

# METERING PROTOCOL

**METERING PROTOCOL**

**Table of Contents**

<b>MP 1</b>	<b>OBJECTIVES, DEFINITIONS AND SCOPE</b>	<b>733</b>
<b>MP 1.1</b>	<b>Objective</b>	<b>733</b>
MP 1.1.1	Applicable Reference Materials	733
MP 1.1.2	Role of the ISO	733
<b>MP 1.2</b>	<b>Definitions</b>	<b>733</b>
MP 1.2.1	Master Definitions Supplement	733
MP 1.2.2	Special Definitions for this Protocol	733
MP 1.2.3	Rules of Interpretation	735
<b>MP 1.3</b>	<b>Scope</b>	<b>736</b>
MP 1.3.1	Scope of Application to Parties	736
MP 1.3.2	Scope of SC Responsibilities	736
MP 1.3.3	Liability of the ISO	737
<b>MP 2</b>	<b>REVENUE METER DATA ACQUISITION AND PROCESSING SYSTEM (MDAS)</b>	<b>737</b>
<b>MP 2.1</b>	<b>Purpose of MDAS</b>	<b>737</b>
<b>MP 2.2</b>	<b>ISO Metered Entities</b>	<b>737</b>
MP 2.2.1	Method of Providing Meter Data to ISO	737
MP 2.2.2	Interface with MDAS	737
MP 2.2.3	Frequency of Recording and Collecting Data	737
MP 2.2.4	Format for Data Submission	738
MP 2.2.5	Format for Data Requests	739
<b>MP 2.3</b>	<b>SC Metered Entities</b>	<b>739</b>
MP 2.3.1	Method of Submitting Meter Data to ISO	739
MP 2.3.2	Interface with MDAS	739
MP 2.3.3	Frequency of Submitting Data	739
MP 2.3.4	Format for Data Submission	739
MP 2.3.5	Netting	740
MP 2.3.6	Format for Data Requests	740
<b>MP 2.4</b>	<b>Data Retention by the ISO</b>	<b>740</b>
<b>MP 3</b>	<b>CERTIFICATION OF METERING FACILITIES</b>	<b>740</b>

<b>MP 3.1</b>	<b>ISO Metered Entities</b>	<b>740</b>
MP 3.1.1	Requirement to Certify	740
MP 3.1.2	Responsibility for Obtaining Certification	741
MP 3.1.3	Requesting Certification	741
MP 3.1.4	Certification by the ISO	741
MP 3.1.5	Criteria for Certification	741
MP 3.1.6	Certificate of Compliance	741
MP 3.1.7	Obligation to Maintain Certification	742
MP 3.1.8	Revocation of Certification	742
MP 3.1.9	Changes to Certified Metering Facilities	742
<b>MP 3.2</b>	<b>ISO Authorized Inspectors</b>	<b>742</b>
MP 3.2.1	Published List of Inspectors	742
MP 3.2.2	Current Certificates	742
<b>MP 3.3</b>	<b>SC Metered Entities</b>	<b>743</b>
MP 3.3.1	Requirement to Certify	743
MP 3.3.2	SC to Ensure Certification	743
MP 3.3.3	Certification of Meter Data Servers	743
MP 3.3.4	Confirmation of Certification	743
MP 3.3.5	ISO's Request for Certificates	743
MP 3.3.6	Deemed Certification	744
<b>MP 4</b>	<b>AUDITING AND TESTING OF METERING FACILITIES</b>	<b>744</b>
<b>MP 4.1</b>	<b>ISO Metered Entities</b>	<b>744</b>
MP 4.1.1	Requirement for Audits and Tests	744
MP 4.1.2	Failure to Comply	744
<b>MP 4.2</b>	<b>SC Metered Entities</b>	<b>744</b>
MP 4.2.1	Requirement for Audit and Testing	744
MP 4.2.2	Failure to Comply	745
<b>MP 5</b>	<b>INSTALLATION OF ADDITIONAL METERING FACILITIES</b>	<b>745</b>
<b>MP 5.1</b>	<b>ISO Requirement to Install Additional Metering</b>	<b>745</b>
MP 5.1.1	ISO Authority to Require Additional Metering Facilities	745
MP 5.1.2	Requirement to Install	745
MP 5.1.3	Obligations of ISO Metered Entity	745
MP 5.1.4	Approval or Rejection of a Proposal for Installation	746

MP 5.1.5	Unconditional Approval	746
MP 5.1.6	Conditional Approval	746
MP 5.1.7	Rejection	747
<b>MP 5.2</b>	<b>ISO Metered Entities' Election to Install Additional Metering</b>	<b>747</b>
<b>MP 6</b>	<b>MAINTENANCE OF METERING FACILITIES</b>	<b>748</b>
<b>MP 6.1</b>	<b>ISO Metered Entities</b>	<b>748</b>
MP 6.1.1	Duty to Maintain Metering Facilities	748
MP 6.1.2	Repairs	748
<b>MP 6.2</b>	<b>SC Metered Entities</b>	<b>749</b>
<b>MP 7</b>	<b>STANDARDS FOR METERING FACILITIES</b>	<b>749</b>
<b>MP 7.1</b>	<b>ISO Metered Entities</b>	<b>749</b>
MP 7.1.1	Obligation to Meet Standards	749
MP 7.1.2	Applicable Standards	749
MP 7.1.3	Failure to Comply with Standards	749
<b>MP 7.2</b>	<b>SC Metered Entities</b>	<b>749</b>
<b>MP 8</b>	<b>LOW VOLTAGE SIDE METERING</b>	<b>750</b>
<b>MP 8.1</b>	<b>Requirement for ISO Approval</b>	<b>750</b>
<b>MP 8.2</b>	<b>Request for Approval</b>	<b>750</b>
<b>MP 8.3</b>	<b>ISO's Grounds for Approval</b>	<b>750</b>
<b>MP 8.4</b>	<b>Application of Transformer and/or Line Loss Correction Factor</b>	<b>750</b>
<b>MP 9</b>	<b>SECURITY OF METER DATA</b>	<b>751</b>
<b>MP 9.1</b>	<b>ISO Metered Entities</b>	<b>751</b>
MP 9.1.1	Meter Site Security	751
MP 9.1.2	Third Party Access to Meters	751
MP 9.1.3	Third Party Access Withdrawn	752
<b>MP 9.2</b>	<b>SC Metered Entities</b>	<b>752</b>
<b>MP 9.3</b>	<b>MDAS Security</b>	<b>752</b>
<b>MP 10</b>	<b>VALIDATION, EDITING AND ESTIMATING OF METER DATA</b>	<b>752</b>

<b>MP 10.1</b>	<b>ISO Metered Entities</b>	<b>752</b>
MP 10.1.1	Obligation to Assist	752
<b>MP 10.2</b>	<b>SC Metered Entities</b>	<b>752</b>
<b>MP 11</b>	<b>COMMUNICATIONS</b>	<b>753</b>
<b>MP 11.1</b>	<b>Facilities Provided by the ISO</b>	<b>753</b>
MP 11.1.1	MDAS Master Station	753
MP 11.1.2	WEnet	753
MP 11.1.3	Points of Presence (POP)	753
MP 11.1.4	Facilities Failure	753
<b>MP 11.2</b>	<b>Facilities Provided by ISO Metered Entities</b>	<b>753</b>
MP 11.2.1	Telecommunications Channels	754
MP 11.2.2	Router/Terminal Server	754
MP 11.2.3	Meter Data Server	754
<b>MP 11.3</b>	<b>Facilities provided by SCs</b>	<b>754</b>
<b>MP 12</b>	<b>METER IDENTIFICATION</b>	<b>754</b>
<b>MP 12.1</b>	<b>SC Metered Entities</b>	<b>754</b>
<b>MP 13</b>	<b>EXEMPTIONS FROM COMPLIANCE</b>	<b>755</b>
<b>MP 13.1</b>	<b>Authority to Grant Exemptions</b>	<b>755</b>
<b>MP 13.2</b>	<b>Guidelines for Granting Exemptions</b>	<b>755</b>
<b>MP 13.3</b>	<b>Procedure for Applying for Exemptions</b>	<b>755</b>
<b>MP 13.4</b>	<b>Information to be Included in the Application</b>	<b>756</b>
<b>MP 13.5</b>	<b>Permitted Exemptions</b>	<b>756</b>
MP 13.5.1	Exemptions from Providing Meter Data Directly to MDAS	756
MP 13.5.2	Exemptions from Meter Standards	758
MP 13.5.3	Exemptions from Audit, Testing or Certification	760
<b>MP 14</b>	<b>AMENDMENTS TO THE PROTOCOL</b>	<b>760</b>

