



# **AECC Small Generator Interconnection Procedures**

Summary of FERC Order 2006

# Procedure

- AECC will follow the FERC Small Generator Interconnection Procedure (SGIP) and Small Generator Interconnection Agreements (SGIA) as defined in Order 2006 to process interconnection request.
- The FERC Small Gen rules apply to generators from 0 to 20 Mw.

# FERC Jurisdiction

➤ Paragraph 24 FERC Small Generator NOPR states

“... we [commission] proposed to assert jurisdiction when the owner of a generator seeks to interconnect with a distribution facility to make a wholesale sale of electricity in interstate commerce.”

# **FERC Small Generator Interconnection – Order 2006**



# Sec. 1.1 – Applicability

- Request to interconnect follow one of 3 paths depending on what type of unit is being interconnected.
  - Certified 10 KW inverter based facilities – evaluated using 10 KW Inverter Process (Attachment 5)
  - Certified facilities  $\leq 2$  MW – evaluated using Fast Track Process (Section 2)
  - Facilities  $> 2$  MW but  $\leq 20$  MW, or facilities that fail the Fast Track Process, or facilities that fail the 10KW Inverter Process – evaluated using the Study Process (Section 3)

# Sec. 1.2 – Pre-Application

- Provider must have an employee or office as a contact for information on the application process and Affected System
  - Name, telephone number, and e-mail address posted on website
  - Information provided includes
    - Relevant system studies
    - Interconnection studies
    - Other materials useful in understanding
    - AS LONG AS IT DOESN'T VIOLATE CONFIDENTIALITY OR CRITICAL INFRASTRUCTURE

# Sec. 1.3 – Interconnection Request

- Customer provides request with processing fee or deposit
- Provider:
  - Date stamps request (used in queuing)
  - Notifies Customer of receipt (3 BDs)
  - Notifies Customer if request is complete or incomplete (within 10 BDs of receipt)
    - If incomplete – must provide written list of information needed to make request complete
- Customer has 10 BDs to submit information
  - If not – request deemed withdrawn
- Request is deemed complete upon submission of the listed information to Provider

# Sec. 1.4 – Modification of Request

- Any modification to
  - Machine data
  - Equipment configuration
  - Interconnection site
- May be deemed a withdrawal of the request & require submission of a new request, unless,
  - proper notification of each party to the other
  - Reasonable time to cure problems

# Sec. 1.5 – Site Control

- Documentation of site control must be submitted with request
- Demonstrated by
  - Ownership, Lease, or right to develop site for purpose of construction of gen.
  - Option to purchase or lease
  - Exclusivity with owner

# Sec. 1.6 – Queue Position

- Provider assigns queue position based on time and date stamp
- Queue position used to determine cost responsibility
- Single queue for both large and small gens
- Provider may study serially or cluster
- Request prior to effective date of SGIP not affected. (Sec. 1.7)

# **Sec. 2 – Fast Track Process**



# Sec. 2.1 – Applicability

- Available if gen is  $< 2$  MW and meets requirements of Attachments 3 & 4.

Or

- Provider has reviewed design or tested the gen & is satisfied that it is safe to operate.

# Sec. 2.2 – Initial Review

- Within 15 BDs of notification of complete request, Provider shall
  - Perform initial review
    - Using screens in sec. 2.2.1
    - Notify customer of results
    - Include copies of analysis and data used to make determination under the screens.

# Sec 2.2.1 – Fast Track Screens

2.2.1.1 Interconnection must be on portion of system subject to the Tariff.

2.2.1.2 Interconnection to a radial line – aggregate generation on the circuit shall not exceed 15% of line section annual peak load.

**Line Section** – Portion of the system connected to a customer bounded by automatic sectionalizing devices or the end of the line.

2.2.1.3 Interconnection to load side of spot network protectors

- Gen must use an inverter-based equip. package
- Not exceed smaller of 5% of spot network max. load or 50 KW

