OPERATE IS ISSUED AND IS VALID FOR THIS EQUIPMENT ONLY WHILE IT IS IN THE CONFIGURATION SET FORTH IN THE FOLLOWING DESCRIPTION:

COMBINED CYCLE GAS TURBINE GENERATOR UNIT 1A:

1. Gas Turbine Generator, General Electric Frame 7, Model PG7241, Serial #297602, Rated At 1,870 MMBtu/Hr Maximum Heat Input And 180 MW Nominal Electrical Output, Dry Low-NO_x Combustor.

2. Water Tube Type Heat Recovery Steam Generator (HRSG), Nominal Ratings: High Pressure Steam Capacity: 409,900 Lbs/Hr @ 1,903 psia And 1,047°F, Intermediate Pressure Steam Capacity: 484,500 Lbs/Hr @ 358 psia And 1,022°F, Low Pressure Steam Capacity: 55,300 Lbs/Hr @ 71 psia And 499°F.

3. Steam Turbine Generator And Condenser Serving Gas Turbine Units 1A And 2A, Quadruple Admission, Triple Extraction, 196.8 MW Nominal Rated Electrical Output.

4. Selective Catalytic Reduction NO_x Control System Consisting Of 2,244 Ft3 Cormetech Type CM-21 Vanadium, Titanium, And Tungsten Oxide Honeycomb Catalyst Located Within The HRSG.

5. Ammonia Injection System.

THIS PERMIT BECOMES VOID UPON ANY CHANGE OF OWNERSHIP OR ADDRESS, OR ANY ALTERATION.

Mary Giraudo for
AIR POLLUTION CONTROL OFFICER

DATE NOV 21 2016

APCD 3

6. CEM System Consisting Of:

   a) CiSCO Sample Acquisition Probe Located Approximately 130' Above Grade.

   b) Instrumentation Shelter, 8' x 10', Located Approximately 20 Feet From The Stack. Shelter Houses Sample Transport And Conditioning Systems, And Analyzers.

   c) Analyzers:

      i) Rosemount Model 951C Chemiluminescence Analyzer Measuring NO_2.

      ii) Siemens Ultramat/Oxymat 6E Analyzer Measuring CO Via Non-Dispersive Infrared Measurement And O_2 Via Paramagnetic Measurement.

   d) Data Acquisition System, VIM Technologies, Installed On An IBM Compatible Computer Located In The Control Room.

THE EQUIPMENT FOR WHICH THIS PERMIT TO OPERATE IS ISSUED MAY BE OPERATED ONLY WHEN IN COMPLIANCE WITH THE FOLLOWING CONDITIONS:

Conditions:

1. The heat input rate to this gas turbine shall not exceed 1,870 MMBtu/hr.

2. The maximum daily combined emissions from the gas turbines, including start-ups and shutdowns and combustor tuning periods, shall not exceed the following limits:

Pollutant	Lbs/Day
Oxides of Nitrogen (NO_x)	2,589.4
Carbon Monoxide (CO)	17,301.8
Particulate Matter <10 microns (PM_{10})	864.0
Volatile Organic Compounds (VOC)	620.0
Ammonia (NH_3)	1,224.0
Sulfur Dioxide (SO_2)	124.8

3. The pollutant mass emission rates in the exhaust discharged to the atmosphere from this gas turbine shall not exceed the following limits:

Pollutant	Lbs/Hour	Lbs/Day
Oxides of Nitrogen (NO_x)	17.23	413.5
Carbon Monoxide (CO)	37.76	906.2
Particulate Matter (PM_{10})	9.00	216.0
Volatile Organic Compounds (VOC)	4.79	115.0
Ammonia (NH_3)	12.75	306.0
Sulfur Dioxide (SO_2)	1.30	31.2

These limits shall not apply during start-up, which is not to exceed four (4) hours, during shutdown, which is not to exceed two (2) hours, or during steam turbine cold start-up or combustor tuning, which are not to exceed six (6) hours. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up, shutdown, and combustor tuning to minimize pollutant emissions.

