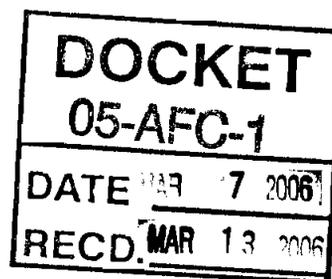




CALIFORNIA ISO



California Independent
System Operator

Dariush Shirmohammadi
Director of Regional
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(916) 608-1113
151 Blue Ravine Road
Folsom, CA 95630

March 7, 2005

Mr. Robert Lugo, Manager
Grid Contracts/Tariff Negotiation/Development
Southern California Edison
P.O. Box 800
Rosemead, CA 91770

Subject: Technical Assessment Study for the 157 MW Pastoria Addition Project

Dear Mr. Lugo:

The California ISO (CAISO) has reviewed the Technical Assessment Study (TAS) performed by Southern California Edison (SCE) for the proposed addition of a new 158.8 MW gas-fired unit to the existing Pastoria Energy Facility (the Project). The Project would increase the existing plant's total net output from 750 MW to 907 MW and would connect to into the existing Pastoria Energy Facility Lebec 230 kV switchyard.

The CAISO is providing a preliminary approval to interconnect the Project subject to implementation of system upgrades and Special Protections Scheme (SPS) noted below:

1. SCE has proposed to add a new SPS or to modify existing Pastoria Energy Facility SPS to include the proposed new unit in order to mitigate contingency impacts. CAISO does not recommend the addition of any new SPS. If the existing SPS cannot be readily modified and/or requires replacement of the existing SPS equipment, then SCE must consider alternative mitigation measures, such as new transmission reinforcements.
2. SCE notes that SPS arming studies will be necessary to properly account for changes in system performance resulting from transmission line upgrades and that SCE will determine if additional sensitivity studies are necessary to determine impact of Pastoria Energy Facility's addition on transient system performance. Generation tripping levels in excess of SPS guides will not be allowed. Final approval to interconnect will be subject to CAISO review of these additional SPS arming studies.
3. If a modified Pastoria Energy Facility's SPS is implemented that results in operational concerns, CAISO reserves the right to review use of the Pastoria Energy Facility SPS.

CAISO would like to point out that the existing Pastoria Energy Facility SPS has had a recent history in tripping the existing 750 MW Pastoria Energy Facility and resulted in operational concerns over its continued use.

Final approval to interconnect the Project will be subject to satisfactory mitigation measures to eliminate all identified criteria violations to the CAISO Grid Planning Standards and the satisfactory completion and review of a Facility Study for the Project. Should you have any questions about the CAISO's review of this study, please call Paul Steckley at (916) 608-5889 (psteckley@caiso.com) or me at (916) 608-1113 (dshirmohammadi@caiso.com).

Sincerely,

(original signed by Dariush Shirmohammadi)

Dariush Shirmohammadi
Director of Regional Transmission – South

DS/PS/pjp

Mr. Robert Lugo
March 7, 2006
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cc: Mr. Ali Amirali
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Attachment A – Technical Assessment Study Review

Background of the Project

The **Pastoria Energy Facility's addition project** is proposed to add a new 158.8 MW gas-fired unit to the existing Pastoria Energy Facility (the Project). The Project would increase the existing plant's total net output from 750 MW to 907 MW. The proposed commercial operation date for this generation project is **April 2007**.

The SCE System Impact Study (SIS), titled "Pastoria Energy Facility, LLC - Pastoria Addition" dated May 13, 2005 identified the need for additional capacity to integrate queued generation projects ahead of the Pastoria addition. CAISO issued a review letter June 29, 2005 and concurred with the SIS results and indicated that additional work was needed to develop a final plan to interconnect the Project. The SIS evaluated impacts of the Project based on the transmission system that includes the Pastoria-Pardee Reconductor Project and new 230 kV and 500 kV transmission expansion consistent with the Tehachapi Collaborative Conceptual Plan as outlined in the report. The SIS identified several transmission system impacts caused by the interconnection of the Project to SCE's transmission system and to the CAISO controlled grid with the planned transmission system assumed in place prior to the Project. Several single and double contingency overloads found to be triggered by projects in queue ahead of the Pastoria Expansion were aggravated further by the addition of Project and an Special Protection System (SPS) or additional transmission upgrades would be required to alleviate overloading of existing facilities. The proposed SPS to mitigate some of these concerns would have exceeded the CAISO Planning Standards for SPS design and SCE was directed to propose only mitigation measures that met Planning Standards and were consistent with the Tehachapi Area Transmission Development Plan.

The SIS recommended that technical assessments be undertaken to include transmission upgrades needed to integrate generation projects queued ahead of the Pastoria Energy Facility's addition. This study provides the study results of the technical assessments.

The Project

The Project will be connected to the existing **LEBEC 230 kV Substation** and will deliver energy to the SCE 230 kV system at Pastoria, as shown in Figure 1.

