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| **Project Title:** | METCALF Energy Center Compliance |
| **TN #:** | 263815 |
| **Document Title:** | PETITION TO AMEND - CHANGE IN THE DEFINITION - GAS TURBINE COLD STARTUP PERIOD |
| **Description:** | PETITION TO AMEND - CHANGE IN THE DEFINITION OF GAS TURBINE COLD STARTUP PERIOD |
| **Filer:** | Anwar Ali |
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CALIFORNIA ENERGY COMMISSION

CALIFORNIA NATURAL RESOURCES AGENCY

# STATEMENT OF STAFF APPROVAL OF POST CERTIFICATION CHANGE
## CHANGE IN THE DEFINITION OF GAS TURBINE COLD STARTUP PERIOD

### METCALF ENERGY PROJECT
### (99-AFC-03C)

On February 9, 2024, the Metcalf Energy Center, LLC, the project owner, filed a Post Certification Petition for Changes in Project Design, Operation or Performance and Amendments to the Commission Decision (TN 254434) with the California Energy Commission (CEC) requesting to amend the Metcalf Energy Center (MEC) Final Commission Decision (Decision).

The MEC is a nominal 600-megawatt combined-cycle, natural gas-fired power plant. The MEC was certified by the CEC on September 24, 2001, and began commercial operation on May 25, 2005. The facility is located in southern San Jose, Santa Clara County.

## DESCRIPTION OF PROPOSED CHANGE

The project owner is seeking CEC approval of the proposed change in the definition of the Gas Turbine Cold Startup Period.

In September 2023, the project owner, requested the Bay Area Air Quality Management District (BAAQMD) to change the definition of the "Gas Turbine Cold Startup Period" contained in the Permit to Operate, which was approved by the CEC in March 2005 (Order Number 05-0316-03). The proposed changes to the definition are as follows:

> 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 part 20(b) **and 20(d)**, following a ~~**shutdown period**~~ of at least 72 hours **since the last turbine shutdown. Notwithstanding this definition of a Cold Start-Up Period, any startup that occurs more than 72 hours since the last turbine shutdown that does not exceed 180 minutes in duration and does**

**not exceed the Start-Up (lb./startup) emissions limits in Part 21 of this permit condition, shall not be considered a Cold Startup.**

On March 13, 2025, the BAAQMD reviewed and approved the above proposed clarification of the definition as presented in the Petition to Amend (PTA), subject to the CEC approval of the proposed change.

For more information, go to the CEC's project webpage (https://www.energy.ca.gov/powerplant/combined-cycle/metcalf-energy-center). In the box labeled "Compliance Proceeding," click on the "Docket Log" to access documents for this Proceeding.

## CEC STAFF REVIEW AND CONCLUSIONS

California Code of Regulations, title 20, section 1769(a)(1) requires a project owner to petition the CEC for the approval of any change the project owner proposes to the project design, operation, or performance requirements of a certified facility. Pursuant to 1769(a)(3)(A), the petition may be approved by CEC staff (staff) only if the following criteria are met:

i. There is no possibility that the change may have a significant impact on the environment, or the change is exempt from the California Environmental Quality Act;
ii. The changes would not cause the project to fail to comply with any applicable laws, ordinances, regulations, or standards (LORS); and
iii. The changes will not require a change to, or deletion of, a condition of certification adopted by the Commission in the Final Decision or subsequent amendments.

Section 1769(a)(3)(B) allows staff to approve changes to air quality conditions of certification provided that:

i. the criteria in subdivisions (a)(3)(A)(i) and (ii) are met; and
ii. no daily, quarterly, annual or other emission limit will be increased as a result of the change.

Staff reviewed the petition for potential environmental effects and consistency with LORS. Staff's conclusions for all technical and environmental areas are summarized in **Table 1**.

