

DOCKETED

Docket Number:	99-AFC-03C
Project Title:	METCALF Energy Center Compliance
TN #:	214804
Document Title:	Petition To Amend (PTA) Metcalf Energy Center's Air Quality Conditions of Certification
Description:	The PTA is seeking the approval of California Energy Commission to modify certain Air Quality Conditions of Certification to: (1) Align the air quality conditions of certifications with Title V Operating Permit issued by the Bay Area Air Quality Management District (BAAQMD); and (2) Delete provisions from Air Quality conditions of certification associated with initial compliance testing and monitoring for the periods immediately following facility commissioning.
Filer:	Anwar Ali
Organization:	Metcalf Energy Center, LLC
Submitter Role:	Applicant
Submission Date:	12/15/2016 10:08:21 AM
Docketed Date:	12/15/2016

December 13, 2016

Mr. Anwar Ali
Compliance Project Manager
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

**RE: PETITION TO AMEND FINAL COMMISSION DECISION
CONDITIONS OF CERTIFICATION
DOCKET NO. 99-AFC-3**

Dear Mr. Ali:

Pursuant to Section 1769 of the California Energy Commission (CEC) Siting Regulations, Metcalf Energy Center hereby submits the attached Petition to Amend Docket No. 99-AFC-3. The requested changes will have no change to the project description but will have a minor change to the existing Conditions of Certification.

Metcalf Energy Center (MEC) wants to amend the conditions of MEC's license, changing permit conditions that reference commissioning activities, clarify permit definitions, update the Startup and Shutdown definitions to include compliance with ammonia slip limit and create consistency for reporting Title V Permit violations.

The proposed changes will not be significant, and do not result in changes in operation.

If you have any questions or require additional information, please contact Rosemary Silva, EHS Specialist, at 408-361-4954.

Sincerely,



Terry Mahoney
General Manager and
Designated Representative/Responsible Official
Metcalf Energy Center, LLC

Attachments: BAQMD Minor Permit Modification

Cc: Barbara McBride Calpine Corporation
Katherine Piper Calpine Corporation
David Williams Calpine Corporation

Amendment No. 7

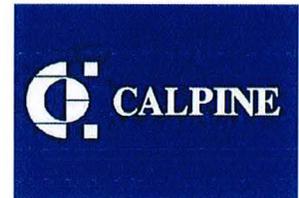
(99-AFC-3C)

Metcalfe Energy Center

San Jose, California

Submitted to
California Energy Commission

Submitted by
Metcalfe Energy Center, LLC



Prepared by
Atmospheric Dynamics, Inc.



ATMOSPHERIC DYNAMICS, INC
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July 2016

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Attachment 1 Proposed Changes to the Conditions of Certification

Executive Summary

Metcalf Energy Center, LLC, "Project Owner", petitions the California Energy Commission ("CEC" or "Commission") to modify certain air quality conditions of certification of the Metcalf Energy Center ("MEC").

This Amendment seeks to:

- (1) Conform the air quality conditions to the MEC's Title V Operating Permit issued by the Bay Area Air Quality Management District (BAAQMD);
- (2) Delete provisions associated with initial compliance testing and monitoring for the periods immediately following facility commissioning, where these conditions are no longer applicable.

Section 1.0 provides an overview of the Amendment and a review of the ownership of the project. Section 2.0 provides a complete description of the proposed modifications and the necessity for the proposed changes. Section 3.0 assesses the potential environmental effects of the proposed changes, the project's continued compliance with all laws, ordinances, regulations and standards, and the consistency of the changes with the Commission Decision certifying the facility. This assessment indicates that adoption of the Amendment will not result in any significant, unmitigated adverse environmental impacts. The project will continue to comply with all applicable laws, ordinances, regulations and standards.

Introduction

1.1 Overview

The Metcalf Energy Center (MEC) is a nominal 600 MW combined cycle natural gas fired power plant located in the southern portion of San Jose. The project was certified on September 24, 2001. Construction began in 2002 with commercial operation beginning in 2005. Metcalf Energy Center, LLC, hereinafter “project owner,” is a wholly-owned subsidiary of Calpine Corporation.