Steam turbine cold start-up periods are start-up periods that last more than four (4) hours or exceed the start-up emission limits in Condition 5, and follow a shutdown of the steam turbine for at least 72 hours.

Combustor tuning activities include all testing, adjustment, tuning, and calibration activities recommended by the gas turbine manufacturer to ensure safe and reliable steady state operation of the gas turbines following replacement of the combustor. This includes, but is not limited to, adjusting the amount of fuel distributed between the combustion turbine's staged fuel systems to simultaneously minimize NO_x, CO, and VOC production while ensuring combustor stability.

4. The pollutant concentrations discharged to the atmosphere from this gas turbine shall not exceed the following limits, calculated at 15 percent O_2 on a one-hour rolling average unless otherwise noted:

Pollutant	Concentration (ppm)
Oxides of Nitrogen (as NO_2)	2.5
Carbon Monoxide (CO)	9.0 rolling three-hour average)
Ammonia (NH_3)	5.0 (three 60 minute averages)

These limits shall not apply: during start-up, which is not to exceed four (4) hours; during shutdown, which is not to exceed two (2) hours; or during steam turbine cold start-up or combustor tuning, which are not to exceed six (6) hours. SCR catalytic controls and good engineering practices shall be used to the fullest extent practical during start-up, shutdown, and combustor tuning to minimize pollutant emissions.

5. The pollutant emission rates discharged to the atmosphere from this gas turbine during start-up, shutdown, or combustor tuning activities shall not exceed the following limits. These limits apply to any start-up period which shall not exceed four (4) hours, to any shutdown, which shall not exceed two (2) hours, and to any steam turbine cold start-up or combustor tuning, which shall not exceed six (6) hours.

Pollutant	Lbs/Start-up	Lbs/Cold Start-up or Combustor Tuning	Lbs/Shutdown
NO_x (as NO_2)	320.0	480.0	160.0
CO	3,608.0	5,412.0	1,804.0
VOCs (as CH_4)	64.0	214.0	32.0

6. Exceedance of the hourly NO_x emission limits specified in Conditions 3 and 4 is allowed during short-term excursions which total less than 10 hours per rolling 12-month period.

Short-term excursions are defined as 15-minute periods designated by Dynegy Moss Landing, LLC that are a direct result of a pre-mix mode switchover, not to exceed four consecutive 15-minute periods, when the 15-minute average NO_x concentration exceeds 2.5 ppm corrected to 15% O_2.

The maximum 1-hour NO_x concentration for periods that include short-term excursions shall not exceed 30 ppmvd corrected to 15% O_2. All emissions during short-term excursions shall be included in all calculations of daily, quarterly, and annual mass emissions required by this permit.

7. The CEM system shall be operated on this gas turbine. This system shall be designed to continuously record the measured gaseous concentrations, and calculate and continuously monitor and record the CO, CO_2 or O_2, and NO_x concentrations corrected to fifteen (15) percent oxygen (O_2) on a dry basis.

   The equipment for the continuous monitoring of CO shall be maintained and operated in accordance with 40 CFR Part 60 Appendix F, and the equipment for the continuous monitoring of CO_2 or O_2 and NO_x shall be maintained and operated in accordance with 40 CFR Parts 72 and 75.

   For periods of missing CO data, CO hourly values shall be substituted from valid hourly average data from the previous thirty (30) unit operating days, excluding periods of start-up, shutdown, and combustor tuning. The CO data shall be substituted based on equivalent incremental load ranges.