**TABLE 1**
**Summary of Conclusions for all Technical and Environmental Areas**

| Technical Areas Reviewed | CEQA | | | | Conforms with applicable LORS |
|---|---|---|---|---|---|
| | Potentially Significant Impact | Less Than Significant Impact with Mitigation (with Revised or New COCs) | Less Than Significant Impact (with or without Existing COCs) | No Impact | |
| Air Quality | | | X | | X |
| Biological Resources | | | | X | X |
| Cultural Resources | | | | X | X |
| Efficiency | | | | X | |
| Facility Design | | | | | X |
| Geological Resources | | | | X | X |
| Hazardous Materials Management | | | | X | X |
| Land Use | | | | X | X |
| Noise and Vibration | | | | X | X |
| Paleontological Resources | | | | X | X |
| Public Health | | | | X | X |
| Reliability | | | | | |
| Socioeconomics | | | | X | |
| Soil and Water Resources | | | | X | X |
| Traffic and Transportation | | | | X | X |
| Transmission Line Safety and Nuisance | | | | X | X |
| Transmission System Engineering | | | | | X |
| Visual Resources | | | | X | X |
| Waste Management | | | | X | X |
| Worker Safety and Fire Protection | | | | X | X |

Areas shown in gray are not subject to CEQA consideration or have no applicable LORS the project must comply with.

Staff has determined that the modified project would continue to comply with applicable LORS, and the project change would not result in any significant adverse environmental impacts or require additional change to any conditions of certification (COC) besides the proposed definition change. The basis for each of staff's conclusions are provided below:

**AIR QUALITY**

The proposed changes to the definition of "Gas Turbine Cold Startup Period" is a change to the classification of certain periods of operation. No changes would occur to any physical components, methods of operation, throughputs, or production.

For the proposed clarification, the CEC and BAAQMD staff confirmed that although the emission limits would not change, the actual emissions could potentially increase due to more frequent startups allowed by the revised language; however, these actual emissions are still below the emission limits specified in the COCs. Therefore, impacts would remain less than significant. The proposed clarification would not result in any significant adverse air quality impacts as there are no physical modifications necessary or changes to the overall facility emissions associated with this project change request. The requested modification would not affect power plant equipment or the facility design. There would be no additional changes to COCs besides the proposed modification in the definition. The project would continue to conform with applicable LORS related to Air Quality. Refer to the Air Quality analysis at the end of this document for further details.

**BIOLOGICAL RESOURCES**

The proposed changes to the definition of "Gas Turbine Cold Startup Period," contained in the Air Quality section of the Final Decision, would not result in any physical changes to the footprints of any existing project features. There would be no construction activities or ground disturbance associated with the proposed PTA. Therefore, the proposed PTA would not have an impact on biological resources.

In terms of potentially harmful air pollution emissions, (e.g., deposition of nitrogen oxides, or NOx), mass emission rates from each of the gas turbines (S-1 and S-3) are regulated pursuant to the Air Quality Condition of Certification **AQ-21** of the Final Decision, and no changes are proposed to **AQ-21**. Therefore, the proposed PTA would have no impacts on sensitive biological resources, such as the federally threatened bay checkerspot butterfly (*Euphydryas editha bayensis*) or the federally endangered Santa Clara Valley dudleya (*Dudleya setchellii*).

## CULTURAL RESOURCES

The proposed PTA to approve the changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision, would not result in any physical changes to the footprints of any existing project features. There would not be any construction activities or ground disturbance associated with the proposed PTA. Therefore, the proposed PTA would not have an impact on cultural resources or tribal cultural resources and would conform with all applicable LORS.

## EFFICIENCY

The proposed changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision, would not result in any physical changes to any existing project features. Therefore, the proposed PTA would have no impact on the power plant's thermal efficiency.

## FACILITY DESIGN

The proposed changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision, would not result in any physical changes to any existing project features. There would be no construction activities. Therefore, the proposed PTA would have no impact on the facility design. The project would continue to conform with applicable LORS.

## GEOLOGICAL AND PALEONTOLOGICAL RESOURCES

The proposed changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision would not result in any physical changes to the footprints of any existing project features. There would not be any construction activities or ground disturbance associated with the proposed PTA. Therefore, the proposed PTA would not have an impact on geological or paleontological resources.

## HAZARDOUS MATERIALS MANAGEMENT

The proposed changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision, would not result in any changes to hazardous materials management. There would not be any construction activities, new materials used, or changes in the use of existing materials. Therefore, the proposed PTA would not have an impact on the project's hazardous materials management and conforms with all applicable LORS.

## LAND USE

The proposed PTA for approval of changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision, would not

result in any physical changes to any existing project features. There would not be any construction activities or change in land use. Therefore, the proposed PTA would not have impact on land use. The project would conform with all applicable LORS.