This Petition for Modification contains all of the information that is required pursuant to the CEC’s Siting Regulations (California Code of Regulations [CCR] Title 20, Section 1769, Post Certification Amendments and Changes). The information necessary to fulfill the requirements of Section 1769 is contained in Sections 1.0 through 5.0, as summarized in Table 1.1-1.

TABLE 1.1-1
Informational Requirements for Post-Certification Modifications

Section 1769 Requirement	Section of Petition Fulfilling Requirement
(A) A complete description of the proposed modifications, including new language for any conditions that will be affected	Section 2.0—Proposed modifications Sections 3.1 to 3.15—Proposed changes to Conditions of Certification, if necessary, are located at the end of the technical section
(B) A discussion of the necessity for the proposed modifications	Section 1.3
(C) If the modification is based on information that was known by the petitioner during the certification proceeding, an explanation why the issue was not raised at that time	Section 1.3
(D) If the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision, an explanation of why the change should be permitted	Sections 1.
(E) An analysis of the impacts the modification may have on the environment and proposed measures to mitigate any significant adverse impacts	Section 3.1
(F) A discussion of the impact of the modification on the facility’s ability to comply with applicable laws, ordinances, regulations, and standards;	Section 3.2
(G) A discussion of how the modification affects the public	Section 4.0
(H) A list of property owners potentially affected by the modification	Section 5.0
(I) A discussion of the potential effect on nearby property owners, the public and the parties in the application proceedings.	Section 5.0

1.2 Ownership of the Facility Property

Metcalf Energy Center, LLC is an affiliate of Calpine Corporation (Calpine). Calpine is an independent power developer, owner, and operator engaged in the business of owning or leasing, operating, and selling energy and capacity from electric power generation facilities.

1.3 Necessity of Proposed Changes

The Siting Regulations require a discussion of the necessity for the proposed revision to MEC certification and whether the modification is based on information known by the petitioner during the certification proceeding (Title 20, CCR, Sections 1769 [a][1][B] and [C]).

First, this Amendment seeks to conform the air quality conditions to the MEC's Title V Operating Permit issued by BAAQMD. MEC proposes to modify AQ-36 in order to align the condition with the existing Title V Operating Permit reporting requirements for the facility. MEC also proposes to modify certain definitions, to conform these definitions to the Title V Operating Permit and BAAQMD definitions.

Second, the Amendment proposes to delete provisions associated with initial compliance testing and monitoring for the periods immediately following facility commissioning, where these conditions are no longer applicable. The following air quality staff conditions all contain language associated with initial compliance testing following the post construction commissioning activities, all of which occurred in 2005. Thus, the following permit conditions that require initial plant startup testing are no longer needed:

- AQ-30
- AQ-31
- AQ-33
- AQ-36
- AQ-39
- AQ-45
- AQ-47

None of these changes are based on information known by the petitioner during the certification proceeding.

There are no physical modifications necessary nor are there any changes to facility emissions associated with this amendment and these modifications will not affect power plant equipment or the facility design.

Consistency of Changes with Certification

The Siting Regulations also require a discussion of the consistency of the proposed project revision with the applicable laws, ordinances, regulations, and standards (LORS) and whether the modifications are based on new information that changes or undermines the assumptions, rationale, findings, or other basis of the final decision (Title 20, CCR Section 1769 [a][1][D]).

The proposed project revisions are consistent with all applicable LORS. This amendment is not based on new information that changes or undermines any basis for the Final Decision. The

findings and conclusions contained in the Commission Decision for MEC are still applicable to the project, as amended.

1.4 Summary of Environmental Impacts

The CEC Siting Regulations require that an analysis be conducted to address the potential impacts the proposed modifications may have on the environment, and proposed measures to mitigate any potentially significant adverse impacts (Title 20, CCR, Section 1769 [a][1][E]). The regulations also require a discussion of the impact of the modification on the facility's ability to comply with applicable LORS (Section 1769 [1][a][F]). Section 3.0 of this Petition for Amendment includes a discussion of the potential environmental impacts associated with the modifications, as well as a discussion of the consistency of the modification with LORS. Section 3.0 also includes updated environmental baseline information if changes have occurred since the AFC that would have a bearing on the environmental analysis of the Petition for Modification. Section 3.0 concludes that there will be no significant environmental impacts associated with implementing the actions specified in the Petition for Modification and that the project as modified will comply with all applicable LORS.

