

WDT440

Facility Study Report

December 27, 2012



SOUTHERN CALIFORNIA
EDISON
An EDISON INTERNATIONALSM Company

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SOUTHERN CALIFORNIA EDISON COMPANY

EXECUTIVE SUMMARY

[REDACTED] applied to Southern California Edison ("SCE") for interconnection and wholesale distribution service for its proposed Solar Project pursuant to SCE's Wholesale Distribution Access Tariff ("WDAT") Small Generator Interconnection Procedures. SCE performed a System Impact Study as requested by [REDACTED] for a 33kV interconnection and distribution service from an existing 33 kV distribution line ("Tram 33 kV"). The interconnection is to be located approximately 0.8 miles from [REDACTED] on the Tram 33 kV circuit out of SCE's [REDACTED] 115/33kV Substation. The request is for a WDAT photovoltaic ("PV") generation facility with a total capacity of 5 MW. The initial request is for service to commence by [REDACTED]

The new generation, consisting of photovoltaic panels, [REDACTED] will receive interconnection service from SCE's existing 33 kV circuitry on the Tram 33 kV out of [REDACTED] via an Over Head line extension to the applicant-owned Over Head breaker. The generated power would be delivered to the California Independent System Operator ("CAISO") grid at the 115 kV bus of SCE's [REDACTED] Substation.

The purpose of this Facility Study is to determine:

- The estimated cost for the Distribution Upgrades and Interconnection Facilities which were identified in the System Impact Study².
- The estimated time required to complete the design and construction of the Distribution Upgrades and Interconnection Facilities which were identified in the System Impact Study.

Non-binding order of magnitude cost estimates for the required interconnection facilities and 33 kV system upgrades are as follows:

Interconnection Facilities

Distribution:	\$ 135.0 K
o Remote Controlled Switch	
o 33 KV line extension	
o Pole Top Metering	
Telemetry Requirements ³	\$ 14.5 K
o PSC Programming	
o Telecommunication System for a Centralized RTU	

¹ Date as requested in the application. Actual operating date depends on design and construction requirements.

² Copy of the System Impact Study is provided as attachment A.

³ Cost Estimate based on centralized RTU method; the cost and scope of telemetry may significantly increase to include a dedicated RTU as required by SCE's Interconnection Handbook with an approximate cost of \$155,000 in the event that Centralized RTU method is not feasible for this project.

Distribution Upgrades

Distribution: \$ 58.0 K

- Intercept-Structures

ITCC (35%) \$72.0 K

Total non-binding order of magnitude cost estimate **\$ 279.5 K**

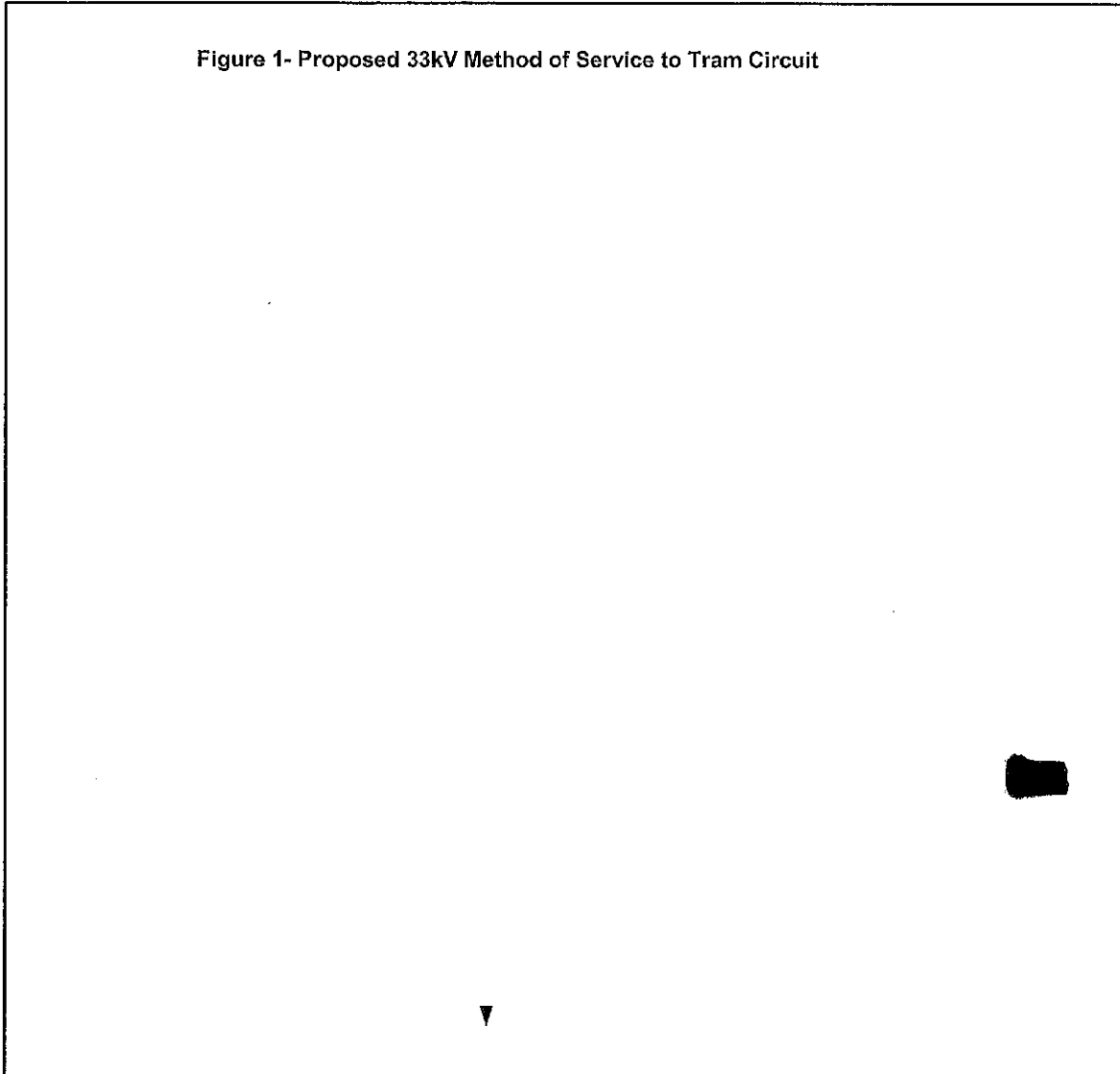
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I. INTRODUCTION