Figure 1 – Pastoria Energy Facility Addition

The SCE Technical Assessment Report, dated January 19, 2006 was performed with higher queued projects and associated required upgrades in the area as the basis for the pre-project system. Figure 2 depicts the SCE transmission system (a part of the CAISO Controlled Grid) in the Pastoria area (in addition to upgrades required by higher queued projects) as discussed below.

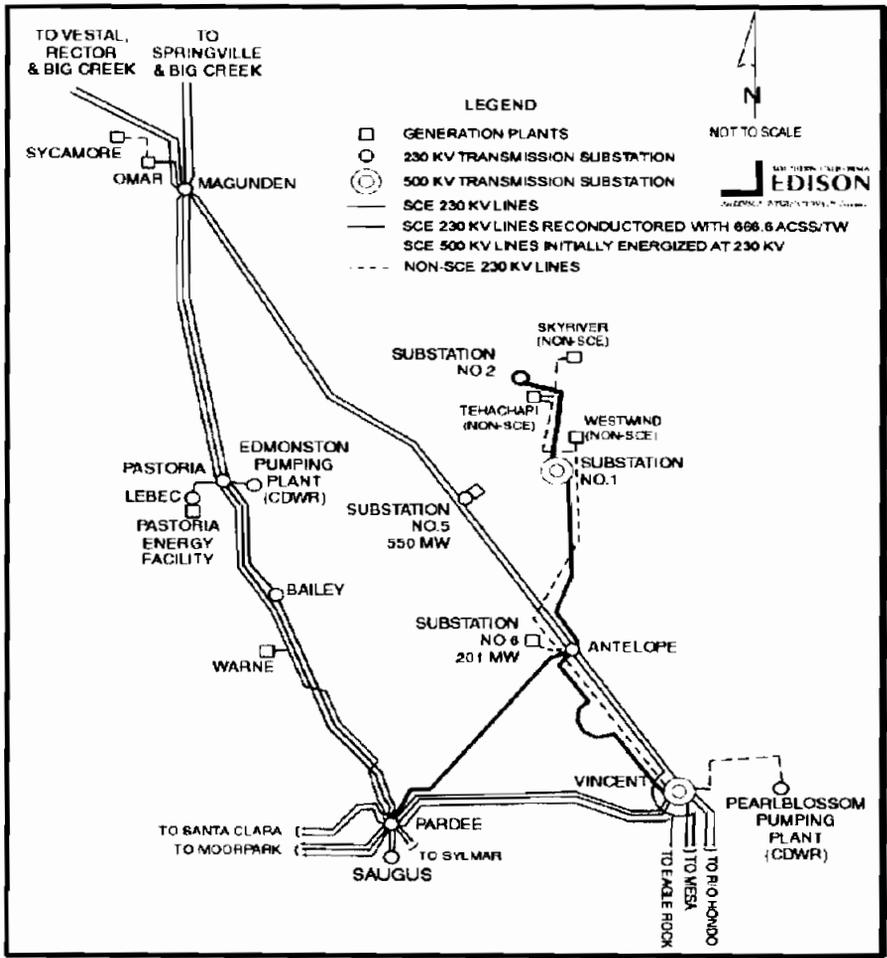


Figure 2 - Transmission System in the Pastoria Area

Upgrades Necessary to Support Higher Projects

The following transmission upgrades were identified and required to eliminate overloads caused by earlier projects placed ahead of the Pastoria Energy Facility's addition in the application queue. If the higher queued projects do not materialize as expected, the Project may need to assume responsibility for these upgrades.

1. Antelope-Cottonwind Upgrades
 - New 230 kV switching station approximately 20 miles northwest of the Antelope 230 kV substation adjacent to existing Antelope-Magunden No.2 230 kV transmission line
 - Construct new double-circuit 230 kV between the new substation and Antelope (tear-down existing portion of the Antelope Magunden No.2 230 kV between Antelope and new substation)
 - Connect the remaining section of the existing Antelope-Magunden No.2 230 kV transmission line to the new substation
2. Antelope-Vincent-Rio Hondo-Mesa Upgrades
 - Tear down both existing Antelope-Mesa 230 kV and Antelope-Vincent 230 kV transmission lines.
 - Construct second new Antelope-Vincent 500 kV transmission (initially energized at 230 kV) on right-of-way vacated with tear-down (first new 500 kV energized at 230 kV is assigned to the Antelope Transmission Project)
 - Construct a new section of 500 kV transmission line between Vincent and the Rio Hondo area on right-of-way vacated with tear down of Antelope-Mesa 230 kV transmission line. This section of 500 kV transmission line will ultimately be used as part of a new Vincent-Mira Loma 500 kV transmission line. If for some reason the Vincent-Mira Loma 500 kV transmission line does not materialize, the upgrade of this transmission line section is needed to interconnect generation queued ahead of the Pastoria Energy Facility's addition
 - Construct new Mesa-Rio Hondo 230 kV transmission line on right-of-way vacated with tear down. Vincent-Mira Loma 500 kV scope may require double-circuit 500 kV construction standard for a portion of this line section with one of the circuits used for Mesa-Rio Hondo 230 kV and the other circuit used for Vincent-Mira Loma 500 kV.