<b>MP APPENDIX A – FAILURE OF ISO FACILITIES</b>	<b>762</b>
<b>MP APPENDIX B – CERTIFICATION PROCESS FOR METERING FACILITIES</b>	<b>763</b>
<b>MP APPENDIX C – METER CONFIGURATION CRITERIA</b>	<b>767</b>
<b>MP APPENDIX D – STANDARDS FOR METERING FACILITIES</b>	<b>771</b>
<b>EXHIBIT 1 TO APPENDIX D - SPECIFICATION MTR1-96:     ENGINEERING SPECIFICATION FOR POLYPHASE SOLID-STATE     ELECTRICITY REVENUE QUALITY METERS FOR USE ON THE     ISO CONTROLLED GRID</b>	<b>773</b>
<b>EXHIBIT 2 TO APPENDIX D - ISO SPECIFICATION FOR     CERTIFICATION OF OIL-FILLED, WOUND INSTRUMENT     TRANSFORMERS FOR REVENUE METERING</b>	<b>810</b>
<b>MP APPENDIX E – TRANSFORMER AND LINE LOSS CORRECTION     FACTORS</b>	<b>816</b>
<b>MP APPENDIX F – INSTRUMENT TRANSFORMER RATIO AND CABLE LOSS     CORRECTION FACTORS</b>	<b>829</b>
<b>MP APPENDIX G – ISO DATA VALIDATION, ESTIMATION AND EDITING     PROCEDURES</b>	<b>837</b>

**ISO METERING PROTOCOL (MP)**

**MP 1 OBJECTIVES, DEFINITIONS AND SCOPE**

**MP 1.1 Objective**

The objective of this Metering Protocol is to implement ISO Tariff Section 10 in relation to the acquisition by the ISO of revenue quality meter data for Settlement and billing purposes.

**MP 1.1.1 Applicable Reference Materials**

This Protocol must be read and interpreted in accordance with:

- (a) Section 10 and Appendix J of the ISO Tariff;
- (b) Settlement and Billing Protocol (SABP);
- (c) American National Standards Institute (ANSI) C12 standards; and
- (d) ISO Metered Entity Meter Service Agreements and SC Meter Service Agreements.

**MP 1.1.2 Role of the ISO**

The ISO is responsible for establishing and maintaining the revenue meter data acquisition and processing system (MDAS). MDAS will acquire revenue quality meter data for use in the ISO's Settlement and billing process. The ISO is also responsible for:

- (a) setting standards and procedures for the registration, certification, auditing, testing and maintenance of revenue quality meters and meter data servers; and
- (b) for establishing procedures for the collection, security, validation and estimation of Meter Data,

for metered entities that are subject to the ISO Tariff.

**MP 1.2 Definitions**

**MP 1.2.1 Master Definitions Supplement**

Any word or expression defined in the Master Definitions Supplement to the ISO Tariff shall have the same meaning where used in this Protocol. A reference to a Section or an Appendix is to a Section or an Appendix of the ISO Tariff. References to MP are to this Protocol or to the stated paragraph of this Protocol.

**MP 1.2.2 Special Definitions for this Protocol**

In this Protocol, the following words and expressions shall have the meanings set opposite them:

**"Authorized Users"** means a person or an entity identified as an authorized user in a meter service agreement between the ISO and an ISO Metered Entity or a meter service agreement between the ISO and a SC.

**“Certificate of Compliance”** means a certificate issued by the ISO which states that the Metering Facilities referred to in the certificate satisfy the certification criteria for Metering Facilities contained in the ISO Tariff and this Protocol.

**“Check Meter”** means a redundant revenue quality meter which is identical to and of equal accuracy to the primary revenue quality meter connected at the same metering point which must be certified in accordance with the ISO Tariff and this Protocol.

**“Compatible Meter Data Server”** means a meter data acquisition and processing system which is capable of passing Meter Data and/or Settlement Quality Meter Data to MDAS via File Transfer Protocol (FTP) and which has been certified in accordance with this Protocol by the ISO or its authorized representative.

**“ISO Home Page”** means the ISO internet home page at <http://www.caiso.com/iso> or such other address as the ISO shall publish from time to time.

**“ISO Authorized Inspector”** means a person authorized by the ISO to certify, test, inspect and audit the Metering Facilities in accordance with procedures established by the ISO pursuant to this Protocol.

**“ISO Metered Entity”** means:

- (a) any one of the following entities that is directly connected to the ISO Controlled Grid:
  - i. a Generator other than a Generator that sells all of its Energy (excluding any Energy consumed by auxiliary load equipment electrically connected to that Generator at the same point) and Ancillary Services to the UDC in whose Service Area it is located;
  - ii. an Eligible Customer; or
  - iii. an End-User other than an End-User that purchases all of its Energy from the UDC in whose Service Area it is located; and
- (b) any one of the following entities:
  - i. a Participating Generator;
  - ii. a Participating TO in relation to its Tie Point Meters with other TOs or Control Areas; or
  - iii. a Participating Load.

**“ISO Metered Entity Meter Service Agreements”** means the meter service agreements between the ISO and ISO Metered Entities.

**“Line Loss Correction Factor”** means the line loss correction factor as set forth in the Technical Specifications.



**“MCI Connected Entity Package”** means the package issued by MCI which describes the technical requirements for connections to WEnet.

**“MDAS”** means the ISO’s revenue meter data acquisition and processing system.

**“Meter Data Exchange Format”** means the format for submitting Meter Data to the ISO which will be published by the ISO on the ISO Home Page or available on request to the Meter and Data Acquisition Manager, ISO Client Service Department.

**“Meter Data Request Format”** means the format for requesting Settlement Quality Meter Data from the ISO which will be published by the ISO on the ISO Home Page or available on request to the Meter and Data Acquisition Manager, ISO Client Service Department.

**“Metering Facilities”** means revenue quality meters, instrument transformers, secondary circuitry, secondary devices, meter data servers, related communication facilities and other related local equipment.

**“MP Appendix”** means an appendix to this Protocol.

**“Proposal for Installation”** means a written proposal submitted by an ISO Metered Entity to the ISO describing a proposal for the installation of additional Metering Facilities.

**“SC”** means Scheduling Coordinator.

**“SC Meter Service Agreements”** means the meter service agreements between the ISO and SCs.

**“Scheduling Coordinator Metered Entity”** or **“SC Metered Entity”** means a Generator, Eligible Customer or End-User that is not an ISO Metered Entity.

**“Technical Specifications”** means Appendices B to G (inclusive) of this Protocol.

**“Transformer Loss Correction Factor”** means the transformer loss correction factor as set forth in the Technical Specifications to be applied to revenue quality meters of ISO Metered Entities which are installed on the low voltage side of step-up transformers.

### **MP 1.2.3 Rules of Interpretation**

The following rules of interpretation and conventions have been adopted in this Protocol:

- (a) Unless the context otherwise requires, if the provisions of this Protocol and the ISO Tariff conflict, the ISO Tariff will prevail to the extent of the inconsistency. The provisions of the ISO Tariff have been summarized or repeated in this Protocol only to aid understanding.

