

Method of Service Study Information Sheet

The Method of Service (MOS) study is applicable to any industrial/commercial customers requesting subtransmission service (66 kilovolts (kV) and above) served via a customer-dedicated substation. These studies fall under Rule 2. The study will provide the preliminary scope, cost and schedule for the necessary upgrades and reconfiguration needed to serve the requested load.

What is an MOS study?

The MOS study is a holistic, comprehensive analysis of a subtransmission load request. The study includes analyses from several SCE technical engineering and planning groups. The final product is a report that includes preliminary scope, cost and schedule.

When would a customer request a MOS study?

A customer would typically request an MOS study when the requested load is above 10 megawatts (MW) and the customer is seeking service through a customer-dedicated substation at the subtransmission level — typically 66 kV and above.

What is required for a complete MOS study application package submittal?

1. MOS study application form
2. One-line diagram showing the customer infrastructure connection to SCE's system
3. Load schedule (with 10-year forecast)
4. Site map (with substation plot identified)

Where should a customer send the complete MOS study application package?

Customers can email the complete MOS study application package to mos-af@sce.com and expect to receive a response within five business days after submittal.

What is the time frame and cost of the study?

The MOS study typically takes seven to nine months to complete. That timeline does not begin until all pre-study requirements have been completed, including submittal of a complete application package, application review, an internal scoping meeting, drafting and execution of the Study Agreement and Non-Disclosure Agreement, and receipt of Study Deposit funds.

The Study Deposit generally ranges from \$100,000 to \$150,000. The final deposit amount depends on the study scope and the options requested by the customer.

What is the time frame for construction execution?

Subtransmission construction at the 66 kV to 115 kV level typically takes three to five years, but timelines may vary. Transmission construction at the 220 kV level and above

typically takes seven to 10 years or more, but timelines may also vary.

A key factor in the construction timeline is whether SCE must complete an independent permitting process or can rely on the permitting process completed by the customer for the new development.

What is the typical cost of a customer-dedicated substation?

The cost can range from \$5 million to more than \$100 million and is largely dependent on configuration and customer requirements, including proximity to existing grid infrastructure, redundancy, line arrangement and protection needs.

Who covers the cost of substation construction?

SCE typically funds infrastructure necessary to provide standard service and meet its obligation to serve. If a customer requests additional or customer-specific facilities beyond standard service, those facilities are typically funded by the customer as Added Facilities under Rule 2.

Final cost responsibility depends on the specific scope identified through the MOS study and the applicable tariff requirements.

- **Rule 2:** Standard Service is service at one voltage, at one location and through one meter. SCE will first evaluate whether the customer can be served through standard service. Depending on the request and requirements, the project may become an Added Facilities request.
- **Rule 2H:** Added Facilities are facilities in addition to standard service and are typically funded 100% by the customer.

What are the typical dimensions and average available capacity for SCE's standard substations on a customer site?

- **66 kV or 115 kV Substation:** Typical range is between 95' x 115' (single breaker, no transformation) **OR** 135'-170' (ring bus, transformation).
- **220 kV Substation:** Typical range is between 580' x 620' for a 220 kV collector station **OR** 1,639' x 2,042' if you require transformation.

Average available capacity for a proposed substation depends on the grid characteristics near the customer site, the electrical characteristics of the customer's project, the necessary transformation and other variables. The study will aim to propose a scope/cost that is the most efficient approach given the project requirements and the existing grid characteristics.

Can SCE provide a customer with available capacity on the subtransmission system without an MOS study?

Typically, if a customer is seeking information about available capacity in a specific area, the customer would need to submit a complete MOS study application package and fund the MOS study so capacity can be studied and reviewed with the customer.

Does SCE reserve capacity for customers?

SCE does not reserve capacity for customers. SCE also does not guarantee a continuous or adequate supply of electricity or service without interruptions. Available system capacity may change over time due to evolving system conditions, new customer requests, changes in forecasted load, infrastructure constraints or other operational factors.

For additional information regarding SCE's obligations related to service availability, shortages of supply and interruptions of delivery, customers should refer to Rule 14 of SCE's tariffs.

Where would the new SCE substation, triggered by the customer, be sited? Does SCE require easements?

If the project requires SCE to build a substation dedicated to the project, the customer will need to provide SCE with an easement in perpetuity so SCE may use the customer's site for the substation.

SCE will acquire any necessary easements outside of the customer's property.

Specific siting and easement requirements will depend on the final substation location, the facilities required to serve the project and any access, operating, maintenance or permitting needs identified during the study and design process.

What are typical voltage thresholds for capacity requests?

- Requested load greater than 10 MW and up to 20 MW = distribution service (50 kV and below)
- Requested load greater than 20 MW and less than 120 MW = subtransmission service (66 kV or 115 kV)
- Requested load of 120 MW and above = transmission service (220 kV and above)

These thresholds are general planning guidelines and are not binding. SCE will review each request individually and determine the appropriate method of service based on the requested load, project characteristics, available system configuration and other applicable requirements.

What is the most common licensing/permit requirement for subtransmission or transmission projects?

California Environmental Quality Act (CEQA): Typically required for projects over 50 kV

- Customers may submit the CEQA document for their broader project and include the SCE scope of work in that application.
- If the customer elects to have SCE submit the CEQA document, this may add approximately two years to the construction timeline.

General Order 131-E: Typically required for transmission projects over 200 kV

- SCE would submit the application to the California Public Utilities Commission.

What is the difference between an Engineering Analysis Report (EAR) and MOS study?

At a high level, an EAR is generally used for distribution-level service requests, while an MOS study is used for subtransmission-level service requests that typically involve a customer-dedicated substation.

EAR:

- Distribution-level service: 50 kV and below
- Responsible group: Distribution Engineering
- Application: Customer Project Information Sheet
- Submit to: Distribution Engineering for the area where service is requested
- Typical duration: 90 days
- Typical cost: \$3,000

MOS study:

- Subtransmission-level service: 66 kV and above
- Responsible group: Customer Interconnection Method of Service
- Application: MOS study application form
- Submit to: mos-af@sce.com
- Typical duration: seven to nine months
- Typical cost: \$100,000-\$150,000

Where can I find the MOS study application?

The MOS study application is available [here](#).