

## **COPY OF ADDITIONAL LINK SENT BY JON KAAKE OCTOBER 14, 2002**

There is also a wealth of information on Ontario's standards below:

<http://www.theimo.com/imoweb/manuals/marketdocs.asp>

## **COPY OF OCTOBER 14, 2002 E-MAIL FROM RAY BRUSH**

Sarah or Steve - Please post on the Metering Work Group's site.

The MISO metering requirements are covered in Article 10 of the paper referenced in the following URL:

[http://www.midwestiso.org/tariff/as\\_accepted/As\\_Accepted\\_Attach\\_09\\_26\\_02\\_with\\_redlined\\_J.pdf](http://www.midwestiso.org/tariff/as_accepted/As_Accepted_Attach_09_26_02_with_redlined_J.pdf)

Following is the text.

Issued by: James P. Torgerson, Issuing Officer Effective: April 1, 2002

Issued on: March 29, 2002

### **ARTICLE 10 - METERING**

10.1 General. Unless otherwise agreed by the Parties, the Transmission Owner shall provide, install, operate, maintain, own and/or control suitable Metering Equipment at the Point of Interconnection prior to any operation of the Facility. Power flows to and from the Facility shall be measured at or, at the Transmission Owner 's option, compensated to the Point of Interconnection. Metering quantities, in analog and/or digital form, shall be provided to Generator upon request. All costs associated with the administration of Metering Equipment and the provision of metering data to Generator shall be born by Generator. The costs of administration and of providing metering data shall be separately itemized on the Transmission Owner 's invoice to Generator. All reasonable costs associated with either the initial installation of metering or any changes to Metering Equipment, shall be borne by Generator. Generator shall be responsible for making all appropriate arrangements for station service requirements, including the delivery component of transmission service, if applicable. If Generator supplies its station service, the station service loads shall be netted against Generator's output.

10.2 Standards. Revenue quality Metering Equipment shall be installed, calibrated, and tested in accordance with applicable ANSI standards. To the extent this Article 10 conflicts with the manuals, standards or guidelines of the Applicable Reliability Council regarding interchange metering and transactions, the manuals, standards and guidelines of such Applicable Reliability Council shall control.

10.3 Testing of Metering Equipment. The Transmission Owner shall, at Generator's expense, inspect and test all Transmission Owner-owned Metering Equipment upon installation and at least once every two (2) years thereafter. If requested to do so by Generator, the Transmission

Owner shall inspect or test Metering Equipment more frequently than every two (2) years, at the expense of Generator. The Transmission Owner shall give reasonable notice of the time when any inspection or test shall take place, and Generator may have representatives present at the test or inspection. If Metering Equipment is found to be inaccurate or defective, it shall be adjusted, repaired or replaced at Generator's expense, in order to provide accurate metering. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than one percent (1%) from the measurement made by the standard meter used in the test, adjustment shall be made correcting all measurements made by the inaccurate meter for (i) the actual period during which inaccurate measurements were made, if the period can be determined, or if not, (ii) the period immediately preceding the test of the Metering Equipment equal to one-half the time from the date of the last previous test of the Metering Equipment; provided that the period covered by the correction shall not exceed six months.

10.4 Metering Data. If the Parties have not made other arrangements, if hourly and/or daily energy readings are available and if such data are requested by the Midwest ISO, Generator shall report same to the Midwest ISO's representatives as indicated in Appendix E, by telephone or electronically or as the Parties otherwise agree, on a schedule to be agreed upon. At Generator's expense, Generator's metered data shall be telemetered to a location designated by the Midwest ISO and one or more locations designated by Generator.

#### 10.5 Communications.

10.5.1 Generator Obligations. At Generator's expense, Generator shall maintain satisfactory operating communications with the Midwest ISO's system dispatcher or representative, as designated by the Midwest ISO or the Transmission Owner, as applicable. Generator shall provide standard voice line, dedicated voice line and facsimile communications at its Facility control room through use of the public telephone system. Generator shall also provide the dedicated data circuit(s) necessary to provide necessary generator data to the Midwest ISO as set forth in Appendix E. The data circuit(s) shall extend from the Facility to a location(s) specified by the Midwest ISO or its designate. Any required maintenance of such communications equipment shall be performed at Generator's expense, and may be performed by Generator or by the Transmission Owner. Operational communications shall be activated and maintained under, but not be limited to, the following events:

(i) system paralleling or separation; (ii) scheduled and unscheduled shutdowns; (iii) equipment clearances; and (iv) hourly and daily load data.

10.5.2 Remote Terminal Unit. Prior to any operation of the Facility, a Remote Terminal Unit ("RTU") or equivalent data collection and transfer equipment acceptable to all Parties shall be installed by Generator, or by the Transmission Owner at Generator's expense, to gather accumulated and instantaneous data to be telemetered to a location(s) designated by the Transmission Owner through use of a dedicated point-to-point data circuit(s) as indicated in Section 10.5.1. The communication protocol for this data circuit(s) shall be specified by the Transmission Owner. Instantaneous bi-directional analog real power and reactive power flow information must be telemetered directly to the location(s) specified by the Midwest ISO.

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