- (b) A reference in this Protocol to a given agreement, ISO Protocol or instrument shall be a reference to that agreement or instrument as modified, amended, supplemented or restated through the date as of which such reference is made.
- (c) The captions and headings in this Protocol are inserted solely to facilitate reference and shall have no bearing upon the interpretation of any of the terms and conditions of this Protocol.
- (d) This Protocol shall be effective as of the ISO Operations Date.
- (e) Any reference to a day, week, month or year is a reference to a calendar day, week, month or year except that a reference to a business day shall mean a day on which the banks in California are open for business.

**MP 1.3 Scope**

**MP 1.3.1 Scope of Application to Parties**

This Protocol applies to the following entities:

- (a) the ISO;
- (b) ISO Metered Entities; and
- (c) SCs in respect of the SC Metered Entities they represent.

If an ISO Metered Entity is also a SC, it shall be treated as an ISO Metered Entity for the purposes of this Protocol and Section 10 of the ISO Tariff. Such an ISO Metered Entity will not be required to enter into a SC Meter Service Agreement unless it represents any metered entities other than itself. A SC Meter Service Agreement entered into by an ISO Metered Entity shall only apply to those metered entities that the ISO Metered Entity represents; the SC Meter Service Agreement shall not apply to the ISO Metered Entity other than in its capacity as SC for those metered entities. If a SC Metered Entity is also a SC, it shall be treated as a SC for the purposes of this Protocol and Section 10 of the ISO Tariff and any references to entities that such a SC represents shall be deemed to include that SC itself.

**MP 1.3.2 Scope of SC Responsibilities**

SCs will be responsible:

- (a) for ensuring that those SC Metered Entities that they represent and which are subject to the procedures and standards set forth in the ISO Tariff and this Protocol, comply with those procedures and standards; and
- (b) for providing the ISO with Settlement Quality Meter Data in accordance with the ISO Tariff and this Protocol for those SC Metered Entities that they represent.

**MP 1.3.3 Liability of the ISO**

Any liability of the ISO arising out of or in relation to this Protocol shall be subject to Section 14 of the ISO Tariff as if references to the ISO Tariff were references to this Protocol.

**MP 2 REVENUE METER DATA ACQUISITION AND PROCESSING SYSTEM (MDAS)**

**MP 2.1 Purpose of MDAS**

MDAS will be used:

- (a) by the ISO to obtain and receive the revenue quality meter data of ISO Metered Entities and SC Metered Entities for Settlement and billing purposes; and
- (b) by SCs to access Settlement Quality Meter Data held by the ISO in respect of the SC Metered Entities and ISO Metered Entities that they represent.

**MP 2.2 ISO Metered Entities**

**MP 2.2.1 Method of Providing Meter Data to ISO**

Subject to any exemption granted by the ISO under MP 13, each ISO Metered Entity must provide Meter Data to MDAS by direct interface between MDAS and its revenue quality meter or Compatible Meter Data Server.

**MP 2.2.2 Interface with MDAS**

ISO Metered Entities will, in accordance with the ISO Tariff and this Protocol, use WEnet to interface directly with MDAS:

- (a) in the case of Meter Data provided to MDAS from a revenue quality meter, via compatible metering communication equipment; or
- (b) via a Compatible Meter Data Server.

**MP 2.2.3 Frequency of Recording and Collecting Data**

Subject to any exemption granted by the ISO under MP 13, Meter Data must be recorded:

- (a) at 5-minute intervals by Loads and Generators providing Ancillary Services and/or Supplemental Energy; and
- (b) at 1-hour intervals by other ISO Metered Entities.

Meter Data will be collected regularly by MDAS in accordance with the frequency for collection determined by the ISO from time to time. The ISO may also collect Meter Data on demand. The ISO will issue such demands using voice communications. If the ISO issues a demand for Meter Data, the ISO Metered Entity from which the ISO demands that Meter Data must provide that Meter Data to the ISO within 10 minutes

of receiving the demand from the ISO or, if that ISO Metered Entity has been granted an exemption from directly interfacing with MDAS pursuant to MP 13, within the time period specified in that exemption.

**MP 2.2.4 Format for Data Submission**

**MP 2.2.4.1 Data Provided Directly From Meters**

ISO Metered Entities must ensure that the Meter Data obtained by MDAS directly from their revenue quality meters is raw, unedited and unaggregated Meter Data in kWh and kVarh values. The ISO will be responsible for the validation, editing and estimation of that Meter Data in order to produce Settlement Quality Meter Data.

**MP 2.2.4.2 Data Provided From Meter Data Servers**

ISO Metered Entities or SCs representing ISO Metered Entities must ensure that the Meter Data provided to MDAS from a Compatible Meter Data Server identifies the relevant ISO Metered Entity and is raw, unedited and unaggregated Meter Data in kWh and kVarh values. The ISO will be responsible for the validation, editing and estimation of that Meter Data in order to produce Settlement Quality Meter Data.

**MP 2.2.4.3 Netting**

(a) Permitted Netting

ISO Metered Entities may, when providing Meter Data to the ISO pursuant to this MP 2.2, net values for Generating Unit output and auxiliary load equipment electrically connected to that Generating Unit at the same point provided that the Generating Unit is on-line and is producing sufficient output to serve all of that auxiliary load equipment. For example, where a Generating Unit's auxiliary load equipment is served via a distribution line that is separate from the switchyard to which the Generating Unit is connected, that Generating Unit and auxiliary load equipment will not be considered to be electrically connected at the same point.

(b) Prohibited Netting

ISO Metered Entities may not net values for Generating Unit output and Load. ISO Metered Entities that serve third party Load connected to a Generating Unit's auxiliary system must add that third party Load to the Generating Unit's output. The ISO Metered Entity may add that third party Load to the Generating Unit's output either by means of a hard wire local meter connection between the metering systems of the third party Load and the Generating Unit or by requesting the ISO to use MDAS to perform the addition. The ISO Metered Entity must ensure that the third party Load has Metering Facilities that meet the standards referred to in the ISO Tariff and this Protocol.

**MP 2.2.5 Format for Data Requests**

SCs may obtain Settlement Quality Meter Data relating to the ISO Metered Entities they represent by directly polling MDAS using the Meter Data Request Format. The ISO will use its best efforts to ensure that such data is made available to SCs within 5 business days of the relevant Trading Day.

**MP 2.3 SC Metered Entities**

**MP 2.3.1 Method of Submitting Meter Data to ISO**

SCs must submit Settlement Quality Meter Data for those SC Metered Entities they represent to MDAS when required to submit that data in order to meet the requirements of SABP and the ISO Payments Calendar.

**MP 2.3.2 Interface with MDAS**

SCs shall utilize a Compatible Meter Data Server to interface with MDAS via WEnet.

**MP 2.3.3 Frequency of Submitting Data**

SCs shall submit Settlement Quality Meter Data to the ISO when required to do so by the SABP and the ISO Payments Calendar. SCs must also submit Settlement Quality Meter Data on demand. The ISO will issue such demands using voice communications. If the ISO issues a demand for Settlement Quality Meter Data, the SC from which the ISO demands that data must submit it to the ISO within 4 hours of receiving the demand from the ISO.

**MP 2.3.4 Format for Data Submission**

SCs shall submit Settlement Quality Meter Data to MDAS for the SC Metered Entities they represent using the Meter Data Exchange Format. Subject to any exemption granted by the ISO under MP 13, SCs must ensure that Settlement Quality Meter Data submitted to the ISO is in intervals of:

- (a) 5 minutes for Loads and Generators providing Ancillary Services and/or Supplemental Energy; and
- (b) 1 hour for other SC Metered Entities.

Each SC shall submit Settlement Quality Meter Data for all of the SC Metered Entities that it schedules aggregated by:

- (a) Demand Zone, Load group or bus for Demand;
- (b) the relevant unit for Generation; or
- (c) the Scheduling Point for imports and exports.

The Settlement Quality Meter Data submitted by SCs may be in either kWh or MWh values.

**MP 2.3.5 Netting**

**(a) Permitted Netting**

SCs may, when providing Settlement Quality Meter Data to the ISO pursuant to this MP 2.3, net values for Generating Unit output and auxiliary load equipment electrically connected to that Generating Unit at the same point.

