

## **Interconnection Procedural Guide (SPP)**

This guide is to help a new customer to interconnect to our system (69 kV or above)

1. Provide a point of contact
2. Notify that all costs incurred by the project will be paid by customer (any contracts agreements will need to be made)
3. Fill out a questionnaire that lays out what the customer wants to interconnect.
4. Return the questionnaire
5. Review the questionnaire for completeness
6. Contact the customer for any outstanding information
7. If complete, send the information to AEP&SPP to be reviewed
8. Upon acceptance AEP send to SPP
9. SPP will need to approve
10. All studies are performed by required host bodies (AEP, SPP) with approvals from RCEC
11. After all studies are performed, the resulting interconnect requirements will be given to the customer based on the studies.
12. All resulting designs shall be submitted to RCEC for approvals
13. The customer shall be responsible to make sure all facilities meet with all state and federal regulations.
14. The customer shall be responsible for all state and federal regulations regarding their facilities.

### Generations

Generation facilities will need to be referenced to the interconnecting entity (SPP) at their website to for additional information.

<http://sppoasis.spp.org/documents/swpp/transmission/studies/Interconnection%20Request%20Guidelines%20for%20Posting.pdf>

### Transmission

Transmission facilities will need to be referenced to the interconnecting entity (SPP) at their website to for additional information.

<http://sppoasis.spp.org/documents/swpp/transmission/TRPAGE.cfm>

### Distribution

Distribution facilities will need to be referenced to the interconnecting entity (SPP) at their website to for additional information.

<http://sppoasis.spp.org/documents/swpp/transmission/studies/Guidelines%20for%20Delivery%20Point%20Additions%208.doc>

### Requirements for Facilities

Metering- All metering will be accomplished by AEP.

Protection Devices – These devices will need to meet the minimums for ratings based on system requirements.

- Customer will provide equipment necessary to automatically disconnect the customer transformer, and/or equipment beyond the transformer. Timing for this device will need to be coordinated with all interconnecting entities.

Grounding – The customer will need to install a grounding system that meets industry standards.

- NESC (Section 9 of C2-2007)
- IEEE Std 80-2000 “IEEE Guide for Safety in AC Substation Grounding”
- and IEEE 142
- NEC (Article 250)

Relaying – Relaying will need to be coordinated with host entities AEP & SPP.

Transmission - These facilities should be constructed using published industry standards.

- [RUS Standards](#)
- [NESC](#)
- [NEC](#)

## RCEC ELECTRIC DELIVERY COMPANY

### LOAD ADDITION STUDY QUESTIONNAIRE

Typically the following information is required in order to perform a preliminary security review to determine if a full load addition study is necessary. Please respond to the applicable questions.

1. Approximately when will the new load be added?
2. Will the load addition be served from an existing substation? If yes, please identify the substation, transformer, location, and voltage of the requested interconnection. If no, please list an approximate description of where a new substation or transformer will be located in order to serve the new load. (e.g. between RCEC transmission line structures nos. \_\_\_ & \_\_, or in Customer's existing \_\_\_ Substation).
3. Will Customer (or party other than RCEC) own the new substation or transformer?
4. For load in a new or existing Customer station, what size substation transformer (MVA both minimum and maximum ratings) will be associated with the new load? Typical sizes are 8.4/10.5, 16.8/28.0, and 28/47 MVA.
5. What is the expected transformer impedance at the transformer's base MVA rating?
6. What secondary voltage will the load be served at (25 kV, 12.5 kV, 4.16 kV, etc.)?
7. How much load is being added (MW)?
8. What is the power factor at peak load?
9. If Customer will build any transmission or distribution lines, please specify the voltage, conductor size, and length of each circuit. The type of structure and circuit configuration is also required if customer is to build the circuit. RCEC may require Customer to provide a breaker at the tap point for Customer-owned transmission lines in excess of 1000 feet, but each will be on a case by case basis and dependent upon the design of the installation.
10. Please provide a detailed one-line diagram. Electronic copies of the one line diagram are preferred (a scanned file or other file compatible with MSWord or PowerPoint). If an electronic copy of the one line diagram is not available, please fax a paper copy of the one line diagram to RCEC Transmission Services at (972) 402-2020.
11. If any easement or right-of-way encroachments will be requested from RCEC, please provide a surveyed or detailed site plan showing Customer's proposed facilities and RCEC's facilities in the proposed easement and/or right-of-way area(s).
12. Please provide a list of all motors associated with the load addition and answer questions 13 through 17 below for each motor listed.
13. What is the horsepower rating of each motor?.
14. What code (A, B, C, D, etc.) is each motor?
15. What is the rated voltage of each motor?
16. If there are any step down transformers between the motors and the substation transformer, list the size, voltage, and impedance of each step down transformer.
17. What is the minimum voltage required for starting each motor?
18. Once the project is firmed up from a configuration standpoint, a proposed relay functional must be provided for review by System Protection.

Please e-mail (or otherwise) provide your completed response to Transmission Services.

### ***Document Change History***

<b>Issue No.</b>	<b>Issue Date</b>	<b>Effective Date</b>	<b>Change Summary</b>	<b>Signature Approval</b>
1	8/11/2010	8/11/2010	Original	ER (RCEC)