1.5 Proposed Changes to the Conditions of Certification

The full text of the proposed changes is set forth in Attachment A to this Petition.

SECTION 2.0

Description of Project Modifications

This Petition has two purposes.

First, we MEC proposes to conform the conditions of certification to the definitions and terms set forth in the Project's BAAQMD issued Title V Operating Permit as follows:

Definitions:

Clock Hour: Any continuous 60-minute period beginning at the top of the clock hour.

Year: Any non rolling calendar year ~~consecutive twelve month~~ (annual) ~~period of time.~~

**Gas Turbine
Startup Mode:**

The lesser of the first 180 minutes of continuous fuel flow to the Gas Turbine after fuel flow is initiated or the period of time from Gas Turbine fuel flow initiation until the Gas Turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of conditions 20(b), ~~and 20(d)~~ and 20e.

Gas Turbine

Cold Startup Period: The lesser of the first 360 minutes of continuous fuel flow to the Gas Turbine after fuel flow is initiated or the period of time from Gas Turbine fuel flow initiation until the Gas Turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of condition 20(b), 20(d) and 20(e), following a shutdown of at least 72 hours.

Additionally, the Project Owner proposes to modify Condition AQ-36 to conform with the Project's Title V Operating Permit. The modification to this Condition will clarify that excess emissions indicated by the CEMs must be reported within 96 hours of discovery, while all other permit violations not directly recorded by CEMs must be reported within 10 calendar days of the incident. This change brings Condition AQ-36 into alignment with the reporting requirements of the BAAQMD and the Title V Operating Permit.

Second, the Project Owner proposes to delete language that required certain actions after the initial plant start up and is, therefore, no longer required. In particular:

- For the Staff Conditions AQ-30, AQ-31, AQ-33 and AQ-47, the requested modification would remove the line "Within ninety (90) days of startup of the MEC."
- For Staff Conditions AQ-39, the requested modification would remove the line "Within 180 days of the issuance of the Authority to Construct for the MEC, the

Owner/Operator shall contact the BAAQMD Technical Services Division regarding requirements for the continuous emission monitors, sampling ports, platforms, and source tests required by Conditions 27, 30, 31, 33, and 47."

Staff Condition AQ-45 replaces the monthly fuel gas sulfur monitoring with a custom monitoring schedule, as allowed under NSPS Subpart GG. As the facility has collected monthly gas samples for over five (10) years with very little variation in the fuel gas sulfur content, the applicant has requested annual fuel gas testing in place of the monthly requirement. Along with the historical data to support the option for annual testing, PG&E sulfur data from Pipe Ranger could also be used to track the sulfur content in the fuel used at MEC. Modification of this condition will align the requirements to match the current Title V operating permit.

Environmental Analysis of Proposed Project Modifications

3.1 No Possible Significant Environmental Effects

All of the proposed changes herein are administrative in nature, either to conform the conditions of certification to the BAAQMD issued Title V Operating Permit or to eliminate conditions that are no longer applicable to the facility. None of the proposed changes will result, directly or indirectly, in any physical changes to the environment. Therefore, none of the proposed changes will have any possible significant effects on the environment.

3.2 LORS

The Commission Decision certifying the MEC project concluded that the project is in compliance with all applicable LORS. With these proposed changes in air quality conditions, the project will continue to comply with all applicable LORS.

SECTION 4.0

Potential Effects on the Public

This section discusses the potential effects on the public that may result from the modification proposed in this Petition for Modification application, pursuant to CEC Siting Regulations (Title 20, CCR, Section 1769[a][1][G]).

No adverse effects on the public will occur because the proposed changes in the conditions will not result, directly or indirectly, in any physical changes.

