

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

AR 521

In the Matter of a Rulemaking to Adopt        )  
Rules Related to Small Generator            )  
Interconnection.                                )                STAFF COMMENTS

**Further Edits and Clarifications**

**Rule 0070, Metering and Telemetry**

As a result of questions and comments from the workshop of June 19, 2008, relating to the rulemaking to adopt Small Generator Interconnection Rules, AR 521, Staff proposes an edit to draft Rule 860-082-0070, Metering and Monitoring, which intends to clarify minimum metering and telemetry requirements. Attached is a document containing this Rule with the proposed edits and changes noted.

Oral comments on these edits or any other aspect of the rule or model forms may be made at the AR 521 Hearing taking place on August 13, 2008, or in writing at any time up until the record is closed on August 20, 2008, by submitting them to the OPUC filing center for Docket 521.

This concludes Staffs fourth set of comments.

Respectfully submitted,

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860-082-0070

### Metering and Monitoring

(1) The public utility must install, maintain, test, repair, operate, and replace any special metering and data acquisition equipment necessary under the terms of the public utility's interconnection agreement, power purchase agreement, or power service agreement with an applicant or interconnection customer. The applicant or interconnection customer is responsible for all costs associated with the special metering and data acquisition equipment. The public utility and the applicant or interconnection customer must have unrestricted access to such equipment as necessary to conduct routine business or respond to an emergency.

#### (2) Metering requirements:

<u>Metering Requirements for Generator Facilities of 3 MW or Less</u>	<u>Metering Requirements for Generator Facilities Greater than 3 MW</u>
<u>KWh Output</u>  <u>Where Small Generation Facilities is able to make use of less intrusive and/or more cost effective options to meet the net generation output metering data requirements of the public utility, no further requirements may be made of the Small Generation Facilities.</u>	<u>MW Total</u>  <u>MWh</u>  <u>MVAR Total</u>  <u>Generator Terminal Voltage</u>

(32) Except as provided in subsection 43(b), a public utility may not require an applicant or interconnection customer with a small generator facility with a nameplate capacity of three megawatts or less to provide or pay for the data acquisition or telemetry equipment necessary to allow the public utility to remotely monitor the small generator facility's electric output.

(34) At its discretion, a public utility may require an applicant or interconnection customer to pay for the purchase, installation, operation, and maintenance of the data acquisition or telemetry equipment necessary to allow the public utility to remotely monitor the small generator facility's electric output if:

- (a) The small generator facility has a nameplate capacity greater than 3 megawatts; or
- (b) The small generator facility meets the criteria in OAR 860-082-0055(1) for Tier 3 interconnection review and the aggregated nameplate generation on the circuit exceeds 50 percent of the line section annual peak load.

(54) A public utility and an applicant or interconnection customer may agree to waive or modify the telemetry requirements in this rule.

#### (65) Telemetry Requirements.

<u>For Generator Facilities Greater than 3 MW</u>	
<u>Communication Requirements</u>	<u>Data Requirements</u>
<u>A single communication circuit using conventional telecom wire, fiber optic, microwave or other suitable link.</u>	<u>Net Real Power Output (KVA)</u>  <u>Net Reactive Power at the Generator Facility</u>

<p><u>Data transmission is by Frame relay, fractional T-1 line or other suitable device</u></p> <p><u>Communication protocol using DNP 3.0 or other reasonable standard used by the public utility</u></p> <p><u>Minimum data communication rate of 2 seconds from generator's telemetry system to public utility's EMS system</u></p> <p>-</p>	<p><u>On-Line or Off-Line Status</u></p> <p><u>Data Processing Gateway Heartbeat</u></p> <p><u>Bus Bar Voltage at the Point of Common Coupling</u></p> <p><u>Alarm Status</u></p> <p><u>Switching Bus Voltage <sup>1)</sup></u></p> <p><u>Switchyard Line and Transformer MW <sup>1)</sup></u></p> <p><u>Switchyard Line and Transformer MVAR <sup>1)</sup></u></p>
<p><u>1) Only applicable to interconnecting customer operating the equipment associated with the high voltage switchyard interconnecting the small generator facility to the transmission or distribution system</u></p>	
<p><u>Note: Dispatchable generators connected to transmission systems must provide SCADA Control to public utility.</u></p>	

- ~~(a) The communication must take place via a private network link using a frame relay, fractional T-1 line, or other suitable device. Dedicated remote terminal units from the interconnected small generator facility to a public utility's substation and energy management system are not required.~~
- ~~(b) A single communication circuit from the small generator facility to the public utility is sufficient.~~
- ~~(c) Communications protocol must be DNP 3.0 or other standard used by the public utility.~~
- ~~(d) The small generator facility must be capable of sending telemetric monitoring data to the public utility at a minimum rate of every two seconds from the output of the small generator facility's telemetry equipment to the public utility's energy management system.~~
- ~~(e) A small generator facility must provide the following minimum data to the public utility:~~
- ~~(A) Net real power flowing out or into the small generator facility (analog);~~
  - ~~(B) Net reactive power flowing out or into the small generator facility (analog);~~
  - ~~(C) Bus bar voltage at the point of common coupling (analog);~~
  - ~~(D) Data processing gateway heartbeat (used to certify the telemetric signal quality); and~~
  - ~~(E) On-line or off-line status (digital).~~
- ~~(f) If an applicant or interconnection customer operates the equipment associated with the high voltage switchyard interconnecting the small generator facility to the transmission or~~

~~distribution system and is required to provide monitoring and telemetry, then the interconnection customer must provide the following data to the public utility in addition to the data in subsection (e):~~

~~(A) Switchyard line and transformer megawatt and mega-volt ampere reactive values;~~

~~(B) Switchyard bus voltage; and~~

~~(C) Switching device status~~

**Stat. Auth.: ORS Ch. 183, 756 & 757**

**Stats. Implemented: ORS 756.040, 756.060**

**Hist.: NEW**

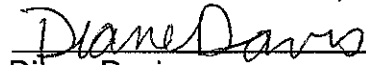
**PUBLIC UTILITY COMMISSION**

**CERTIFICATE OF SERVICE**

AR 521

I, DIANE DAVIS, of the Public Utility Commission of Oregon, hereby certify that on the 12th day of August, 2008, I served a copy of Staff Comments upon all persons as indicated on the attached listing, by depositing in the United States Mail at Salem, Oregon, with postage prepaid.

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Printed: 8/12/2008

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