8. Cumulative emissions, including emissions generated during start-ups, shutdowns, and combustor tuning activities, from all power generation equipment at the Moss Landing Power Plant shall not exceed the following quarterly limits:

Pollutant	Pounds Of Emissions Per Calendar Quarter			
	First	Second	Third	Fourth
NO_x (as NO_2)	286,778	285,301	409,492	336,584
SO_x	23,823	24,567	32,613	29,468
VOC	144,537	150,294	212,540	188,206
PM_{10}	213,533	221,488	307,505	273,879
CO	2,929,068	3,059,753	4,472,774	3,920,385

9. This equipment shall be abated by a properly operated and maintained Selective Catalytic Reduction System.

10. No more than one of the gas turbines shall be operated in support of a steam turbine cold start-up or undergo combustor tuning at any one time.

11. The total number of hours during which each gas turbine may be operated to support a steam turbine cold start-up or may undergo combustor tuning shall not exceed 30 hours per year.

12. To demonstrate compliance with Condition 11, Dynegy Moss Landing, LLC shall record the start time, end time, and duration of each steam turbine cold start-up and each combustor tuning period. On an annual basis, Dynegy Moss Landing, LLC shall report the total number of hours during which each gas turbine operated to support a steam turbine cold start-up or in combustor tuning mode during the year.

13. Dynegy Moss Landing, LLC shall demonstrate compliance by using properly operated and maintained continuous emission monitors (during all hours of operation including equipment start-up and shutdown periods and combustor tuning activities, except for periods of CEM maintenance performed in accordance with District requirements) for all of the following parameters:

    a) Firing hours and Fuel Flow Rates.

    b) Oxygen (O_2) Concentrations, Nitrogen Oxide (NO_x) Concentrations, and Carbon Monoxide (CO) Concentrations.

c) Ammonia Injection Rates.

Dynegy Moss Landing, LLC shall record all of the above parameters every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, Dynegy Moss Landing, LLC shall calculate and record the total Firing Hours, the average hourly Fuel Flow Rates, and pollutant emission concentrations.

Dynegy Moss Landing, LLC shall use the parameters measured above and District-approved calculation methods to calculate the following parameters:

d) Heat Input Rate.

e) Corrected NO_x concentrations, NO_x mass emissions (as NO_2), corrected CO concentrations, and CO mass emissions.

For each source, Dynegy Moss Landing, LLC shall record the parameters specified in Sections (d) and (e) of this condition every 15 minutes (excluding normal calibration periods). As specified below, Dynegy Moss Landing, LLC shall calculate and record the following data:

f) Total Heat Input Rate for every clock hour;

g) The NO_x mass emissions (as NO_2), and corrected average NO_x emission concentration for every clock hour;

h) The CO mass emissions, and corrected average CO emission concentration for every rolling three-hour period;

i) On an hourly basis, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions;

j) For each calendar day, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions;

k) For each calendar quarter, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions; and,

l) For each calendar year, the cumulative total NO_x mass emission (as NO_2) and the cumulative total CO mass emissions.

14. Dynegy Moss Landing, LLC shall calculate and record on a daily basis, the volatile organic compound (VOC) mass emissions, fine particulate matter (PM_{10}) mass emissions, sulfur dioxide (SO_2) mass emissions, and ammonia (NH_3) mass emissions from each source. Dynegy Moss Landing, LLC shall use the actual heat input rates, actual start-up times, actual shutdown times, actual combustor tuning times and District-approved emission factors to calculate these emissions. The calculated emissions shall be presented as follows:

a) For each calendar day, VOC, PM_{10}, SO_2, and NH_3 mass emissions shall be summarized for each source.

b) On a daily basis, the cumulative total VOC, PM_{10}, SO_2 and NH_3 mass emissions shall be summarized for each calendar quarter and for the calendar year.

15. Instrumentation must be operated to measure the SCR catalyst inlet temperature and pressure differential across the SCR catalyst.

16. Dynegy Moss Landing, LLC shall submit to the Air Pollution Control District a written report each month which shall include:

    a) time intervals, date, and magnitude of excess emissions;

    b) nature and cause of the excess emission, and corrective actions taken;

    c) time and date of each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs and adjustments; and,

    d) a negative declaration when no excess emissions occurred.