SECTION 5.0

Property Owners

This section lists the property owners in accordance with the CEC Siting Regulations (Title 20, CCR, Section 1769[a][1][H]). A list of property owners within 1,000 feet of the proposed facility is provided under separate cover.

No significant adverse effects on property owners would result from the changes in the air quality conditions, because these changes will not result, directly or indirectly, in any physical changes.

Attachment 1

Proposed Changes to the Conditions of Certification

The modification of the existing air quality staff conditions identified in this petition would require changes to six (6) staff conditions in the Certification, as described in the Commission Decision for MEC (October 2001) and the MEC Amendment (March 2005). These proposed changes to Staff Conditions would change the requirements for initial source testing/monitoring from the gas turbines and HRSGs. In the following text, the proposed deletions are identified as strikethrough with the proposed additions in Bold/underlined type.

AIR QUALITY CONDITIONS OF CERTIFICATION

Definitions:

Clock Hour: Any continuous 60-minute period beginning on the top of the clock hour.

Year: Any non rolling calendar year

Gas Turbine

Startup Mode: The lesser of the first 180 minutes of continuous fuel flow to the Gas Turbine after fuel flow is initiated or the period of time from Gas Turbine fuel flow initiation until the Gas Turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of conditions 20(b), ~~and 20(d)~~ **and 20e**.

Gas Turbine

Cold Startup Period: The lesser of the first 360 minutes of continuous fuel flow to the Gas Turbine after fuel flow is initiated or the period of time from Gas Turbine fuel flow initiation until the Gas Turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of condition 20(b) **20(d) and 20e**, following a shutdown of at least 72 hours.

Conditions for the Gas Turbines (S-1 & S-3) and the Heat Recovery Steam Generators (HRSGs; S-2 & S-4)

~~AQ-30 Within ninety (90) days of start-up of the MEC,~~ The owner/operator shall conduct a District-approved source test on exhaust point P-1 or P-2 to establish the factors to be used to determine compliance with Condition 20(e). The source test shall be conducted over the expected operating range of the turbine and HRSG (including, but not limited to, minimum, full load, and steam injection power augmentation mode) to establish the correction factors that will be used to calculate ammonia slip levels. This source test shall be repeated on an annual basis thereafter. Continuing compliance with condition 20(e) shall be demonstrated through calculations of corrected ammonia concentrations based upon the District-approved calculation method. (TRMP)

Verification: ~~At least 90 days before start-up,~~ the owner/operator shall provide a copy of the source test protocols. Approval of the source test protocols and the source test reports shall be deemed as verification for this condition. The owner/operator shall notify the District and the CEC CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CEC CPM within 30 days of the date of the tests.

AQ-31 ~~Within ninety (90) days of start-up of the MEC and thereafter,~~ On an annual basis the owner/operator shall conduct a District-approved source test on exhaust points P-1 and P-2 while each Gas Turbine and associated Heat Recovery Steam Generator are operating at maximum load (including steam injection power augmentation mode) to determine compliance with Conditions 20(a), (b), (c), (d), (f), (g), and (h), while each Gas Turbine and associated Heat Recovery Steam Generator are operating at minimum load to determine compliance with Conditions 20(c) and (d). The owner/operator shall test for (as a minimum): water content, stack gas flow rate, oxygen concentration, precursor organic compound concentration and mass emissions, nitrogen oxide concentration and mass emissions (as NO₂), carbon monoxide concentration and mass emissions and particulate matter (PM₁₀) emissions including condensable particulate matter. Sulfur dioxide mass emissions will be calculated based on the fuel gas sulfur content (BACT, Offsets).

Verification: ~~At least ninety (90) days before start-up,~~ On an annual basis, the owner/operator shall provide a copy of the source test protocols. Approval of the source test protocols, as required in Condition 58, and the source test reports shall be deemed as verification for this Condition. The owner/operator shall notify the District and the CEC CPM within seven (7) working days before the execution of the source tests required in this Condition. Source test results shall be submitted to the District and to the CEC CPM within sixty (60) days of the date of the tests.

