

APPENDIX 5B

System Impact Study, Subtransmission and Distribution Systems

**EDISON MISSION ENERGY
SUN VALLEY GENERATING FACILITY**

SYSTEM IMPACT STUDY

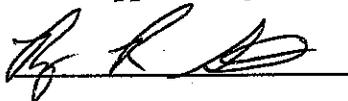
October 7, 2005



Prepared by:

Paul McCabe, P.E.

Approved by:

A handwritten signature in black ink, appearing to read 'Randy R. Smith', written over a horizontal line.

**Randy R. Smith
Manager, Distribution Engineering**

SOUTHERN CALIFORNIA EDISON COMPANY

EXECUTIVE SUMMARY

INTRODUCTION

Edison Mission Energy (EME) applied to Southern California Edison (SCE) for Distribution Service under the terms of SCE's Wholesale Distribution Access Tariff (WDAT). EME proposed to interconnect a 507.5 MW generation project, the Sun Valley Generating Facility (Project), in Riverside County near Romoland, California. The Project consists of five simple-cycle Hitachi GH1550A generators with a net output each of 101.5 MW. EME proposes to connect to the 115 kV South bus at SCE's Valley Substation. The in-service date proposed by EME is September 1, 2007.

SCE has performed a System Impact Study to determine the adequacy of SCE's subtransmission and distribution system to accommodate the Project. The study indicated that these systems are adequate to accommodate the 507.5 MW of generation without modifications.

The results of the System Impact Study will be used as the basis to determine project cost allocation for facility upgrades in the Facilities Study. The study accuracy and the results for the assessment of the system adequacy are contingent on the accuracy of the technical data provided by EME. Any changes from the attached data could void the study results.

SCE's Transmission Interconnection Planning department has performed a System Impact Study on the SCE affected transmission network. This additional study is included as a separate report independent of the System Impact Study performed on SCE's subtransmission and distribution systems.

STUDY RESULTS

The study results show that the existing system is adequate to accommodate the Project without upgrades.

A. Power Flow Study Conclusions

The power flow study results show that no overload problems were found on any subtransmission or distribution lines for base-case or N-1 contingencies.

B. Short Circuit Study Conclusions

The study results indicated that the Project increase to the three-phase short-circuit duty does not trigger the need to replace any circuit breakers within the subtransmission or distribution systems.

ASSUMPTIONS / STUDY CONDITIONS / NOTES

EME will construct two new 115 kV generation tie-lines from the Sun Valley Generating Station to the interconnection point at the first structure outside of the property line at SCE's Valley Substation. EME will be responsible for such generation tie-lines including, but not limited to, all right-of-way acquisition, permitting, environmental assessments and mitigation, and construction elements and costs associated with the construction of the generation tie-lines.

EME is advised that if both generation tie-lines are built on shared structures, the potential for a double-line outage is increased due to either planned or unplanned outages.

Study results may be affected by changes in other projects ahead of the queue in the area. A re-study may be required if there are changes in the project queue or the scope of the projects in the queue. All cost estimates are rough order-of-magnitude and are non-binding cost estimates.

CONTENTS

	<u>PAGE</u>
EXECUTIVE SUMMARY.....	2
INTRODUCTION.....	5
SYSTEM IMPACT STUDY CONDITIONS & METHODOLOGY.....	6
SYSTEM IMPACT STUDY RESULTS.....	6
CONCLUSIONS.....	6

INTRODUCTION

Edison Mission Energy (EME) applied to Southern California Edison (SCE) for Distribution Service under the terms of SCE's Wholesale Distribution Access Tariff (WDAT). EME proposed to interconnect a 507.5 MW generation project, the Sun Valley Generating Facility (Project), in Riverside County near Romoland, California. The Project consists of five simple-cycle Hitachi GH1550A generators with a net output each of 101.5 MW. EME proposes to connect to the 115 kV South bus at or near SCE's Valley Substation. The in-service date proposed by EME is September 1, 2007.

SCE has performed a System Impact Study to determine the adequacy of SCE's subtransmission and distribution system to accommodate the Project. The study indicated that these systems are adequate to accommodate the 507.5 MW of generation without modifications.

The results of the System Impact Study will be used as the basis to determine project cost allocation for facility upgrades in the Facilities Study. The study accuracy and the results for the assessment of the system adequacy are contingent on the accuracy of the technical data provided by EME. Any changes from the attached data could void the study results.

SCE's Transmission Interconnection Planning department has performed a System Impact Study on the SCE affected transmission network.

The study was performed for system conditions representing the forecasted 2007 Peak Load conditions with and without the project.

SYSTEM IMPACT STUDY CONDITIONS & METHODOLOGY

Planning Criteria

The thermal rating of any conductor, connector, or apparatus should not exceed the normal-operation capacity rating as a result of the added electrical demand.

System Conditions

The power factor for the new electrical demand was assumed to be within WDAT requirements of 0.95 lagging or leading.

Projected peak electrical demand for 2007 was used for SCE's subtransmission and distribution systems.

Load Conditions

Power flow analysis consists of modeling SCE's subtransmission and distribution systems to evaluate the impacts of the added generation on SCE facilities from the point of interconnection and throughout SCE's Valley Substation's subtransmission and distribution systems.

SYSTEM IMPACT STUDY RESULTS

Identification of System Constraints

These studies were performed based on the Project's maximum generation output of 507.5 MW and with the 2007 projected peak electrical demand for the SCE subtransmission and distribution systems served from SCE's Valley Substation.

Subtransmission and Distribution System Upgrades

There would be no upgrades required for the subtransmission and distribution systems at or below the 115 kV level.

CONCLUSIONS

1. The requested service for interconnecting 507.5 MW of generation in 2007 would not significantly impact SCE's subtransmission system or SCE's distribution system.
2. There would be no system upgrades to SCE's subtransmission or distribution systems as a result of the Project.
3. This System Impact Study is based on various technical data previously provided by the EME. If any of that information changes significantly, the results of this study may not be appropriate and may necessitate that a new or revised study be performed.