17. Dynegy Moss Landing, LLC shall monitor and report SO_2 emissions in accordance with 40 CFR Parts 72 and 75.

18. Dynegy Moss Landing, LLC shall hold Sulfur Dioxide Allowances in the compliance subaccounts not less than the total annual emissions of sulfur dioxide for the previous calendar year.

19. A written Quality Assurance program must be established in accordance with 40 CFR Part 75, Appendix B and 40 CFR Part 60, Appendix F which includes, but is not limited to procedures for daily calibration testing, quarterly linearity and leak testing, record keeping and reporting implementation, and relative accuracy testing.

20. Pursuant to Title IV, Part 75, Section 75.50, and District Rule 431, Section 4.3, permanent records shall be maintained for a period of five years after creation. The records at a minimum shall include all items specified in Section 75.50 and in District Rule 431.

21. Dynegy Moss Landing, LLC shall submit quarterly Electronic Data Reports (EDR) to EPA. These reports must be submitted within 30 days following the end of the calendar quarter. The reports must be in electronic format and at a minimum must include all items listed in 40 CFR Section 75.64.

22. Dynegy Moss Landing, LLC shall cause testing to be performed to verify compliance with the ammonia (NH_3) slip limit every EPA operating quarter, as defined in 40 CFR Part 72, or in the next EPA operating quarter if this unit cannot be tested in an EPA operating quarter due to the unit being non-operational at the time of scheduled testing. Dynegy Moss Landing, LLC shall conduct this testing in accordance with the collection method specified in BAAQMD Source Test Procedure ST-1B and the analysis specified in EPA method 350.3.

23. Annual performance tests shall be conducted in accordance with the Monterey Bay Unified Air Pollution Control District test procedures, and the written results of the performance tests shall be provided to the District within thirty (30) days after testing. A testing protocol shall be submitted to the District no later than thirty (30) days prior to the testing, and

notification to the District at least ten (10) days prior to the actual date of testing shall be provided so that a District observer may be present. Changes to the test date made subsequent to the initial ten day notification may be communicated by telephone or other acceptable means no less than forty-eight (48) hours prior to the new test date.

24. Dynegy Moss Landing, LLC shall report all breakdowns which result in the inability to comply with any emission standard or requirement contained on this permit to the Air Pollution Control Officer (APCO) within 1 hour or within one hour of the time the owner or operator knew, or reasonably should have known of the occurrence. The APCO may elect to take no enforcement action if Dynegy Moss Landing, LLC demonstrates to the APCO's satisfaction that a breakdown condition exists.

    The estimated time for repair of the breakdown shall be supplied to the APCO within 24 hours of the occurrence and a written report shall be supplied to the APCO within 5 days after the occurrence has been corrected. This report shall include at a minimum:

    a) a statement that the condition or failure has been corrected and the date of correction;

    b) a description of the reasons for the occurrence;

    c) a description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future; and,

    d) an estimate of the emissions caused by the condition or failure.

25. Dynegy Moss Landing, LLC shall maintain adequate stack sampling ports and platforms to enable the performance of source testing.

26. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker than Ringelmann 1, or equivalent 20% opacity.

27. Notwithstanding the requirements of Condition 26, no air contaminant shall be discharged into the atmosphere for a two (2) hour period from the gas turbine exhaust during start-up for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker than Ringelmann 2, or equivalent 40% opacity. Good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.

28. No emissions shall constitute a public nuisance.

29. Dynegy Moss Landing, LLC shall fund the operation of the "Stationary Source" percentage of the District's Salinas air monitoring station.

NOTE: This permit replaces Permit to Operate 15557 issued to Dynegy Moss Landing, LLC on April 30, 2013.

