

<b>DOCKETED</b>	
<b>Docket Number:</b>	08-AFC-10C
<b>Project Title:</b>	Lodi Energy Center Project
<b>TN #:</b>	256804
<b>Document Title:</b>	NCPA Lodi Energy Center Gas Turbine FX Upgrade Petition
<b>Description:</b>	Lodi Energy Center, ("Project Owner") submits this petition for modification of the Lodi Energy Center ("LEC") to install the Gas Turbine FX Upgrade in our gas turbine during the normal maintenance interval resulting in improved efficiency of our gas turbine. The Gas Turbine FX Upgrade will not result in any significant environmental impacts, and LEC will continue to comply with all applicable laws, ordinances, regulations, and standards ("LORS").
<b>Filer:</b>	Rafael Santana
<b>Organization:</b>	NCPA
<b>Submitter Role:</b>	Applicant
<b>Submission Date:</b>	6/11/2024 12:52:44 PM
<b>Docketed Date:</b>	6/11/2024



**LODI ENERGY CENTER  
(Docket # 08-AFC-10C)  
PETITION FOR MODIFICATION  
GAS TURBINE FX UPGRADE**

June 12<sup>th</sup>, 2024

Keith Winstead  
Planner III/Compliance Project Manager  
California Energy Commission  
Safety and Reliability Branch  
Siting, Transmission, and Environmental Protection Division  
Compliance Monitoring and Enforcement Unit  
715 P Street, MS 15  
Sacramento, CA 95814-5512  
E-Mail: [keith.winstead@energy.ca.gov](mailto:keith.winstead@energy.ca.gov)

RE: Lodi Energy Center (Docket# 08-AFC-10C), Petition for Modification  
Gas Turbine FX Upgrade

Dear Mr. Winstead,

Lodi Energy Center, (“Project Owner”) submits this petition for modification of the Lodi Energy Center (“LEC”) to install the Gas Turbine FX Upgrade in our gas turbine during the normal maintenance interval resulting in improved efficiency of our gas turbine. The Gas Turbine FX Upgrade will not result in any significant environmental impacts, and LEC will continue to comply with all applicable laws, ordinances, regulations, and standards (“LORS”).

If you have any questions regarding the proposed Gas Turbine FX Upgrade, please contact Rafael Santana at 209-327-6004 or 209-210-5012 and/or via email at [rafael.santana@ncpa.com](mailto:rafael.santana@ncpa.com)

Regards,

*Rafael Santana*

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Rafael Santana  
Plant Manager  
Lodi Energy Center

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Pursuant to Section 1769 of the California Energy Commission's ("CEC's") Regulations, Lodi Energy Center, hereby submits this petition for modification to the Lodi Energy Center ("LEC"). NCPA is working with Siemens Energy to install the Gas Turbine FX Upgrade technology. The Gas Turbine FX Upgrade will improve the efficiency of NCPA's existing gas turbine throughout the operating range and also, increase the output of the gas turbine during high ambient temperatures. The Gas Turbine FX Upgrade will not result in any significant environmental impacts, and LEC will continue to comply with all applicable laws, ordinances, regulations, and standards ("LORS").

NCPA submits this petition for modification in conjunction with the proposed award for Gas Turbine FX Upgrade under the recent Distributed Electricity Backup Assets Program Bulk Grid Asset Enhancements for Grid Reliability (GFO-23-401) solicitation. Therefore, NCPA requests CEC staff evaluate this Petition and if possible, act on NCPA's petition by September 2024 to allow NCPA to order the parts needed to meet our FX milestones.

20 CCR § 1769

§ 1769. Post Certification Petition for Changes in Project Design,  
Operation or Performance and Amendments to the Commission  
Decision.

**(A): A complete description of the proposed change, including new language for any conditions of certification that will be affected.**

The proposed change allows the existing LEC gas turbine to safely improve its thermal energy conversion process by taking advantage of advanced turbine hot gas path components such as newly advanced design blades, seals, vanes and vanes carriers from turbine stages 1 thru 4. The improvement in efficiency and firing temperature will make up the capacity losses during the hot summer months when capacity is needed the most. The planned upgrade improvement would occur within the existing power block, during normal planned maintenance, when these components are changed. The work will not require excavation, earth moving, facility foundation modifications or construction. The FX parts are internal to the combustion turbine hot section.

NCPA is applying to the San Joaquin Air Pollution Control District ("SJVAPCD") for a modification to the air permit for LEC addressing the changes in equipment and operation, and minor change in emissions. SJVAPCD may modify the requirements in LEC's air permit that may need to be reflected in the CEC's conditions of certification. Other than potential changes driven by LEC's air permit, NCPA does not anticipate a need to modify any of the other CEC conditions of certification.