**(b) Prohibited Netting**

SCs may not net values for Generating Unit output and Load. SCs representing SC Metered Entities that serve third-party Load connected to the auxiliary system of a Generating Unit must ensure that those SC Metered Entities add the Energy consumed by such third-party Load to that Generating Unit's output so as to ensure proper Settlement of that Generating Unit's gross output.

**MP 2.3.6 Format for Data Requests**

SCs may obtain Settlement Quality Meter Data relating to the SC Metered Entities they represent by requesting extracts from MDAS using the Meter Data Request Format. The ISO will ensure that such data is made available in a timely manner.

**MP 2.4 Data Retention by the ISO**

The ISO will maintain a record of all:

- (a) Meter Data provided to it;
- (b) Settlement Quality Meter Data provided to it; and
- (c) Settlement Quality Meter Data produced by it,

for a period of 18 months on site at the ISO's facilities and for a period of 10 years in the ISO's archive storage facilities. The ISO will, on reasonable notice, provide an SC with access to Meter Data or Settlement Quality Meter Data provided that the SC requesting access represented the entity that submitted that data at the time the data was submitted to the ISO.

**MP 3 CERTIFICATION OF METERING FACILITIES**

**MP 3.1 ISO Metered Entities**

**MP 3.1.1 Requirement to Certify**

Subject to any exemption granted by the ISO under MP 13, the ISO will not accept Meter Data from an ISO Metered Entity unless that Meter Data is produced by Metering Facilities that are certified in accordance with this Protocol and the ISO Tariff and have a current Certificate of Compliance.

**MP 3.1.2 Responsibility for Obtaining Certification**

An ISO Metered Entity that is required to make Meter Data available to the ISO under this Protocol or the ISO Tariff is responsible for having the Metering Facilities that it will use to produce that Meter Data certified by the ISO or an ISO Authorized Inspector in accordance with the ISO Tariff and this Protocol.

**MP 3.1.3 Requesting Certification**

An ISO Metered Entity seeking certification of its Metering Facilities shall independently engage an ISO Authorized Inspector to perform certification of its Metering Facilities. An ISO Metered Entity may request the ISO to perform the certification of its Metering Facilities if it would be impractical or impossible for that ISO Metered Entity to engage an ISO Authorized Inspector to perform the certification. The ISO may refuse any such request by an ISO Metered Entity if it is of the opinion that it is not impractical or impossible for that ISO Metered Entity to engage an ISO Authorized Inspector.

**MP 3.1.4 Certification by the ISO**

All requests made to the ISO to perform the certification of Metering Facilities must be made in accordance with the Technical Specifications and be accompanied by the documents referred to in the Technical Specifications. If the ISO agrees to perform the certification of Metering Facilities, the ISO and that ISO Metered Entity will agree the terms and conditions on which the ISO will undertake the certification including the assistance to be provided by the ISO Metered Entity, the responsibility for costs and the indemnities to be provided.

**MP 3.1.5 Criteria for Certification**

Subject to any exemption granted by the ISO under MP 13, the criteria for certifying the Metering Facilities of ISO Metered Entities pursuant to the ISO Tariff and this Protocol are the criteria set forth in the Technical Specifications.

**MP 3.1.6 Certificate of Compliance**

If the Metering Facilities satisfy the certification criteria (after taking into account any exemptions to the certification criteria granted by the ISO), the ISO will:

- (a) issue a Certificate of Compliance in respect of those Metering Facilities; and
- (b) provide the original Certificate of Compliance to the ISO Metered Entity that requested the certification of those Metering Facilities.

**MP 3.1.7      Obligation to Maintain Certification**

ISO Metered Entities must ensure that their Metering Facilities continue to comply with the certification criteria referred to in the ISO Tariff and this Protocol.

**MP 3.1.8      Revocation of Certification**

The ISO may revoke in full or in part any Certificate of Compliance if:

- (a) it has reasonable grounds to believe that all or some of the Metering Facilities covered by that Certificate of Compliance no longer meet the certification criteria for Metering Facilities contained in the ISO Tariff or this Protocol; and
- (b) it has given written notice to the relevant ISO Metered Entity stating that it does not believe that the identified Metering Facilities meet the certification criteria (including the reasons for that belief) and that ISO Metered Entity fails to satisfy the ISO, within the time period specified in the ISO's notice, that the Metering Facilities meet the certification criteria.

If the ISO revokes in full or part a Certificate of Compliance, the relevant ISO Metered Entity may seek recertification of the relevant Metering Facilities by requesting certification in accordance with this MP 3.1. Such request must indicate that it relates to Metering Facilities in respect of which the ISO has previously revoked a Certificate of Compliance.

**MP 3.1.9      Changes to Certified Metering Facilities**

The ISO's approval must be obtained before any modifications or changes are made to any Metering Facilities of an ISO Metered Entity which have been certified pursuant to the ISO Tariff or this Protocol. The ISO may, at its discretion, require those Metering Facilities to be recertified.

**MP 3.2        ISO Authorized Inspectors**

**MP 3.2.1      Published List of Inspectors**

The ISO will publish on the ISO Home Page, for informational purposes only, a list of the ISO Authorized Inspectors and details of the procedure for applying to become an ISO Authorized Inspector. The ISO will, on request, provide a copy of that list to entities that do not have access to the ISO Home Page.

**MP 3.2.2      Current Certificates**

It is the responsibility of the relevant ISO Metered Entity to ensure that any inspector it engages to undertake the certification of its Metering Facilities holds a current certificate of approval issued by the ISO which authorizes that inspector to carry out the duties of an ISO Authorized Inspector.



**MP 3.3 SC Metered Entities**

**MP 3.3.1 Requirement to Certify**

Subject to any exemption granted by the ISO under MP 13, the ISO will not accept Settlement Quality Meter Data relating to a SC Metered Entity unless it is produced by Metering Facilities that are certified in accordance with:

- (a) the certification or similar criteria prescribed by the relevant Local Regulatory Authority; or
- (b) if that Local Regulatory Authority has not prescribed any certification or similar criteria for Metering Facilities, the certification criteria prescribed by this Protocol and those Metering Facilities have a current Certificate of Compliance.

**MP 3.3.2 SC to Ensure Certification**

If the relevant Local Regulatory Authority has not prescribed any certification criteria for the Metering Facilities of a SC Metered Entity, the SC representing that SC Metered Entity must promptly notify the ISO in writing that no such criteria have been prescribed. That SC will then be responsible for ensuring that the SC Metered Entities it represents obtain and maintain Certificates of Compliance in respect of all of the Metering Facilities of those SC Metered Entities in accordance with MP 3.1. SCs must engage an ISO Authorized Inspector to perform the certification of any Metering Facilities that are to be certified under this Protocol or the ISO Tariff.

**MP 3.3.3 Certification of Meter Data Servers**

Subject to any exemption granted by the ISO under MP 13, the ISO will not accept Settlement Quality Meter Data relating to a SC Metered Entity from a meter data server unless that meter data server is a Compatible Meter Data Server.

**MP 3.3.4 Confirmation of Certification**

On the written request of the ISO, each SC must give the ISO written confirmation that the Metering Facilities of each SC Metered Entity that it represents are certified in accordance with either the criteria of the relevant Local Regulatory Authority or the criteria prescribed by this Protocol within 5 business days of receiving a request from the ISO.

**MP 3.3.5 ISO's Request for Certificates**

The ISO may require SCs to provide it with a copy of any certificate issued by a Local Regulatory Authority in respect of the Metering Facilities of each SC Metered Entity they represent. The SC must provide to the ISO a copy of such certificate within 5 business days of receiving the request for the certificate from the ISO.

