Minimum Metering Standard for Small Embedded Generators in the Real Time Market - Proposal

Embedded Generators

- **T**his metering standard applies to embedded generators that are registered in the real time market. Standard applies to distributed generators < or equal to 5 MW. For embedded generators > 5MW a fully compliant main alt installation is required.

Minimum Standard

- The standard is a minimum standard. MMPs who wish to adopt a higher standard have the option of full compliance with Chapter 6 metering using a main/alt installation.
- Choose one or the other, no in-between standard

Standard (1)

- 1. Use a standalone meter, either an Alternate or a Main meter from the Conforming meter list
  - a) Alternate: 4 Channel, Wh, Varh, delivered & received. 0.5 ANSI
    b) Main: 10 Channel, Wh, Varh, delivered & received, V^2 and I^2. 0.2 ANSI.
    c) 5 minute intervals
    d) Set to EST
    e) IMO functional requirements for Alternate or Main meter as per Hardware Standard.
    f) IMO framework document required
    g) Compatible with IMO's MV90 system
    h) Single phase or three phase Alternate is acceptable
    i) Passwords allowing time reset with the IMO
    j) Backup UPS for supply to the meter?

Standard (2)

– 2) ITs

- a) Comply with IMO standards
  b) 0.3 ANSI
  c) Blondel
  d) Can add other loads to the ITs up to the burden limit e.g. protection
  e) Parallel CTs up to 2 sets but with conditions as per Alternative Metering Standard
  f) Measurement Canada compliant

Standard (3)

- 3) Installation by who??
  - a) MSP, or MMP using the LDC or other?
    b) Commissioning by MSP?

Standard (4)

- 4) MSP to register the meter as per MM
  - a) SLD
    b) MPID using IMO naming convention (MV90 separate group coding)
    c) Totalization Table
    d) MIRT
    e) E2E
    f) SRR
    g) Default value = maximum connected load for load channels, zero for generation channels.
    h) MEC – not required
    i) SSLA – as required by MR or retail code default value
    j) TLF/DLF – as required by the OEB
    k) No EITRP required
    l) Transmitter & transmission customer sign off required.

Standard (5)

- 5) MTRs – IMO will issue MTRs to the MMP only. No response is required from the MMP, the IMO will close the MTR at a later specified time. MTRs will be issued for failures of validation.

Standard (6)

- 6) VEE – IMO will process validation as per a standalone meter. IMO issue MTR in all cases.
- a) Validation failures for which the IMO will continue to use meter data:
  - i) Meter reading vs. load profile
    ii) Time tolerance
    iii) Number of power outages
    iv) Time reset
    v) Watch dog time out
    vi) High/low limit (if used)
    vii) High/low limit on energy (if used)
    viii) Percentage change on interval (if used)
    ix) Load factor tolerance (if used)
    x) Power factor limit (if used)
    xi) Zero interval tolerance
    xii) Power outage intervals

Standard (7)

- b) Validation failures for which the IMO will use the default value:
  - i) Data not collected
    ii) Missing intervals
    iii) CRC/ROM/RAM
    iv) Intervals found vs. expected

- c) V^2 and I^2 validation checks will not be performed unless a main meter is used.

Standard (8)

- 7) Other tests
  - a) Data reconciliation not required with encoded register
    b) Meter spot check required for standalone meters
    c) IT checks required

Standard (9)

- 8) Audits – audits by the IMO based on their normal audit cycle. Includes office and field audits.
- 9) Estimated data. The IMO will not estimate data.
  - a) For intervals where the IMO cannot initially read the meter, but is later able to read the meter prior to the final settlement statement – MV90 overwrites the metering data and the IMO will use this actual metering data to settle. Timeframe 10 to 20 days. During this period MR estimation applied**.**

    b) For intervals where the IMO cannot read the meter and fails to read the meter prior to final (or use the same timeframe as the 1.8X value), the IMO will use the default values. Statements will go final using this default data**.**

Standard (10)

- 10) Tools
  - a) PLC – no change, uses registered MMP
    b) MVStar – no change, stores data for specified time (13 months on line)
    c) MV90 – no change
    d) MIRT – no change
    e) CODA – no change
    f) Registration database – OK
    g) MVWeb – OK
    h) MTR – change, issued to MMP a read only MTR

Standard (11)

- 11) NoDs – the process will be subject to NoDs as per normal IMO process.

  12) Tracking. The IMO will not track the performance of the installation. Potential non-compliance's such as meeting 95% communications not applied.

  13) Market Rules and Manuals. The IMO will have to update Market Rules and Market Manuals to reflect this process.