**NOISE AND VIBRATION**

The proposed PTA for approval of changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision, would not result in any physical changes to any existing project features. There would be no construction activities associated with the proposed changes. Therefore, the proposed PTA would have no impact on noise and the project would conform with all applicable LORS.

**PUBLIC HEALTH**

The proposed changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision, would not affect any toxic air contaminant (TAC) emissions. Exhaust parameters and emission rates would remain the same as when the facility was approved for operation as a combined-cycle facility and would remain in compliance with all the CEC COCs. Therefore, the proposed change would have no impact on Public Health and the project would continue to conform with all applicable LORS.

**RELIABILITY**

The proposed changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision, would not result in any physical changes to any existing project features. Therefore, the proposed PTA would have no impact on the power plant's reliability.

**SOCIOECONOMICS**

The proposed changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision, would not result in any physical changes to any existing project features. There would not be any construction activities or additional operations workforce needs. Therefore, the proposed PTA would not have an impact on socioeconomics, and the project would conform with all applicable LORS.

**SOIL AND WATER**

The proposed changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision, would not result in any physical changes to any existing project features. There would not be any soil disturbance or additional demand on water resources. Therefore, the proposed PTA would not have an impact on soil and water and the project would conform with all applicable LORS.

## TRAFFIC AND TRANSPORTATION

The proposed changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision, would not result in any physical changes to any existing project features. There would not be any construction activities or additional vehicle trips. Therefore, the proposed PTA would not have an impact on transportation and the facility would operate in conformance with all applicable LORS.

## TRANSMISSION LINE SAFETY AND NUISANCE

The proposed changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision, would not impact the transmission line. The project will continue to comply with applicable LORS and will not require a change to any of the COCs. Therefore, there would be no impacts on the transmission line safety and nuisance.

## TRANSMISSION SYSTEM ENGINEERING

The proposed changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision for the Metcalf Energy Center, would not result in any physical changes to any existing project features. Therefore, there would be no impact to transmission system engineering and the project would comply with all applicable LORS.

## VISUAL RESOURCES

The proposed PTA for approval of changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision for the Metcalf Energy Center, would not result in any physical changes to any existing project features. There would not be any construction activities and public views of the facility would remain the same. Therefore, the proposed PTA would not have an impact on visual resources and the project would conform with all applicable LORS.

## WASTE MANAGEMENT

The proposed PTA for approval of changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision for the Metcalf Energy Center would not result in any physical changes at the site. There would not be any construction activities related to the proposed PTA and the proposed changes would not affect the level of waste production from the facility. Therefore, the proposed PTA would not have an impact on waste management. The project would remain in compliance with all applicable LORS.

**WORKER SAFETY AND FIRE PROTECTION**

The proposed PTA for approval of changes to the definition of "Gas Turbine Cold Startup Period" contained in the Air Quality section of the Final Decision, would not result in any physical changes at the site. There would not be any construction activities or additional protection required for workers and equipment. Therefore, the proposed PTA would not have an impact on worker safety or fire protection and conforms with all applicable LORS.

## ENVIRONMENTAL JUSTICE

The proposed changes to the definition of the "Gas Turbine Cold Startup Period" would not result in any physical changes to the existing project features. As such, it is not relevant to Environmental Justice (EJ). Therefore, no EJ analysis was performed, and no technical or environmental areas have addressed the impacts of the proposed PTA on the EJ population.

## CEC STAFF DETERMINATION

Staff has determined that the petition meets the criteria for approval by staff, and therefore, submission to the CEC for approval is not required. Specifically, based on the environmental and other analysis set forth above, staff has determined the proposed changes described in the petition meet the following requirements:

1. There is no possibility that the change may have a significant impact on the environment, or the change is exempt from the California Environmental Quality Act;
2. The changes would not cause the project to fail to comply with any applicable laws, ordinances, regulations, or standards;
3. The changes will not require a change to, or deletion of, a condition of certification adopted by the Commission in the final decision or subsequent amendments; and
4. Regarding the changes to the air quality conditions of certification, no daily, quarterly, annual or other emission limit will be increased as a result of the change.

Staff also concludes that none of the findings specified in 1748(b) apply to the proposed changes and the proposed changes do not meet any of the criteria requiring the production of subsequent or supplemental review pursuant to Public Resources Code section 21166 and California Code of Regulations, tit. 20, section 15162.