**MP 3.3.6 Deemed Certification**

In accordance with Section 10.6.6.2 of the ISO Tariff, those revenue quality meters of SC Metered Entities that are subject to certification pursuant to this Protocol and the ISO Tariff and which were installed and operational as of the ISO Operations Date will be deemed to be certified for the purposes of the ISO Tariff and this Protocol. Revenue quality meters that have been fully installed as of the ISO Operations Date but which are not operational as of that date because they were undergoing maintenance or repairs will also be deemed to be certified in accordance with the ISO Tariff and this Protocol.

**MP 4 AUDITING AND TESTING OF METERING FACILITIES**

**MP 4.1 ISO Metered Entities**

**MP 4.1.1 Requirement for Audits and Tests**

Subject to any exemption granted by the ISO under MP 13, the Metering Facilities of ISO Metered Entities are subject to audit and testing by the ISO, or its authorized representative, in accordance with Section 10.5.1 of the ISO Tariff and this Protocol. The ISO will have the right to either conduct any audit or test it considers necessary or to witness such audit or test carried out by the ISO Metered Entity or an ISO Authorized Inspector engaged by the ISO Metered Entity or the ISO to carry out those audits or tests.

**MP 4.1.2 Failure to Comply**

The rights, powers, authorities and measures available to the ISO in respect of any failure by an ISO Metered Entity to comply with the ISO's audit or test procedures will be set forth in the ISO Metered Entity Meter Service Agreements.

**MP 4.2 SC Metered Entities**

**MP 4.2.1 Requirement for Audit and Testing**

**(a) Audit and Testing by SC**

Each SC shall at least annually conduct (or engage an independent, qualified entity to conduct) audits and tests of the Metering Facilities of the SC Metered Entities that it represents and the Meter Data provided to the SC in order to ensure compliance with all applicable requirements of any relevant Local Regulatory Authority. SCs shall undertake any other actions that are reasonable necessary to ensure the accuracy and integrity of the Settlement Quality Meter Data provided by them to the ISO.

**(c) Audit and Testing by ISO**

Subject to any applicable Local Regulatory Authority requirements, the Metering Facilities and data handling and processing procedures of SCs and SC Metered Entities are subject to audit and testing by the ISO or an ISO Authorized Inspector in accordance with Section

10.6.7.7 of the ISO Tariff and this Protocol. Subject to any applicable Local Regulatory Authority requirements, the ISO will have the right to either conduct any audit or test it considers necessary or to witness such audit or test carried out by the SC, SC Metered Entity or an ISO Authorized Inspector engaged by the SC, SC Metered Entity or the ISO to carry out those audits or tests.

**MP 4.2.2 Failure to Comply**

The rights and measures available to the ISO with respect to any failure by a SC or a SC Metered Entity to comply with any applicable audit or test procedures contained in the ISO Tariff and this Protocol, will be set forth in the SC Meter Service Agreements.

**MP 5 INSTALLATION OF ADDITIONAL METERING FACILITIES**

**MP 5.1 ISO Requirement to Install Additional Metering**

**MP 5.1.1 ISO Authority to Require Additional Metering Facilities**

The ISO has authority under Section 10.2.2 the ISO Tariff to require an ISO Metered Entity to install Metering Facilities in addition to those Metering Facilities on the ISO Controlled Grid at the ISO Operations Date. In directing the addition of meters and metering system components that would impose increased costs on an ISO Metered Entity, the ISO shall give due consideration to whether the expected benefits of such equipment are sufficient to justify such increased costs. An ISO Metered Entity may not commence installing those additional Metering Facilities until the ISO has approved its Proposal for Installation.

**MP 5.1.2 Requirement to Install**

If the ISO determines that there is a need to install additional Metering Facilities on the ISO Controlled Grid, it will notify the relevant ISO Metered Entity of that need. The ISO's notice to that ISO Metered Entity will include the following information:

- (a) the location of the Meter Point at which the additional Metering Facilities are required;
- (b) the date by which the ISO Metered Entity must install the relevant Metering Facilities;
- (c) the reason for the need to install the additional metering Facilities; and
- (d) any other information that the ISO considers relevant.

**MP 5.1.3 Obligations of ISO Metered Entity**

An ISO Metered Entity that is notified by the ISO that it is required to install additional Metering Facilities must:

- (a) give the ISO written confirmation of receipt of that notice within 3 business days of receiving that notice;

- (b) submit a Proposal for Installation to the ISO within 45 business days of receiving that notice. The Proposal for Installation must set out the following information:

- i. a description of the proposed Metering Facilities to be installed (which shall include all relevant schematic drawings and one-line drawings);
- ii. a proposed timetable for the installation; and
- iii. any other information requested by the ISO in the notice referred to in MP 5.1.2.

**MP 5.1.4 Approval or Rejection of a Proposal for Installation**

The ISO may either:

- (a) unconditionally approve;
- (b) conditionally approve; or
- (c) reject,

a Proposal for Installation.

**MP 5.1.5 Unconditional Approval**

If the ISO unconditionally approves a Proposal for Installation, it will promptly notify the ISO Metered Entity that the Proposal for Installation has been approved. The ISO Metered Entity shall then commence installation of the Metering Facilities in accordance with the Proposal for Installation.

**MP 5.1.6 Conditional Approval**

**(a) Notification of Conditional Approval**

If the ISO conditionally approves a Proposal for Installation, it will promptly notify the ISO Metered Entity that the Proposal for Installation has been conditionally approved and set out in that notice the conditions on which approval is granted and the time period in which each such condition must be satisfied by the ISO Metered Entity.

**(b) Ability to Satisfy Conditions**

If the ISO Metered Entity disputes any condition imposed by the ISO, the ISO Metered Entity must immediately notify the ISO of its concerns and provide the ISO with the reasons for its concerns. If the ISO Metered Entity gives the ISO such a notice, the ISO may amend or waive any of the conditions on which it granted its approval or it may require the ISO Metered Entity to satisfy other conditions. The ISO and the ISO Metered Entity will use all reasonable good faith efforts to reach agreement, and in the absence of agreement either entity may refer the dispute to the ISO ADR Procedures.

**(c) Notification of Satisfaction of Conditions**

The ISO Metered Entity must promptly notify the ISO when each condition in the approval has been satisfied and provide to the ISO any information reasonably requested by the ISO as evidence that such condition has been satisfied.

**(d) Confirmation of Satisfaction of Conditions**

If the ISO determines that a condition in the approval of the Proposal for Installation has been satisfied, it will give the ISO Metered Entity written confirmation that the condition has been satisfied.

**(e) Unsatisfied Conditions**

If the ISO determines that a condition has not been satisfied after having received notice from an ISO Metered Entity pursuant to MP 5.1.6(c), the ISO will notify the ISO Metered Entity that it does not consider the condition satisfied and shall set out in that notice the reason(s) that it does not consider the condition satisfied. If, after using all reasonable good faith efforts, the ISO and the ISO Metered Entity are unable to agree on whether that condition is satisfied, either entity may refer the dispute to the ISO ADR Procedures.

**MP 5.1.7 Rejection**

If the ISO rejects a Proposal for Installation, it will promptly notify the ISO Metered Entity that the Proposal for Installation has been rejected and set out in that notice the reason for its rejection. The ISO Metered Entity must submit to the ISO a revised Proposal for Installation within 14 business days of receiving such notice of rejection. If the ISO rejects for a second time a Proposal for Installation submitted by an ISO Metered Entity in respect of the same or similar notice issued by the ISO under MP 5.1.2, the ISO and the ISO Metered Entity will use all reasonable good faith efforts to reach agreement on the requirements and disputed items and in the absence of agreement either entity may refer the dispute to the ISO ADR Procedures.

**MP 5.2 ISO Metered Entities' Election to Install Additional Metering**

In accordance with Section 10.2.2 of the ISO Tariff, an ISO Metered Entity may choose to install additional metering, including Check Meters. If an ISO Metered Entity installs such additional metering, such metering must, unless the ISO agrees otherwise:

- (a) be installed and maintained at the ISO Metered Entity's cost;
- (b) be located on the ISO Metered Entity's side of any primary meter; and
- (c) not interfere with the accuracy of any primary meter and, if that primary meter is directly polled by the ISO, the ISO's ability to directly poll that meter.