AQ-33 ~~Within ninety (90) days of start-up of the MEC and thereafter,~~ On a biennial basis (once every two years) the owner/operator shall conduct a District-approved source test on exhaust point P-1 or P-2 while the Gas Turbine and associated Heat Recovery Steam Generator are operating at maximum allowable operating rates to demonstrate compliance with Condition 26. The gas turbine shall also be tested at minimum load. If three consecutive biennial source tests demonstrate that the annual emission rates calculated pursuant to condition 29 for any of the compounds listed below are less than the BAAQMD Regulation 2, Rule 5 trigger levels shown, then the owner/operator may discontinue future testing for that pollutant:

- Benzene 26.8 pounds/year
 - Formaldehyde 132 pounds/year
 - Specified PAHs 0.18 pounds/year
- (Regulation 2, Rule 5)

Verification: The owner/operator shall notify the District and the CEC CPM at least seven (7) working days before the owner/operator plans to conduct source testing as required by this Condition. Source test results shall be submitted to the District and the CEC CPM within sixty (60) days of conducting the test.

AQ-36 The owner/operator of the MEC shall notify the District and the CEC CPM of any violations of these permit conditions. Notification shall be submitted in a timely manner, in accordance with all applicable District Rules, Regulations, and the Manual of Procedures. Notwithstanding the notification and reporting requirements given in any District Rule, Regulation, or the Manual of Procedures, the owner/operator shall submit written notification (facsimile is acceptable) to the Enforcement Division within 96 hours ~~of the violation of any permit condition indicated excess emissions as recorded by the CEMs. of any emission standard as indicated by a monitor.~~ As per the requirements of Title V, all other permit deviations must be reported within 10 calendar days of the discovery of the incident, pursuant to Section I.F of the permit. Note that, Title V deviations must be reported within 10 calendar days of discovery of the incident, pursuant to Section I.F. of this permit. (Regulation 2-1-403)

Verification: Submittal of these notifications as required by this condition is the verification of these permit conditions. In addition, as part of the Air Quality Reports, the owner/operator shall include information on the dates when these violations occurred and when the owner/operator notified the District and the CEC CPM.

~~**AQ-39** Within 180 days of the issuance of the Authority to Construct for the MEC, the Owner/Operator shall contact the BAAQMD Technical Services Division regarding requirements for the continuous emission monitors, sampling ports, platforms, and source tests required by Conditions 27, 30, 31, 33, and 47. All source testing and monitoring shall be conducted in accordance with the BAAQMD Manual of Procedures. (Regulation 1-501)~~

Verification: The owner/operator shall notify the CEC CPM at least seven (7) working days before these contacts are made.

AQ-45. The owner/operator shall take ~~monthly~~ annual samples of the natural gas combusted at the MEC. The samples shall be analyzed for sulfur content using District approved laboratory methods. The sulfur content test results shall be retained on site for a minimum of five years from the test date and shall be utilized to satisfy the requirements of 40 CFR Part 60, subpart GG. PG&E sulfur data may be used to track the sulfur content in the natural gas delivered to MEC provided that such data can be demonstrated to be representative of the natural gas supplied to MEC. (cumulative increase)

Verification: The owner/operator shall maintain on site the records of all the guarantees received from its natural gas suppliers indicating that the fuel delivered to MEC complies with the 40 CFR Part 60, Subpart GG. These records

shall be made available to the District or the CEC CPM upon request during on-site compliance inspections.

AQ-47 The owner/operator shall perform a visual inspection of the cooling tower drift eliminators at least once per calendar year, and repair or replace any drift eliminator components which are broken or missing. ~~Prior to the initial operation of the Metcalf Energy Center, the owner/operator shall have the cooling tower vendor's field representative inspect the cooling tower drift eliminators and certify that the installation was performed in a satisfactory manner. Within ninety (90) days of the initial operation of the cooling tower~~ The owner/operator shall perform an initial performance source test to determine the PM10 emission rate from the cooling tower to verify compliance with the vendor-guaranteed drift rate specified in Condition 46.

Verification: As part of the monthly Air Quality Reports, the owner/operator shall indicate the date of any violation of this Condition including quantitative information on the severity of the violation.