## WRITTEN COMMENTS

This statement of staff summary and approval of the proposed project changes has been filed in the docket for this project. Pursuant to California Code of Regulations, title 20, section 1769(a)(3)(C), any person may file an objection to the CEC staff's determination within 14 days of the filing of this statement on the grounds that the project change does not meet the criteria set forth in sections 1769(a)(3)(A) or (a)(3)(B). Absent any objections as specified in section 1769(a)(3)(C), this petition will be approved 14 days after this statement is filed.

The CEC's project webpage (https://www.energy.ca.gov/powerplant/combined-cycle/metcalf-energy-center) has a link to the PTA and this Statement of Staff Approval. In the box labeled "Compliance Proceeding," click on the "Docket Log" to access documents for this Proceeding.

Written comments or objections to staff's determination may be submitted using the CEC's e-Commenting feature, as follows: Go to the CEC's project webpage and click on either the "Comment on this Proceeding," or "Submit e-Comment link. When your comments are filed, you will receive an email with a link to them.

Written comments or objections may also be mailed to:

California Energy Commission
Docket Unit, MS-4
Docket No. 99-AFC-03C
715 P Street
Sacramento, CA 95814-5512

All comments and materials filed with the Docket Unit will be added to the facility Docket Log and be publicly accessible on the CEC's project webpage.

If you have questions about this document, please contact Compliance Project Manager Anwar Ali, Compliance Monitoring and Enforcement Unit, Safety and Reliability Branch, at (916) 698-7498, or via email at anwar.ali@energy.ca.gov.

For information on public participation, please contact the CEC's Office of Public Advisor, Energy Equity, and Tribal Affairs at (916) 957-7910 or email at publicadvisor@energy.ca.gov.

News media inquiries should be directed to the CEC's Media Office at (916) 654-4989, or by email at mediaoffice@energy.ca.gov.

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# METCALF ENERGY CENTER (99-AFC-3C)
# Petition to Amend - Modify Definition of "Cold Startup Period"
**AIR QUALITY**
**Jacquelyn Record**

## INTRODUCTION

On January 19, 2024, the Metcalf Energy Center, LLC (MEC or Project Owner) filed a petition with the California Energy Commission (CEC) requesting to amend the certification for the MEC (MEC 2024). The MEC was certified by the CEC on September 24th, 2001 (CEC 2001). The facility as approved is a nominal 600-megawatt (MW) combined-cycle natural gas-fired power plant located in the southern portion of San Jose. The construction began in 2002, and the commercial operation began in 2005.

In September 2023, the MEC requested a clarification from the Bay Area Air Quality Management (BAAQMD or District) of the definition of "Gas Turbine Cold Startup Period" contained in the Permit to Operate (PTO) and the Air Quality Conditions of Certification (COCs). The petition states "There is no possibility that the clarification definition will result in a significant environmental impact, the MEC will remain in compliance with all applicable laws, ordinances, regulations, and standards, and no emissions limits will be increased as a result of the clarification" (MEC 2024).

In March 2025, the BAAQMD reviewed and approved the proposed clarification, subject to final confirmation from the CEC Staff. The BAAQMD confirmed that the proposed clarification would not result in increased daily, quarterly, annual, or other emission limits and that the proposed clarification would not result in any significant adverse air quality impacts. CEC staff has evaluated the proposed definition change and found them consistent with all applicable laws, ordinances, regulations, and standards (LORS) and no emissions limits will be increased as a result of the clarification. Therefore, these proposed changes do not result in any significant air quality impacts.

## SCOPE OF ANALYSIS

The scope of this analysis is to determine whether the requested changes meet the criteria below pursuant to Title 20, California Code of Regulations, section 1769(a)(3)**.** The regulation reads as follows:

*Staff, in consultation with the air pollution control district where the project is located, may approve any change to a condition of certification regarding air quality, provided:*

*I. That there is no possibility that the change may have a significant effect on the environment, or the change is exempt from the California Environmental Quality Act;*

II. *That the change would not cause the project to fail to comply with any applicable LORS; and*

III. *That no daily, quarterly, annual, or other emission limit will be increased because of the change.*

The Project Owner proposes that the definition of "Gas Turbine Cold Startup Period" be clarified as follows:

> 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 AQ-20(b) **and 20(d)**, following a ~~**shutdown**~~ **period** of at least 72 hours **since the last turbine shutdown. Notwithstanding this definition of a Cold Startup Period, any startup that occurs more than 72 hours since the last turbine shutdown that does not exceed 180 minutes in duration and does not exceed the Startup (lb/startup) emissions limits in AQ-21 of this permit condition, shall not be considered a Cold Startup.**

MEC is requesting this condition modification because the facility operates to support a flexible market demand where the plant typically cycles on and off depending on the requirements of the California Independent Systems Operators (Cal ISO) demand (MEC 2024).