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**(B): A discussion of the necessity for the proposed change and an explanation of why the change should be permitted;**

The proposed change should be approved as the Gas Turbine FX Upgrade supports California's most recent Distributed Electricity Backup Assets Program Bulk Grid Asset Enhancements for Grid Reliability (GFO-23-401) solicitation. The FX Upgrade allows the existing LEC gas turbine to safely improve its thermal energy conversion process by taking advantage of advanced turbine hot gas path components. During normal gas turbine operations, there is a significant degradation in power capability due to high ambient temperatures. LEC can produce 304MW in the wintertime, but on the hottest days of summer, LEC may only produce 270MW. The increase in firing temperature and the aerodynamic efficiency of the new components will allow for an increase power output on the hot days, allowing significant recovery of the ambient derates during the season and weather conditions when California needs it the most.

**(C) A description of any new information or change in circumstances that necessitated the change;**

In 2023, Siemens Energy approached NCPA with an opportunity to improve the efficiency of LEC after successfully testing the FX upgrade on similar unit for Idaho Power. The FX Upgrade presents an opportunity to improve LEC's efficiency and increase output during high ambient temperatures. In addition, the proposed FX Upgrade supports California's most recent Distributed Electricity Backup Assets Program Bulk Grid Asset Enhancements for Grid Reliability (GFO-23-401) solicitation for the LEC facility.

**(D) An analysis of the effects that the proposed change to the project may have on the environment and proposed measures to mitigate any significant environmental effects;**

The proposed change will not result in an adverse change to the environment.

The project does not require constructing any new infrastructure, there will be no ground disturbance, no expansion of LEC foot print, no opportunities to disturb neighboring wild life, no opportunities to find buried artifacts. It does not introduce new chemicals, or processes, it does not reclassify hazardous zones or building occupancies. Because the work is accomplished during a normal maintenance cycle, it does not cause any new traffic or transportation concerns.

The SJVAPCD is evaluating the permit application, minor changes to the mass emissions and potential health impacts. The expected minor increase in emissions will likely not cause the annual limit to be exceeded as source test data will demonstrate. The amount of NOx mass emissions emitted would be a minor increase to existing baseline emissions from LEC, and likely below permitted levels due to an increase in firing temperature. LEC will continue to comply with existing emissions limits and thus, there are no expected potential impacts to public health.

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The FX upgrade will not increase existing noise levels at LEC. Compliance with existing conditions and best management practices and maintenance activities onsite will ensure that there are no significant adverse impacts, and thus, no other additional mitigation measures are proposed.

**(E) An analysis of how the proposed change would affect the project's compliance with applicable laws, ordinances, regulations, and standards;**

The proposed change will not impact LEC's ability to comply with applicable laws, ordinances, regulations, and standards. NCPA is filing an application with SJVAPCD to address any changes to LEC's air permit. Any changes to the air permit are expected to be reflected in the CEC's condition for certification. The FX component(s) will be installed during LEC's regularly scheduled maintenance outage intervals as directed by original equipment manufacturer.

**(F) A discussion of how the proposed change would affect the public;**

The proposed change will not adversely affect the public. The proposed change does not result in significant impacts to the environment and does not negatively impact air quality or public health. There are no significant adverse effects on property owners that will result from the adoption of the proposed FX Upgrade.

**(G) A list of current assessor's parcel numbers and owners' names and addresses for all parcels within 500 feet of any affected project linear' s and 1000 feet of the project site;**

The following two entities are located within 1000 feet of the project site. There are no new linear facilities associated with the FX Upgrade.

City of Lodi White Slough Waste Water Pollution Plant  
Attn: Ken Capitanich  
12751 Thornton Rd. Lodi, CA 95242  
(209) 333-6749

San Joaquin County Mosquito & Vector Control  
Attn: Omar Khweiss  
7759 S. Airport Way  
Stockton, CA 95206  
(209) 982-4675

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**(H) A discussion of the potential effect of the proposed change on nearby property owners, residents, and the public; and**

The proposed change will have extremely minor to no environmental effects and on nearby property owners, residents, and the public. LEC's air permit will be updated to reflect the change and, if needed, LEC's CEC conditions of certification. All of the modifications will be completed in compliance with applicable LORS. Therefore, the proposed change will have no impact on property owners, residents, or the public.

**(I) A discussion of any exemptions from the California Environmental Quality Act, commencing with section 21000 of the Public Resources Code, that the project owner believes may apply to approval of the proposed change.**

The proposed change is categorically exempt pursuant to Title 14, Section 15301 of the California Code of Regulations as an activity that constitutes a minor alteration of existing facilities involving negligible expansion of the existing use of facilities for power generation. The proposed change is also categorically exempt from CEQA pursuant to LODI ENERGY CENTER (08-AFC-10C) PETITION FOR MODIFICATION GAS TURBINE FX Upgrade {00544465;5} 10 Section 15061(b)(3), the "Common Sense Exemption." This exemption provides that "[w]here it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA." (14 C.C.R. § 15061(b)(3).) In this case, the changes are minor. Further, there would be no substantial adverse changes to existing baseline conditions at the LEC site from the proposed change. Therefore, the Gas Turbine FX Upgrade is categorically exempt from CEQA pursuant to the "Common Sense Exemption."