Any Meter Data produced by any such additional metering may be used by the ISO for Settlement and billing purposes in the event of the failure, or during tests or repairs of, the primary meter provided that such additional metering has a current Certificate of Compliance, the ISO Metered Entity gives the ISO prior verbal notice that such meter will be used and the period for which it will be used and, if the primary meter is directly polled by the ISO, the additional metering must also be capable of being directly polled by the ISO.

**MP 6 MAINTENANCE OF METERING FACILITIES**

**MP 6.1 ISO Metered Entities**

**MP 6.1.1 Duty to Maintain Metering Facilities**

ISO Metered Entities must maintain their Metering Facilities so that those Metering Facilities continue to meet the standards prescribed by the ISO Tariff (including Appendix J) and this Protocol.

If the Metering Facilities of an ISO Metered Entity require maintenance in order to ensure that they operate in accordance with the requirements of the ISO Tariff and this Protocol, the ISO Metered Entity shall notify the ISO by telephone or other means specified by the ISO of the need for such maintenance. The ISO Metered Entity must also inform the ISO of the time period during which such maintenance is expected to occur. During that period, the ISO Metered Entity or its authorized representative shall be entitled to access those sealed Metering Facilities to which access is required in order to undertake the required maintenance.

During periods for which no Meter Data is available from a meter which has a current Certificate of Compliance, the ISO will substitute estimated meter data for that ISO Metered Entity using the estimation procedures referred to in MP 10.1. That estimated meter data will be used by the ISO in its Settlement and billing process.

**MP 6.1.2 Repairs**

If a revenue quality meter of an ISO Metered Entity requires repairs to ensure that it operates in accordance with the requirements of the ISO Tariff and this Protocol, the ISO Metered Entity must immediately notify the ISO of the need for repairing that meter and must ensure that those repairs are completed:

- (a) where there is no Check Meter installed, within 12 hours of the notification to the ISO; or
- (b) where there is a Check Meter installed, within 5 business days of the notification to the ISO.

During periods for which no Meter Data is available from a meter which has a current Certificate of Compliance, the ISO will substitute estimated meter data for that ISO Metered Entity using the estimation procedures referred to in MP 10.1. That estimated meter data will be used by the ISO in its Settlement and billing process.

In respect of Metering Facilities (other than a revenue quality meter) of an ISO Metered Entity that need repair, the ISO Metered Entity shall notify the ISO of that need and, after consultation with the ISO Metered Entity, the ISO will set the time period in which such repairs must be completed.

**MP 6.2 SC Metered Entities**

SCs will be required to ensure that the SC Metered Entities that they represent maintain their Metering Facilities in accordance with the requirements of the relevant Local Regulatory Authority. If a SC Metered Entity's Local Regulatory Authority has not set any requirements in relation to the maintenance of its Metering Facilities, the SC representing that SC Metered Entity must ensure that it maintains its Metering Facilities in a manner that ensures that those Metering Facilities continue to meet the standards set forth in the ISO Tariff (including Appendix J) and this Protocol.

**MP 7 STANDARDS FOR METERING FACILITIES**

**MP 7.1 ISO Metered Entities**

**MP 7.1.1 Obligation to Meet Standards**

ISO Metered Entities must ensure that their Metering Facilities comply with the standard and accuracy requirements referred to in Section 10.2.3 of the ISO Tariff and this Protocol. In relation to revenue quality meters, the ISO will publish on the ISO Home Page, for information purposes and without liability on the part of the ISO, a list of the types and manufacturers of revenue quality meters that have been independently certified as meeting the standards for revenue quality meters referred to in the ISO Tariff and this Protocol.

**MP 7.1.2 Applicable Standards**

ISO Metered Entities must ensure that their Metering Facilities comply with the standards for Metering Facilities referred to in:

- (a) Appendix J to the ISO Tariff; and
- (b) the Technical Specifications.

**MP 7.1.3 Failure to Comply with Standards**

The rights, powers, authorities and measures available to the ISO with respect to any failure by ISO Metered Entities to comply with the standards for Metering Facilities referred to in the ISO Tariff and this Protocol, will be set forth in the ISO Metered Entity Meter Service Agreements.

**MP 7.2 SC Metered Entities**

SCs will be required to ensure that the SC Metered Entities that they represent comply with the standards for Metering Facilities of the relevant Local Regulatory Authority. If a SC Metered Entity's Local Regulatory Authority has not set any requirements in relation to standards for Metering Facilities, the SC representing that SC Metered Entity must ensure that it complies with the standards for Metering Facilities referred to in the ISO Tariff (including Appendix J) and this Protocol.



**MP 8                    LOW VOLTAGE SIDE METERING**

**MP 8.1                Requirement for ISO Approval**

After the ISO Operations Date, ISO Metered Entities may only install revenue quality meters on the low voltage side of step-up transformers if they have obtained the prior approval of the ISO in accordance with Section 10.4 of the ISO Tariff and this Protocol. ISO Metered Entities that have installed low voltage side metering, whether such installation was before or after the ISO Operations Date, shall apply the Transformer Loss Correction Factor in accordance with MP 8.4.

**MP 8.2                Request for Approval**

If an ISO Metered Entity wishes to install low voltage side metering, it shall submit a written request to the ISO. That ISO Metered Entity must:

- (a) request approval to apply the Transformer and/or Line Loss Correction Factor to its revenue quality meter or request approval to have MDAS apply the Transformer and/or Line Loss Correction Factor;
- (b) provide detailed reasons to support the request for low side metering;
- (c) provide all of the information in relation to the Transformer and/or Line Loss Correction Factor required by the Technical Specifications; and
- (d) any other information reasonably requested by the ISO.

**MP 8.3                ISO's Grounds for Approval**

The ISO shall approve a request made under MP 8.2 only if the ISO is satisfied that adequate accuracy and security of Meter Data obtained can be assured in accordance with Section 10.4 of the ISO Tariff. The ISO's rejection of such a request may be referred to the ISO ADR Procedures if, after using all reasonable good faith efforts, the ISO and an ISO Metered Entity are unable to reach agreement.

**MP 8.4                Application of Transformer and/or Line Loss Correction Factor**

ISO Metered Entities will apply the Transformer and/or Line Loss Correction Factor as set forth in the Technical Specifications. If the ISO has approved a request from an ISO Metered Entity for MDAS to apply the Transformer and/or Line Loss Correction Factor, MDAS will apply the Transformer and/or Line Loss Correction Factor set forth in the Technical Specifications. If MDAS is used to apply the Transformer and/or Line Loss Correction Factor, the ISO may require the ISO Metered Entity to pay the reasonable costs incurred by it in applying the Transformer and/or Line Loss Correction Factor.

**MP 9 SECURITY OF METER DATA**

**MP 9.1 ISO Metered Entities**

ISO Metered Entities will either submit Meter Data directly to MDAS via Compatible Meter Data Servers or their revenue quality meters will be directly polled by MDAS.

**MP 9.1.1 Meter Site Security**

Metering Facilities of ISO Metered Entities must meet the following requirements:

- (a) secondary devices that could have any impact on the performance of the Metering Facilities must be sealed; and
- (b) all Metering Facilities (including terminal servers and multiport devices) must be sealed.

**MP 9.1.2 Third Party Access to Meters**

**(a) Local Access**

If an ISO Metered Entity desires to grant a third party local access to its revenue quality meters, those meters must be equipped with ISO certified RS-232 or optical ports and software. The ISO may set the password and any other security requirements for locally accessing the revenue quality meters of ISO Metered Entities so as to ensure the security of those meters and their Meter Data. The ISO may alter the password and other requirements for locally accessing those meters from time to time as it determines necessary. The ISO must provide ISO Metered Entities with the current password and other requirements for locally accessing their revenue quality meters. ISO Metered Entities must not give a third party local access to its revenue quality meters or disclose to that third party the password to its revenue quality meters without the ISO's prior approval which shall not unreasonably be withheld. ISO Metered Entities will be responsible for ensuring that a third party approved by the ISO to access its revenue quality meters only accesses the data it is approved to access and that the data are only accessed for the purposes for which the access was approved.