# Sec 2.2.1 – Fast Track Screens Cont.

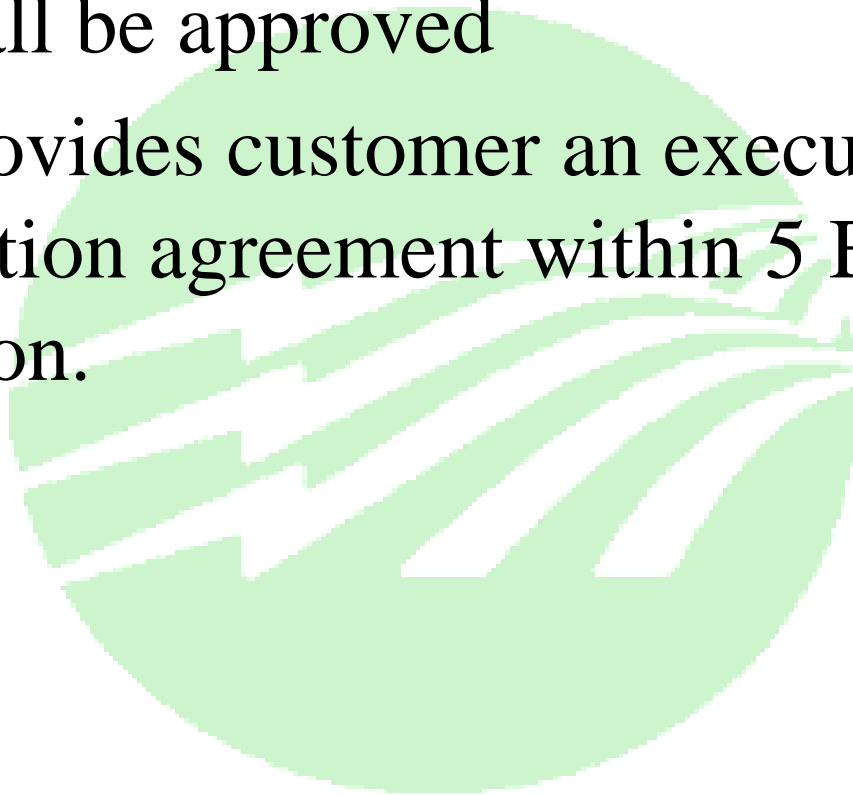
- 2.2.1.4 Aggregate gen shall not contribute more than 10% to circuit's maximum fault current at the point on high voltage nearest the point of change of ownership.
- 2.2.1.5 Aggregate gen shall not cause protective devices & equip. or customer equip. on the system to exceed 87.5% of SC interrupting rating. NOR shall interconnection [be] proposed for a circuit that already exceeds 87.5%.
- 2.2.1.6 Interconnection to primary distribution passes if
- Distribution is 3ph, 3 wire – Interconnection is 3ph or 1 ph phase to phase
  - Distribution is 3ph, 4 wire – Interconnection is effectively grounded 3 ph or 1ph, line to neutral

## **Sec 2.2.1 – Fast Track Screens Cont.**

- 2.2.1.7 Interconnection on 1 phase shared secondary – aggregate gen shall not exceed 20 KW
- 2.2.1.8 Interconnection is 1 phase connected to center tap neutral of a 240 V service – addition shall not create imbalance of more than 20% of transformer nameplate
- 2.2.1.9 Interconnection to transmission side of distribution power transformer – aggregate shall not exceed 10 MW in areas of known or posted transient stability limitations within the electrical vicinity (3 or 4 buses away).
- 2.2.1.10 No construction of facilities by Provider on its own system shall be required to accommodate the gen.

# If Interconnection Passes (Sec. 2.2.2)

- Request shall be approved
- Provider provides customer an executable interconnection agreement within 5 BDs after determination.



# If Interconnection Fails

- 2.2.3 – If Provider determines gen may be interconnected consistent with safety, reliability, and PQ standards, Provider shall provide executable interconnection agreement
- 2.2.4 – Provider does not or can not determine from initial review that interconnection may be made consistent with safety, reliability, and PQ standards AND Customer is willing to consider minor modifications or further study, Provider shall provide customer opportunity to attend a customer options meeting

# Sec 2.3 – Customer Options Meeting

## ➤ Provider

- notifies customer within 5 BDs of determination that interconnect fails
- Provides data and analysis
- Within 10 BDs of determination, offers to convene a customer options meeting to
  - Review possible modifications
  - Screen the analysis and related results
  - Determine further steps needed to permit safe & reliable interconnection.
- Offer to perform facility mods or minor system mods.
  - Provide non-binding good faith estimate of the limited cost to make mods
- Offer to perform supplemental review, if Provider concludes suppl. review might continue qualification
  - Provide non-binding good faith estimate of the limited cost of such review
- Obtain Customers agreement to continue evaluation under Section 3 Study Process.

