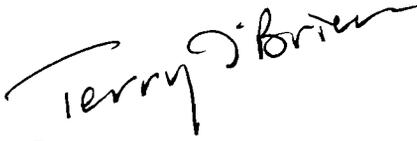


# Memorandum

Date: March 15, 2011

To: Melissa Jones  
Executive Director



From: California Energy Commission - Terry O'Brien, Deputy Director  
1516 Ninth Street Siting, Transmission & Environmental Protection Division  
Sacramento, CA 95814-5512

Subject: **ITEM FOR THE APRIL 6 BUSINESS MEETING – MIDWAY  
SUNSET COGENERATION PROJECT (85-AFC-3C) PETITION TO  
AMEND THE ENERGY COMMISSION DECISION**

## PROJECT BACKGROUND

The Midway Sunset Cogeneration project is a 225 MW cogeneration power plant located near the community of Fellows in Kern County. The project uses cogeneration steam to aid in an enhanced oil recovery process. The project was certified by the Energy Commission in May 1987, has been in operation since 1989, and is owned by the Midway Sunset Cogeneration Company (MSCC). The facility is comprised of three General Electric (GE) Frame 7E combustion turbine generators (Units A, B and C).

Over the years since operation began, the project owner has submitted several amendments to ensure project reliability and maintain compliance with San Joaquin Valley Air Pollution Control District (SJVAPCD) rules and regulations.

## ISSUE

On October 25, 2010, the MSCC filed a petition with the California Energy Commission (Energy Commission) requesting to modify the Midway Sunset Cogeneration Project. A modified petition to amend dated November 8, 2010 was filed at the request of staff. The petition proposes minor administrative changes to Units A, B and C, and also requests changes to upgrade unit B's dry low NOx (DLN) technology from a GE DLN 9 Combustion System to a DLN 1+ Combustion System.

These changes will update the Conditions of Certification in the 1987 Energy Commission Decision to comply with recent changes in the San Joaquin Valley Air Pollution Control District permit and to reflect the proposed new system.

## SUMMARY OF ANALYSIS BY STAFF

Staff analyzed the petition and determined that there will be no significant impacts as a result of the proposed amendment.

The three GE Frame 7E combustion turbine generators route their waste heat through a heat recovery steam generator (HRSG) to produce steam used in the adjoining oil field for thermally enhanced oil recovery. In order to accommodate the declining steam

demands of the steam host, MSCC is proposing to operate Unit B as a peaking unit when the steam demand is low and as a cogeneration unit when the steam demand requires it.

To maintain the NOx emission limits and operate as a peaking unit when necessary, the applicant is proposing to replace Unit B's GE DLN 9 Combustion System to a DLN 1+ Combustion System.

Additional changes are proposed to update AQ-18 Condition of Certification and make administrative changes to reflect the recent Authority to Construct permit issued by the San Joaquin Valley Air Pollution Control District.

The last approved amendment relating to emission limits was in 2006. The project owner requested a decrease in emissions for Unit A based upon the belief that a new GE Evolution Rotor would allow an increase of output by nine percent, lower the heat rate, and reduce emission limits for Oxides of Nitrogen (NOx) from 5 to 2 ppm, and Carbon Monoxide (CO) from 25 to 6 ppm. Due to technical problems with the Evolution Rotor, GE did not offer it commercially and the portion specifically related to Unit A and the Evolution Rotor in AQ-18 Condition of Certification was never deleted. Condition of Certification AQ-18 had emission limits that pertained to all units and specifically allowed Unit A to operate with the emission limits associated with either the Evolution Rotor or the pre-existing emission limits applicable to Units B and C.

This current Petition to Amend updates AQ-18 Condition of Certification to reflect the allowed emission limits for all three units, deleting reference to the GE Evolution Rotor on Unit A. The revision is consistent with the SJVAPCD Authority to Construct (ATC) permit which was issued on October 26, 2010.

## **PUBLIC REVIEW**

- The Original Petition to Amend the project was filed on October 4, 2010, docketed on October 25, 2010 and posted on the Energy Commission's website on October 26, 2010.
- A modified Petition to Amend was filed and docketed and posted on the website on November 19, 2010.
- The Notice of Receipt was mailed to the post-certification mailing list and affected public agencies and docketed on December 1, 2010 and posted on the website on December 7, 2010.
- Staff received one request from an interested party on December 30, 2010 and staff analysis was mailed to the interested party and docketed on January 20, 2011. The staff analysis was then posted on the Energy Commission website on January 25, 2011 for a 30 day public review.
- No comments were received.

### **STAFF FINDINGS**

- The petition meets all the filing criteria of Title 20, section 1769(a) concerning post-certification project modifications;
- The modification will not change the findings in the Energy Commission's Final Decision pursuant to Title 20, section 1755;
- The project will remain in compliance with all applicable LORS, subject to the provisions of Public Resources Code section 25525;
- The proposed modifications to the Air Quality Conditions of Certification will result in a beneficial change by ensuring that the license reflects the correct system and required emission limits set in the previous Energy Commission Decision and required by the SJVAPCD; and,
- There has been a substantial change in circumstances since the Energy Commission certification justifying the change and that the change is based on information that was not available to the parties prior to Energy Commission certification in that the proposed modifications will allow the project to operate efficiently and the modifications reflect the most recent air quality emission limit requirements as determined by the SJVAPCD and allow the project to operate efficiently.

### **RECOMMENDATIONS**

Staff recommends that the Energy Commission approve the project modification(s) and associated revisions to the air quality conditions of certification based upon staff's findings and subject to the revised Condition of Certification.

### **COMPLIANCE PROJECT MANAGER**

The Compliance Project Manager is Dale Rundquist, (916) 651-8891.

The Amendment Compliance Project Manager is Christina Snow, (916) 651-3770.

### **BUSINESS MEETING PARTICIPANTS**

Christina Snow, Amendment Compliance Project Manager

Chris Marxen, Compliance Office Manager

Kevin W. Bell, Compliance Staff Counsel

Joseph Hughes, Air Quality

Gerry Bemis, Air Quality

Attachment(s): Staff Analysis  
Draft Order