**(b) Remote Access**

The ISO may set the password and any other security requirements for remotely accessing the revenue quality meters of ISO Metered Entities so as to ensure the security of those meters and their Meter Data. The ISO will alter the password and other requirements for remotely accessing those meters from time to time as it determines necessary. The ISO must provide ISO Metered Entities with the current password and other requirements for remotely accessing their revenue quality meters. ISO Metered Entities must not give a third party remote access to its revenue quality meters or disclose to that third party the password to its revenue quality meters without the ISO's prior approval which shall not unreasonably be withheld. ISO Metered Entities will be

responsible for ensuring that a third party approved by the ISO to access its revenue quality meters only accesses the data it is approved to access and that the data are only accessed for the purposes for which the access was approved.

**MP 9.1.3 Third Party Access Withdrawn**

If, in the reasonable opinion of the ISO, access granted to a third party by an ISO Metered Entity in any way interferes or impedes with the ISO's ability to poll any revenue quality meter, the ISO may require that ISO Metered Entity to immediately withdraw any access granted to a third party.

**MP 9.2 SC Metered Entities**

SCs must use Compatible Meter Data Servers to submit Settlement Quality Meter Data to the ISO for those SC Metered Entities that they represent. SCs shall provide the ISO with the current password and any other information it needs to access, at all times, the Compatible Meter Data Servers of those SCs so as to ensure the security of those servers. Each SC must also provide the ISO with the WEnet protocol address of the SC's file server with which MDAS will interface to obtain or provide Settlement Quality Meter Data.

**MP 9.3 MDAS Security**

The ISO will provide to entities that are permitted to access MDAS, the access password and any other requirements needed to access MDAS. The ISO must maintain the security and integrity of Meter Data and Settlement Quality Meter Data received by MDAS.

**MP 10 VALIDATION, EDITING AND ESTIMATING OF METER DATA**

**MP 10.1 ISO Metered Entities**

Subject to any exemption granted by the ISO under MP 13, the raw Meter Data which ISO Metered Entities submit to the ISO will be processed by MDAS using the validation, editing and estimation procedures published on the ISO Home Page from time to time in order to produce Settlement Quality Meter Data.

**MP 10.1.1 Obligation to Assist**

At the request of the ISO, ISO Metered Entities shall assist the ISO in correcting or replacing defective data and in detecting and correcting underlying causes for such defects. Such assistance shall be rendered in a timely manner so that the Settlement process is not delayed.

**MP 10.2 SC Metered Entities**

SCs are responsible for providing the ISO with Settlement Quality Meter Data for the SC Metered Entities they represent and for ensuring that any validation, editing and estimation requirements of any relevant Local Regulatory Authority or the ISO (where the SC Metered Entity is subject to the ISO requirements for validation, editing and estimation)

have been properly implemented. The ISO will not perform any validation, editing or estimating on the Settlement Quality Meter Data it receives from SCs.

**MP 11 COMMUNICATIONS**

**MP 11.1 Facilities Provided by the ISO**

The ISO will provide the facilities referred to in this MP 11.1 to acquire Meter Data from ISO Metered Entities and receive Settlement Quality Meter Data from SCs.

**MP 11.1.1 MDAS Master Station**

The MDAS master station will have a redundant configuration. The primary master station is located in Folsom, the redundant master station is located in Alhambra.

**MP 11.1.2 WEnet**

MDAS will use WEnet to acquire Meter Data from ISO Metered Entities and receive Settlement Quality Metered Data from SCs. WEnet is an ISO-provided Wide Area Network (WAN). WEnet will use the TCP/IP networking protocol.

**MP 11.1.3 Points of Presence (POP)**

WEnet will have a Point of Presence (POP) in the general vicinity of most ISO Metered Entities and SCs. The POP is the interface point between WEnet and the facilities provided by ISO Metered Entities and SCs pursuant to MP 11.2 and MP 11.3.

**MP 11.1.4 Facilities Failure**

In the event that the primary or redundant MDAS master station or WEnet fails, the procedures referred to in Appendix A will be followed by the ISO, ISO Metered Entities and SCs.

**MP 11.2 Facilities Provided by ISO Metered Entities**

ISO Metered Entities must provide the telecommunication facilities referred to in MP 11.2.1 to MP 11.2.3 inclusive to connect their Compatible Meter Data Servers to the WEnet POP. The detailed requirements for this interface are described in the MCI Connected Entity Package.

**MP 11.2.1 Telecommunications Channels**

The ISO Metered Entity must provide one of the following types of telecommunication channels from the WEnet POP to its Compatible Meter Data Servers:

- (a) Digital leased line;
- (b) ISDN channel; or
- (c) frame relay channel.

With the ISO's approval, the revenue quality meters of two or more ISO Metered Entities may be served by one telecommunications channel.

**MP 11.2.2 Router/Terminal Server**

ISO Metered Entities must provide router/terminal servers to interface the telecommunication channels to revenue quality meters. Each revenue quality meter will use an RS-232 interface nominally operating at 9600 bits/second.

**MP 11.2.3 Meter Data Server**

ISO Metered Entities must use a Compatible Meter Data Server to interface with MDAS.

**MP 11.3 Facilities provided by SCs**

SCs must use a Compatible Meter Data Server to interface with MDAS.

**MP 12 METER IDENTIFICATION**

**MP 12.1 SC Metered Entities**

If a SC Metered Entity is required to identify its revenue quality meters by the relevant:

- (a) Local Regulatory Authority; or
- (b) UDC,

then the SC representing that SC Metered Entity must, at the ISO's request, provide the ISO with a copy of that information within 5 business days of a request by the ISO in a format to be prescribed by the ISO.

If a SC Metered Entity is not required by either the relevant Local Regulatory Authority or UDC to identify its revenue quality meters, the SC representing that SC Metered Entity shall maintain an accurate record of the revenue quality meter of each of the SC Metered Entities that it represents from time to time. The record maintained by SCs must include the information set out in the Technical Specifications. The SC must, at the ISO's request, provide the ISO with a copy of any information contained in that record within 5 business days of a request by the ISO in a format to be prescribed by the ISO.

**MP 13 EXEMPTIONS FROM COMPLIANCE**

**MP 13.1 Authority to Grant Exemptions**

In addition to the specific exemptions granted under the ISO Tariff, the ISO has the authority under the ISO Tariff to grant exemptions from compliance with certain requirements imposed by the ISO Tariff and this Protocol.

**MP 13.2 Guidelines for Granting Exemptions**

The ISO will use the following guidelines when considering applications for exemptions from compliance with the ISO Tariff and this Protocol.

**(a) Publication of Guidelines**

The ISO will from time to time publish the general guidelines that it may use when considering applications for exemptions so as to achieve consistency in its reasoning and decision making and to give prospective applicants an indication of whether an application will be considered favorably.

**(b) Publication of Exemption Applications**

The ISO will promptly publish on the ISO Home Page a description of each application it receives for an exemption.

**(c) Publication of Decision**

The ISO will publish on the ISO Home Page details of whether the application was approved or rejected by it and, if the ISO considers it appropriate, the reasons for rejecting the application.

**(d) Class Exemptions**

In addition to exemptions granted to individual entities, the ISO may grant exemptions that will apply to a class of entities. The ISO may grant class exemptions whether or not it has received any application for an exemption. The ISO will publish details of the class exemptions it has granted on the ISO Home Page.