# Sec 2.4 – Supplemental Review

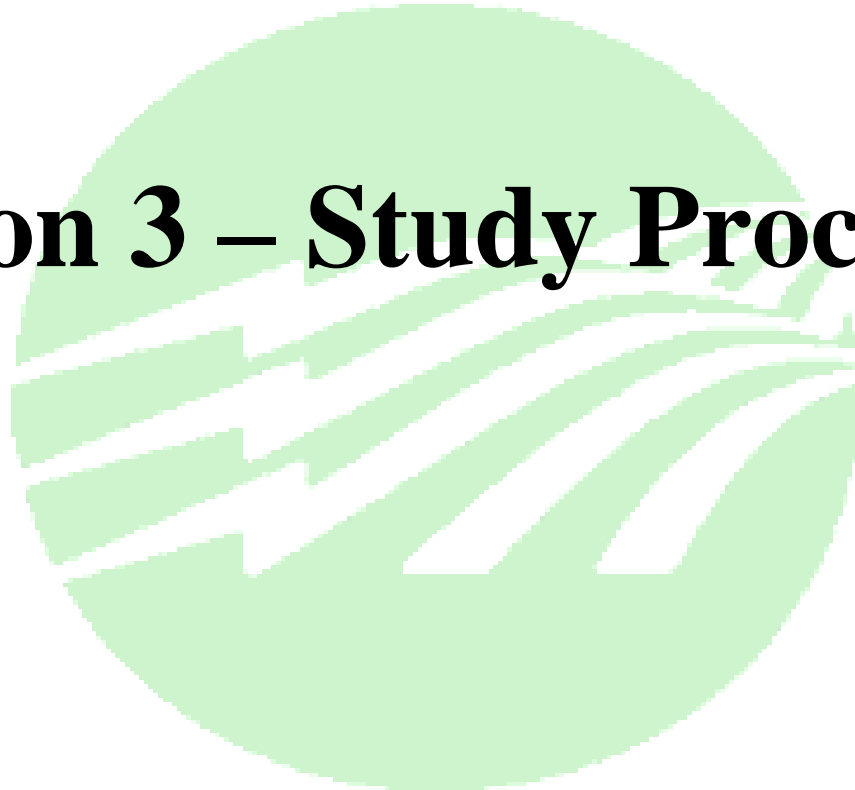
## ➤ Customer:

- If agrees to review, must do so in writing within 15 BDs of offer
  - Submit deposit for the estimated costs
  - **Is responsible for Providers actual cost for conducting the review.**
  - Must pay cost that exceed the deposit within 20 BDs of receipt of invoice or resolution of dispute.
- If Deposit exceeds cost, Provider returns excess within 20 BDs without interest.


# Sec 2.4 – Supplemental Review Cont.

- Within 10 BDs of receipt of deposit, Provider will determine if gen can be interconnected safely and reliably.
- If so – Provider forwards executable interconnection agreement within 5 BDs
- If so and Customer mods required – Provider forwards executable interconnection agreement within 5 BDs after confirmation Customer has agreed to make mods at Customer expense
- If so and Providers mods required -- Provider forwards executable interconnection agreement within 10 BDs that requires Customer to pay Providers mod cost PRIOR to interconnection.
- IF not – Request WILL continue to be evaluated under Section 3 Study Process

# **Section 3 – Study Process**



# Sec 3.1 – Applicability

- Facilities  $> 2$  MW &  $\leq 20$  MW
  - Not Certified
  - Certified but failed Fast Track Process
  - Certified but failed 10 KW Inverter Process
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# Sec. 3.2 – Scoping Meeting

- Once request is deemed complete
  - Scoping meeting will be held within 10 BDs or otherwise mutually agreed.
  - Parties will bring personnel & resources required to accomplish the purpose of the meeting
- Purpose
  - To discuss the request & review existing relevant studies
  - To discuss need for feasibility study
    - Or proceed directly to system impact study
    - Or a facilities study
    - Or interconnection agreement
- If feasibility study is performed
  - Provider has 5 BDs to provide feasibility study agreement (Attachment 6) & good faith estimate of study cost

# Sec. 3.2 – Scoping Meeting Cont.

- Meeting may be omitted by mutual agreement
- For request to remain in consideration
  - Customer has 15 BDs to return executed feasibility study agreement
  - If FS is not done
    - Provider has 5 BDs of scoping meeting to provide system impact study agreement (Attachment 7) & cost estimate to perform study.

## Sec. 3.3 – Feasibility Study

- Identifies potential adverse system impacts resulting from the interconnection
- Deposit of lesser of 50% of FS cost estimate or earnest money of \$1,000 may be required of customer
- Scope and cost responsibilities discussed in FSA.
- If study shows no potential adverse impacts Provider sends Customer a facilities study agreement, including scope outline of study and study cost estimate.
- If no additional facilities are required, Provider will send Customer an executable interconnection agreement within 5 BDs
- If there are adverse impacts, review process proceeds to appropriate system impact study(s)

# Sec. 3.4 – System Impact Study

- Focuses on adverse impacts identified in feasibility study or scoping meeting
- Evaluates the impact of the interconnection on the reliability of the system
- If FS or Scoping meeting identify adverse impacts then an impact study must be performed.
  - Transmission Impacts – Transmission Impact Study
  - Distribution Impacts – Distribution Impact Study

# Sec 3.4 System Impact Study Continued

## Distribution Impact Study

- Transmission impact study is not required

BUT

- There are potential adverse impacts on the distribution system
- Provider provides study agreement in 15 BDs of feasibility study report or scoping meeting (if FS was not done).
  - Includes scope and cost estimate to perform the study

# Sec 3.4 System Impact Study Continued

## Transmission Impact Study

- Provider has 5 BDs to submit a transmission impact study agreement
  - Includes scope and cost estimate to perform the study.