[REDACTED] applied to Southern California Edison ("SCE") for interconnection and wholesale distribution service for its proposed Solar Project pursuant to SCE's Wholesale Distribution Access Tariff ("WDAT") Small Generator Interconnection Procedures. SCE performed a System Impact Study as requested by [REDACTED] for a 33kV interconnection and distribution service from an existing 33 kV distribution line ("Tram 33 kV"). The interconnection is to be located approximately 0.8 miles from [REDACTED] on the Tram 33 kV circuit out of [REDACTED] 115/33kV Substation. The request is for a WDAT photovoltaic ("PV") generation facility with a total capacity of 5 MW. The initial request is for service to commence by [REDACTED]

Figure 1- Proposed 33kV Method of Service to Tram Circuit



The new generation, consisting of photovoltaic panels, [REDACTED] inverters, will receive interconnection service from SCE's existing 33 kV circuitry on the Tram 33 kV out of [REDACTED] via an Over Head line extension to the applicant-owned Over Head breaker. The generated power would be delivered to the California Independent System Operator ("CAISO") grid at the 115 kV bus of [REDACTED]

The purpose of this Facility Study is to determine:

- The estimated cost for the Distribution Upgrades and Interconnection Facilities which were identified in the System Impact Study.
- The estimated time required to complete the design and construction of the Distribution Upgrades and Interconnection Facilities which were identified in the System Impact Study.

VI. SUMMARY

1. Distribution Upgrades are required to interconnect this project. Distribution upgrades include the installation of an intercept-structure on the 33 kV mainline circuit to tap off to the customer's solar site. The cost estimate for the required distribution upgrade is \$78 K.
2. Interconnection facilities include the installation of a new overhead Remote Controlled Switch, Pole Top Metering, a 33 kV line extension of approximately 200' overhead between existing 33kV line and applicant's Over Head Breaker.
3. Real time telemetry will be required. It will be required to install an RTU and Telecom systems as required to provide watts and VARS flow from the generation facility to the SCE distribution system.
4. Non-binding order of magnitude cost estimates for the required interconnection facilities and system upgrades are as follows, these do not include cost any civil construction required by the interconnection.

Interconnection Facilities

Distribution: \$ 135.0 K

- Remote Controlled Switch
- 33 KV line extension
- Pole Top Metering

Telemetry Requirements⁴ \$ 14.5 K

⁴ Cost Estimate based on centralized RTU method; the cost and scope of telemetry may significantly increase to include a dedicated RTU as required by SCE's Interconnection Handbook with an approximate cost of \$155,000 in the event that Centralized RTU method is not feasible for this project.

- PSC Programming
- Telecommunication System for a Centralized RTU

Distribution Upgrades

Distribution:	\$ 58.0 K
○ Intercept-Structures	
<hr style="width: 50%; margin-left: 0;"/>	
ITCC (35%)	\$72.0 K
Total non-binding order of magnitude cost estimate	<u>\$ 279.5 K</u>

5. The design of the Interconnection Facilities will take be approximately 60 business days from the execution of the Small Generator Interconnection Agreement (SGIA) and from the time the applicant has provided the following to SCE:
 - *Approved panel drawings which shall comply with SCE ESR. These requirements can be downloaded at :
<http://www.sce.com/AboutSCE/Regulatory/distributionmanuals/esr.htm>*
 - *Customer information sheet.*
 - *Street improvement plans (if available)*
 - *Unique address for point of interconnection*
 - *Public Right away (Street) base maps as required by the interconnection.*
 - *Site plot plan on a 30:1 Scale or Digital file*
 - *Easements/Lease agreement*
 - *Grading plans*
 - *Sewer and storm plot plans*
 - *Landscape, Sprinkler, Pedestal Locations*
 - *Underground civil construction is released by SCE inspectors.*

6. The construction of the Interconnection Facilities will take be approximately 60 business days from the completion of the design and from released of SCE underground inspector of the applicant built ducts and structures needed for the interconnection electrical facilities.

7. Applicant is responsible for the construction of underground facilities needed for the interconnection facilities. The construction of the underground facilities must be based on SCE design drawings.

8. Current distribution standards are being updated to address generation interconnection systems. The proposed method of service on this report may change according on final design to comply with the updated distribution design standards.

9. This Facility Study does not include the cost associated with environmental studies, which may be required for the licensing or permitting of the proposed generating facility.

10. This Facility Study does not include cost associated with Real Properties evaluations which may be required for acquiring easements and rights checks of the proposed SCE scope of work related to this generating facility.

Attachment A – System Impact Study