**MP 13.3 Procedure for Applying for Exemptions**

All applications to the ISO for exemptions from compliance with the requirements of the ISO Tariff or this Protocol must be made in writing addressed to the Meter and Data Acquisition Manager, Client Service Department. The ISO will confirm receipt of each application it receives within 3 business days of receiving the application. The ISO will decide whether to grant the exemption within 45 business days of receiving the application. At any time during that period, the ISO may require the applicant to provide additional information in support of its application. The applicant must provide such additional information to the ISO within 5 business days of receiving the request for additional information or within such other period as the ISO may notify to the applicant. If the ISO makes a request for additional information more than 40 business days after the date on which it received the

application, the ISO will have an additional 7 business days after receiving that additional information in which to consider the application. If the applicant does not provide the additional information requested, the ISO may refuse the application in which case it will notify the applicant that its application has been rejected for failure to provide the additional information.

**MP 13.4 Information to be Included in the Application**

The application submitted to the ISO must provide:

- (a) a detailed description of the exemption sought (including specific reference to the relevant section(s) of the ISO Tariff and/or this Protocol giving the ISO authority to grant the exemption) and the facilities to which the exemption will apply;
- (b) a detailed statement of the reason for seeking the exemption (including any supporting documentation);
- (c) details of the entity(s) (if any) to which the exemption will apply;
- (d) details of the location (if any) to which the exemption will apply;
- (e) details of the period of time for which the exemption will apply (including the proposed start and finish dates of that period);  
and
- (f) any other information requested by the ISO.

**MP 13.5 Permitted Exemptions**

**MP 13.5.1 Exemptions from Providing Meter Data Directly to MDAS**

**(a) General**

The ISO has the authority under Section 10.2.5 of the ISO Tariff to exempt ISO Metered Entities from the requirement to make Meter Data directly available to the ISO via MDAS.

In addition to the specific exemptions provided under MP 13.5.1(b), the ISO may, at its discretion, grant such an exemption where it considers the requirement to install communication links (or related facilities) between the ISO Metered Entity and WEnet to allow the ISO to directly poll that ISO Metered Entity would be unnecessary, impractical or uneconomic.

**(b) Specific Exemptions Available**

**i. Tie Points**

Meters located at tie points are exempted from the requirement that they be directly polled by the ISO provided that the meters at those tie points are revenue quality and they provide hourly, raw Meter Data to the ISO's Power Management System.

The entities responsible for Tie Point Meters must designate a primary meter and the entity responsible for providing the relevant Meter Data to the ISO. Meter Data from any other meter located at that tie point may be provided to the ISO in the event that the primary meter is unable to provide Meter Data to the ISO.

Existing Tie Point Meters will be exempt from the metering standards referred to in this Protocol and the ISO Tariff, if such meters are only used to measure bi-directional Energy.

**ii. Generation not Providing Regulation**

ISO Metered Entities that are Generators or Participating Generators that are not directly connected to the ISO Controlled Grid and which do not provide Regulation may request the ISO for an exemption from the requirement that they be directly polled by the ISO in which case they will be treated as SC Metered Entities for the purposes of this Protocol and the ISO Tariff.

**iii. SCs inability to directly poll MDAS**

If a SC does not have the ability as at the ISO Operations Date to directly poll MDAS for the Settlement Quality Meter Data of the ISO Metered Entities that it represents, that SC shall have a period of 12 months from the ISO Operations Date in which to install the necessary equipment to enable it to directly poll MDAS. During the period in which a SC is unable to directly poll MDAS, that SC will be responsible for providing the ISO with Settlement Quality Meter Data for its ISO Metered Entities in accordance with this Protocol and the ISO Tariff.

**iv. Generator Profiling**

The ISO may permit Generators and Participating Generators with Generating Units of less than 1 MW to use generator profiles, provided that such profiles are reconciled against revenue quality cumulative meters and the ISO has given prior approval to the use of the proposed generator profile. The revenue quality meters used by such Generators and Participating Generators will not be required to have a current Certificate of Compliance at the ISO Operations Date. However, such meters maybe required to have a Certificate of Compliance within a time period prescribed by the ISO after consultation with the relevant Generator or Participating Generator.



**v. Small Remote Generators**

Remote Generators of less than 10 MW and capacity factors of less than 20% over the past three years, may be granted an exemption from the requirement to be directly polled by the ISO provided that the ISO is able to receive Meter Data for that Generator from a Compatible Meter Data Server in accordance with this Protocol.

**MP 13.5.2 Exemptions from Meter Standards**

**(a) General**

The ISO has the authority under Section 10.5.2 of the ISO Tariff to exempt ISO Metered Entities from the requirement to comply with the meter standards referred to in the ISO Tariff and this Protocol.

**(b) Specific Exemptions Available**

**i. Data Storage for Existing Meters**

Revenue quality meters installed as at the ISO Operations Date are required to have 30 days data storage capacity (new revenue quality meters are required to have 60 days data storage capacity). Existing revenue quality meters that otherwise comply with the meter standards referred to in the ISO Tariff and this Protocol but which do not have 30 days data storage will be exempted from that requirement if there is alternative time stamped meter data storage of 30 days or more.

**ii. Voltage Transformers**

ISO Metered Entities will be exempt from the requirement to install Voltage Transformers (VT) at 500 kV and higher voltage levels provided that those ISO Metered Entities install Capacity Coupled Voltage Transformers (CCVT) that meet the metering standards referred to in the ISO Tariff and this Protocol. The ISO Metered Entity must establish a testing program to ensure that the CCVT remains within the ISO's accuracy requirements. A copy of such test program must be supplied to the ISO and the ISO may require amendments and/or additions to that program that it reasonably believes are necessary to ensure the accuracy of the CCVT.

**iii. Loss Correction Factors**

The ISO may grant an ISO Metered Entity an exemption from compliance with the metering standards referred to in this Protocol and the ISO Tariff if, in the ISO's sole discretion, applicable loss correction factors can be applied to existing meters without any materially adverse effect on the accuracy or security of the Meter Data obtained from such meters.

**iv. 5 Minute Interval Data**

Generators that are ISO Metered Entities and that provide Ancillary Services to the ISO will not be required to provide the ISO with 5 minute interval data until such time as specified by the ISO. Until such time as the ISO requires 5 minute interval data, these entities will be required to provide the ISO with hourly interval data.

**v. Request for Direct Polling**

SCs may request the ISO to grant an exemption from the requirement to provide Settlement Quality Meter Data to the ISO for SC Metered Entities they represent if those entities are Generators which have requested the ISO, and the ISO has agreed, to directly poll them for Meter Data. Such Generators will be treated as ISO Metered Entities and must comply with all of the requirements relating to ISO Metered Entities in accordance with this Protocol and the ISO Tariff. The SC representing such Generators will be required to apply the relevant distribution loss factors to that Generator's Meter Data (the SC may obtain that Meter Data from the ISO).

**vi. QF Exemptions**

If a QF sells all of its Energy (excluding any Energy consumed by auxiliary load equipment electrically connected to that QF at the same point or any Energy sold through "over the fence" arrangements as authorized by Section 218(b) of the California Public Utilities Code) and Ancillary Services to the UDC in whose Service Area it is located pursuant to an existing power purchase agreement (which is authorized under Section 218(b) of the California Public Utilities Code) and there is any inconsistency between that existing power purchase agreement and this Protocol, Section 10 of the ISO Tariff or Appendix J to the ISO Tariff, the

existing power purchase agreement shall prevail to the extent of that inconsistency for the term of the agreement. In this context, an existing power purchase agreement shall mean an agreement which has been entered into and is effective as of December 20, 1995.

**vii. Combining Generation**

A metered entity may elect to meter a group of Generating Units which are electrically connected to the same point by combined total generation output or by individual Generating Unit provided that those Generating Units are Scheduled in the same fashion as they are metered and the Generating Units are not individually providing Ancillary Services.

**MP 13.5.3 Exemptions from Audit, Testing or Certification**

The ISO has the authority under Section 10.5.2 of the ISO Tariff to exempt ISO Metered Entities from the metering standards referred to in the ISO Tariff and this Protocol.

**MP 14 AMENDMENTS TO THE PROTOCOL**

If the ISO determines a need for an amendment to this Protocol, the ISO will follow the requirements as set forth in Section 16 of the ISO Tariff.