CEC staff added this definition for a "Gas Turbine Cold Startup Period" in March 2005 as part of Order Number 05-0316-03, which modified COC **AQ-20** to limit a Gas Turbine Cold Startup or a combustor tuning period. The current definition for a Gas Turbine Cold Startup limits the startup hours for each gas turbine to 30 hours per year, whereas cold starts are defined as any gas turbine startup that occurs following a Gas turbine shutdown of at least 72 hours.

The original intent of the definition was to allow for a longer startup period, which permits the higher emissions during those cold starts which allows for the steam turbine to warm up slowly. However, in certain situations, the gas turbines can be started within the normal startup emissions limits even after a shutdown of more than 72 hours, such as when transitioning from a one-on-one configuration to a two-on-one configuration. For example, one gas turbine and steam turbine, which is the one-on-one mode, and then the second gas turbine starts up and is now in a two-on-one mode, it can be classified as a cold start based on the existing permit definition, even though the second turbine typically would meet the non-cold startup limits, both time and mass emissions (MEC 2024).

COC **AQ-21** limits startup emissions for gas turbines. COC **AQ-21** regulates the mass emissions rates from each of the gas turbines during a startup or a shutdown established in the condition and limits criteria pollutants on a pound-per-period basis. Additionally, the proposed change to the definition of "Gas Turbine Cold Startup Period" is a change to the classification of certain periods of operation. No changes would occur to any physical components, methods of operation, throughputs, or production.

CEC and BAAQMD staff has confirmed that the proposed clarification would not result in increased daily, quarterly, annual, or other emission limits and that the proposed clarification would not result in any significant adverse air quality impacts. There are no physical modifications necessary or changes to facility emissions associated with this project change request. These requested modifications would not affect power plant equipment or the facility design.

## CONCLUSIONS AND RECOMMENDATIONS

The staff has reviewed the revised language from the BAAQMD for the project's modified Permit to Operate, and the project would comply with all applicable BAAQMD rules and regulations. The final permit is expected to be finalized by BAAQMD after the CEC renders a decision. This change would not have a significant effect on the environment.

With the adoption of the clarified definition recommended in this staff analysis, the project is expected to continue to comply with all applicable BAAQMD rules and regulations. The change would not cause the project to fail to comply with any applicable LORS.

This change can be approved as staff-approved changes per Title 20, California Code of Regulations, section 1769(a)(3)(B).

## PROPOSED DEFINITION CHANGE TO CONDITIONS OF CERTIFICATION

Below is the revised Air Quality Conditions of Certification Definition Change, which were contained in the March 2005 Commission Order Number 05-0316-03. The BAAQMD will issue a modified Permit to Operate for this facility which includes the definition change included below. ~~Strikethrough~~ text designates deleted language and **underline and bold** ones indicate new language.

## PERMIT CONDITIONS

**Definitions**:

> **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 AQ-20(b) **and 20(d)**, following a ~~shutdown~~ **period** of at least 72 hours **since the last turbine shutdown. Notwithstanding this definition of a Cold Startup Period, any startup that occurs more than 72 hours since the last turbine shutdown that does not exceed 180 minutes in duration and does not exceed the Startup (lb/startup) emissions limits in AQ-21 of this permit condition, shall not be considered a Cold Startup.**

## REFERENCES


CEC 2001 – California Energy Commission (CEC). Commission Decision. (TN 22534), docketed October 1, 2001. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=99-AFC-03

CEC 2005 – Metcalf Energy Center, LLC (MEC). Order Approving a Petition to Modify Air Quality Conditions. (TN 33793), docketed March 30, 2005. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=99-AFC-03C#:~:text=Order%20Approving%20A%20Petition%20To%20Modify%20Air%20Quality%20Conditions.

MEC 2024 – Metcalf Energy Center, LLC (MEC). Post-Certification Petition to Amend (PTA) the Commission Decision. (TN 254434), docketed February 13, 2024. Available online at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=254434&DocumentContentId=89821