Technical Assessment Conclusions

See the Technical Assessment Report for complete details. The following summarizes the results and conclusions of the report.

- With the additional transmission line upgrades necessary to support generation projects in queue ahead of the Pastoria Energy Facility's addition modeled (estimated operating date of 2011)
 - All base case overload problems previously identified in the System Impact Study report were mitigated.
 - Four single contingencies impacting two transmission lines require additional mitigation with a new special protection system or modification to the existing Pastoria Energy Facility special protection system.
 - Modification to the existing Pastoria Energy Facility special protection system to add the Pastoria Energy Facility's addition for loss of two transmission lines was required based on the potential of nine likely double contingencies impacting six different 230 kV transmission lines. The maximum amount of generation tripping required to mitigate both stability (tripping Big Creek) and thermal overload (tripping Pastoria Energy Facility) under loss of two transmission lines was found to be 1,301 MW and is within the CAISO 1,400 MW generation tripping limit.
 - The Pastoria Energy Facility Addition can be accommodated with the addition of all transmission upgrades (estimated operating date of 2011) triggered by queued ahead generation projects
 - Evaluate breakers at seven locations to determine need for breaker replacement
- The Facility Study work scope should be modified to include development of costs for upgrades required for prior-queued projects and the following specific upgrades triggered by interconnection of the Project:

- Modify the existing Pastoria Energy Facility Special Protection System to add proposed new unit to the tripping logic for N-2. Due to hardware limitation, the unit should be tripped for any N-2 outage that would result in tripping the existing 750 Pastoria Energy Facility generation units. RAS arming studies will be necessary, to be done as part of preliminary engineering and design, to properly account for changes in system performance resulting from transmission line upgrades.
- Evaluate circuit breakers at the seven 230 kV locations identified and develop costs for any breaker replacements as applicable. (230 kV Antelope, Etiwanda, Magunden, Pardee, Pastoria, Sylmar and Vincent)

CAISO Comments

- CAISO concurs with the results for the conditions studied and additional work to be completed under a Facility Study or supplemental study to address remaining concerns.
- If higher queued projects and associated upgrades do not develop as anticipated, then the Project may potentially assigned additional upgrades as noted in the Technical Assessment Report.
- There is concern with the number of SPSs associated with the Big Creek corridor and proposals to modify or add new SPSs in lieu of providing new transmission reinforcements to address addition of generation in the area. SCE has proposed to add a new SPS or to modify existing Pastoria Energy Facility's SPS to include the proposed new unit in order to mitigate four single contingencies and to modify the existing Pastoria Energy Facility SPS for nine N-2 contingencies. CAISO does not recommend the addition of any new SPS.
- CAISO recommends that if the existing SPS cannot be modified and/or requires replacement of the existing SPS equipment, then SCE must consider alternative mitigation measures, such as new transmission reinforcements
- Based on this study the proposed SPS would trip up to 1301 MW for N-2 contingencies under thermal conditions, which is within CAISO guidelines for SPS generation tripping levels. While recognizing that a modified Pastoria Energy Facility SPS would not meet CAISO Planning Standards in regard to the number of elements requiring monitoring but it would meet the generation tripping levels allowed, CAISO will consider *grandfathering* the new unit to be included into the existing Pastoria Energy Facility SPS. However, this is a one-time only exception to the CAISO Planning Standards. If additional studies determine tripping generation in excess of SPS guides are required to address either thermal or stability concerns, then SCE must consider other mitigation alternatives, such as a new transmission.
- SCE notes that SPS arming studies will be necessary, to be done as part of preliminary engineering and design, to properly account for changes in system performance resulting from transmission line upgrades. Upon completion of the Pastoria Energy Facility SPS redesign, SCE will determine if additional sensitivity studies are necessary to determine impact of Pastoria Energy Facility's addition on transient system performance. It is not clear from the studies performed on the level of arming that is required for higher queued projects and this Project to address stability concerns. Generation tripping levels in excess of SPS guides will not be allowed. Final approval to interconnect will be subject to CAISO review of these additional SPS arming studies.
- If a modified Pastoria Energy Facility SPS is implemented that results in operational concerns, CAISO reserves the right to review use of the Pastoria Energy Facility SPS.
- All adverse system impacts identified by the addition of the Project must be fully mitigated.

CAISO Preliminary Approval to Interconnect

The CAISO is providing preliminary approval to interconnect the Project subject to implementation of all system upgrades, including those required by higher queued projects, and modifying the existing Pastoria Energy Facility SPS as noted and conditioned above.

Final approval to interconnect the Project will be subject to satisfactory mitigation measures to eliminate all identified criteria violations to the CAISO Grid Planning Standards and the satisfactory completion and review of a Facility Study for the Project.