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Monterey Bay Air
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Serving Monterey, San Benito and Santa Cruz Counties
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December 5, 2016

Ya-Ting Tsai
Air Permits Office (AIR-3)
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105
Tsai.Ya-Ting@epa.gov

SUBJECT: DYNEGY MOSS LANDING, LLC
NOTICE OF OPERATIONAL FLEXIBILITY APPROVAL FOR TITLE V PERMIT TV65-01A

Dear Ya-Ting Tsai,

On September 1, 2016, Dynegy Moss Landing, LLC (Dynegy) submitted a permit application to the Monterey Bay Air Resources District (District) requesting an administrative amendment to modify Condition 5 of Title V Permit TV65-01A for the Moss Landing Power Plant. As an alternative, Dynegy also requested a review under the "Operational Flexibility" provision of District Rule 218, *Title V: Federal Operating Permits*, Section 5.5. Under the Operational Flexibility provision, the Air Pollution Control Officer (APCO) may allow certain changes in facility operations without requiring a Title V permit revision.

Specifically, Dynegy has requested to clarify the steam turbine cold start-up definition in Condition 5 for the Combined Cycle Gas Turbine Generator Units 1A, 2A, 3A, and 4A such that the 30-hour annual limit in Condition 13 restricts only those "steam turbine cold start-ups" that do not meet the standard (non-cold) start-up duration or standard (non-cold) start-up emission limits in Condition 7. The proposed revised portion of Condition 5 is underlined as follows:

> .. "Steam turbine cold start-up periods are start-up periods that last more than four (4) hours or exceed the start-up emission limits in Condition 5, and follow a shutdown of the steam turbine for at least 72 hours."

Upon review, the District has determined that since Dynegy in not proposing to revise Condition 13, which requires a 30-hour limit on steam turbine cold start-ups or combustor tuning per year, nor modify any of the hourly, daily, or quarterly emission limits set forth in Conditions 4, 5, 6, 7, 8 or 11, the facility will continue to be constrained by the applicable gas turbine and facility–wide emission limits set forth in the Title V permit.

Furthermore, the District has determined that the proposed revision to Condition 5 of Title V Permit TV65-01A: 1) does not constitute a significant or minor permit modification, 2) does not result in an exceedance of the emissions allowable under the permit, and 3) meets all the

requirements for approval under the Operational Flexibility provision per Section 5.5.1.3 as follows:

- The change does not violate federally enforceable requirements or contravene any federally enforceable permit terms and conditions that are monitoring, recordkeeping, reporting, or compliance certification requirements;

- The change does not cause or allow any exceedance of any emission limitation or emission standard which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a facility or emission unit to assure continuous emission reduction and any design, equipment work practice or operational standard; and

- The change does not cause or allow any exceedance of any standard of performance that requires continuous emission reduction, including any requirement relating to the operation or maintenance of a facility or emission unit to assure continuous emission reduction.

Accordingly, the District is not requiring a Title V permit revision at this time. In recent discussions with Dynegy, additional modifications to the plant operations are anticipated in early 2017 which will trigger a Title V permit modification. At that time, the District will incorporate the clarified definition of a steam turbine cold-start-up in the modified Title V permit.

In the interim, and on behalf of Dynegy, please accept this letter as written notice of the APCO's decision to allow for the use of the Operational Flexibility provision of District Rule 218. Local District Permits to Operate GNR-0017223 – GNR0017226 were modified and issued on November 21, 2016 to include the revised and clarified definition of a steam turbine cold start-up for Combined Cycle Gas Turbine Generator Units 1A, 2A, 3A, and 4A, respectively. Hence, the date the change occurred is November 21, 2016.

If you have any questions or need any further written documentation from Dynegy, please contact me at (831) 718-8018.

Sincerely,

Mary Giraudo

Mary Giraudo
Supervising Engineer
Monterey Bay Air Resources District

cc: Rex Lewis, Dynegy Moss Landing, LLC, P.O. Box 690, Moss Landing, CA 95039-0690
Gary Rubenstein, Sierra Research, grubenstein@sierraresearch.com