## No Impacts

- Provider sends Customer a facilities study agreement (Sec. 8)
    - Includes scope and cost estimate to perform the study
- OR, and executable interconnection agreement

# Sec 3.4 System Impact Study

## Continued

- Customer has 30 BDs to return executed impact study agreement to remain under consideration
  - Deposit of cost estimate may be required.
- Scope and cost responsibilities are described in the study agreement
- Where Trans. & Dist. have separate owners – Customer may apply to nearest Transmission Provider
- Affected Systems shall participate in study & provide necessary information

# Sec. 3.5 – Facilities Study

- Once impact study completed
  - Report provided within 5 BDs
    - Includes scope & cost estimate for facilities study
  - Where impact studies (one or the other) were determined unnecessary – Notice must be sent to customer within 5 BDs
- Facilities study
  - Shall specify & estimate the cost of work needed to implement the conclusion of the impact study(s). Includes:
    - Equipment
    - Engineering
    - Procurement
    - Construction
    - Overheads

# Sec 3.5 – Facilities Study Continued

## ➤ Design

- Performed under the facilities study agreement
- Provider may contract out
- Customer & Provider may agree to allow customer to separately arrange for design
  - Design will be reviewed by Provider &/or modified prior to acceptance as per FSA.

## ➤ If design and construction are arranged for separately

- Provided security & confidentiality requirements can be met
- Provider makes available information in accordance with confidentiality and critical infrastructure requirements

# Sec 3.5 – Facilities Study Continued

- Deposit of cost estimate may be required
- Scope and cost responsibilities described in facilities study agreement
- Upon study completion & with customer agreement to pay, Provider provides executable interconnection agreement in 5BDs

# Sec. 4 – Provisions Applicable To All Request

## 4.1 Reasonable Effort

- Different schedule can be agreed upon.
- Provider fails to meet deadlines
  - Shall notify customer
  - provide explanation and estimated time

## 4.2 Disputes

- Parties agree to resolve disputes
- Party shall provide written Notice of Dispute – shall detail nature of dispute
- If not resolved in 2 BDs of receipt either party may contact FERC DRS
- DRS will assist either in resolution or selection of venue
- Parties agree to negotiate in good faith & are responsible for 1/2 cost to neutral parties
- If not resolved either party may pursue legal rights and remedies.

# Sec 4 – Provisions Continued

## 4.3 Interconnection Metering

- Installed at customer expense in accordance with FERC, state, local regulatory requirements or providers specs.

## 4.4 Commissioning

- Pursuant to applicable codes & standards
- Provider must be given at least 5 BDs written notice (may be different if agreed) of test
- Provider may be present to witness

# Sec 4 – Provisions Continued

## 4.5 Confidentiality

- Confidential information – any confidential and/or proprietary information clearly marked or designated “Confidential”
  - Includes design, operating specs, & meter data provided by customer whether marked or not.
  - Does not include: info previously in public domain, required to be publicly submitted or divulged by government authorities, or necessary to enforce the agreement
- Party shall not disclose without written authorization of other party
- Same standard of care
- Parties entitled to equitable relief to prevent disclosure
- 18 CFR § 1b.20 – party shall provide to FERC
- 18 CFR § 388.112 – party may request info treated confidential & non public

# Sec 4 – Provisions Continued

## 4.6 Comparability

- Process all request in timely manner, same reasonable efforts

## 4.7 Record Retention

- 3 years subject to audit
- All request, time to complete approvals & disapprovals, justifications of actions

# Sec. 4 – Provisions Continued

## 4.8 Interconnection agreement

- Customer has 30 BDs to sign or request provider to submit unexecuted agreement to FERC
- Customer does not sign or request in 30 BDs request deemed withdrawn.
- Signed agreement – interconnection proceeds

## 4.9 Affected Systems

- Provider shall coordinate with AS
- Include AS in all meetings
- Customer will cooperate
- AS shall cooperate

## 4.10 Capacity

- Increase for existing facility – evaluated on new total capacity
- Request for multiple energy production devices at single site – evaluated on aggregate capacity
- Request shall be evaluated on maximum rated capacity of the facility.