AMI 1.2 Release Notes

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AMI 1.2 Release Notes

009-0074-00 Rev. A

September 17, 2015

Contents

Revision History

Revision	Release Date	Change Description
A	September 17, 2015	AMI 1.2 software release.

1 Release Information

This document describes new features, enhancements, fixes and outstanding issues for AMI 1.2 software release, which applies to all GE smart meter platforms supported by On-Ramp Wireless' RPMA-based communication modules.

1.1 AMI 1.2 Compatibility

The following table indicates compatibility between software applications.

Table 1. Software Compatibility Matrix

Subsystem	Minimum Revision	Other Tested Revisions
CCS	2.1.4.11	
microNode	6.4.5	
Host_Common	2.1.34	
OTV	1.2.6.5	
AMI.OTA.INF	1.2.7	
MeterMate	6.4.0.11546	
Provisioning	3.0.16	3.1.3

1.2 GE Meter Compatibility

Table 2. Compatibility Between GE Meters and AMI Software Releases

Platform	Meter FW	Form Factor	eMCM	MCM Versions	Meter Modes
I-210+ I-210+n	3.6.1 4.0.8	2S/3S/12S	Raptor	eMCM 2.8.6(AMI 1.2),Node 6.4.5 eMCM 2.3.7(AMI 1.1), Node 6.4.5 eMCM 1.9.4(AMI 1.0), Node 6.3.10/6.4.5	Energy only (Default)
kV2c	4.11.9.12 4.11.7.12	2S/9S/12S/16S	Ptero	eMCM 2.8.6(AMI 1.2), Node 6.4.5 eMCM 2.3.7(AMI 1.1), Node 6.4.5 eMCM 1.10.5(AMI 1.0), Node 6.3.10/6.4.5	TOU, Demand, Demand/LP
I-210+c I-210+cn	3.3.0	2S/3S/4S/12S	Raptor	eMCM 2.8.6(AMI 1.2), Node 6.4.5 eMCM 1.10.6(AMI 1.0), Node 6.3.10/6.4.5	TOU, Demand, Demand/LP
SGM3011 SGM3031	1.4.3 1.7.4	N/A	Falcon	eMCM 2.8.6(AMI 1.2), Node 6.4.5 eMCM 1.9.4(AMI 1.0), Node 6.3.10/6.4.5	N/A
SGM30C2	1.7.4	N/A	Falcon	eMCM 2.8.6(AMI 1.2), Node 6.4.5	N/A

2 New Features and Enhancements

2.1 I-210+ Meters

AMI 1.1 was the last release for I-210+/+n meters. Listed below are new features and key enhancements in AMI 1.2, since AMI 1.1, which are specific to I-210+/+n meters.

2.1.1 Enhanced Billing Data Read Choices

It is possible to perform on-demand read of limited set of UOMs from I-210+ meters. This feature enables reading of only required UOMs, as opposed to entire set of UOMs, while reducing the latency associated with the reads.

2.1.2 Daylight Savings Time Support

DST support added.

2.2 I-210+c Meters

AMI 1.0 was the last release for I-210+c meters. Listed below are new features and key enhancements in AMI 1.2, since AMI 1.0, that are specific to I-210+c/+cn meters.

2.2.1 Enhanced Billing Data Read Choices

AMI 1.2 introduces secondary reporting schedule for register/billing data, in addition to the default reporting schedule, which reports all register/billing data from meter tables at read time and is typically configured to read at midnight.

Secondary reporting schedule enables more frequent reporting of bulk/register data.

- Only summations for total tier can be reported on more frequent schedule
- Demand, coincident and tier data cannot be included in secondary reporting schedule
- Best effort delivery of secondary schedule data: bulk data is not stored in persistent memory and hence can be lost in the event of power or long term network outages
- Reduced reporting latency

It is also possible to perform on-demand read of limited set of UOMs.

- Summations for all bulk/register data
- Summations for all bulk register data – kWh only
- On-demand read by CIM code associated with a UOM of interest
- Reduced reporting latency

Back filling of persistently stored data is improved with most recent two billing reads stored.

2.2.2 Read All Load Profile Channels

Supports reading and reporting of all load profile channels of I-210+c meters.

Back filling of persistently stored interval data is improved to up to 16 interval reads. Default value of this configurable setting is 4 interval reads.

2.2.3 Power Quality Readings and Events

Power quality reports can be obtained on-demand or on a periodic basis (scheduled). Similarly, power quality event indications are expanded to report momentary info and meter sag/swell events.

- Active, reactive and phasor-apparent power
- RMS and average voltage; Line-to-Line and Line-to-Neutral
- Sag and swell readings: current, voltage, duration, count
- Sag and swell event notification: event duration, event counts
- Over and under voltage alerts at polling
- Load control event notification: prepaid meter , load shedding

2.2.4 Improved Reporting Reliability

Bulk and interval data reporting is randomized in every reporting period which improves flexibility in supporting various meter configurations and data transmission reliability.

2.2.5 Demand Reset

On-demand and back office scheduled demand reset can be performed in I-210+c meters. Only one demand reset command can be scheduled by back office system at eMCM.

2.2.6 Momentary and Sustained Outages

Support for detection and differentiation between momentary and sustained outages has been added for I-210+c meters. Along with this, other improvements have been made, such as, quick notification of power restoration, reporting of exact time of power restoration, more power savings in low power mode, etc.

- eMCM is in low power mode and node is in sleep during the momentary outage detection
- Power fail clear latency is decreased because power fail will be cleared on node join
- New power restoration event indicates exact power restoration time
- Momentary outage period is configurable as part of eMCM configuration

2.2.7 Meter Program Update

Meter program and meter configurations can be updated over-the-air for a single meter and group of meters. The meter program can be unicast or multicast to a group of meters.

2.2.8 Meter Configuration Information

Meter configuration information is sent to and stored at the HES during boot strapping by the eMCM. This does the following:

- Facilitates raw data transmission OTA and processing of the data at HES
- Improves overall system capacity
- No loss of resolution in meter readings

2.2.9 uStream

uStream is a transport protocol that provides end-to-end message reliability, performs fragmentation and reassembly of messages, facilitates large message transfer, controls message flow, and delivers quality of service.

- On-Demand Requests have higher priority and preempts the scheduled data – translates into latency benefits
- Message reliability is not affected by intermittent losses in link connectivity
- Resource reservation reduces the risk of billing data loss due to other autonomous transmissions like interval data

2.2.10 OTA Meter Controls

New set of functionality to remotely (over-the-air) control a meter or group of meters has been added.

- Enable/Disable load control Points via IEC-CIM commands
- TOU and Season change trigger able from back office systems
- DST support for LP and TOU modes for Southern Hemisphere; 50 DST changes per year, recurring fixed or floating, and non-recurring DST dates supported
- DST support for demand-only mode

2.2.11 SetDataOrderReq with Filters and Schedules

SetDataOrderReq with filters and schedules was enhanced to provide flexibility in choosing reported quantities for filters and schedules.

2.2.12 OTV-based AMI Enhancements

- Operator is alerted through OTV when there is a metrology or program change.
- Support added to allow clearing of all meter flags through OTV. AMI software release 1.0 only allowed alarm clearing.

2.3 kV2c Meters

AMI 1.1 was the last release forkV2c meters. Listed below are new features and key enhancements in AMI 1.2, since AMI 1.1, which are specific to kV2c meters.

2.3.1 Enhanced Billing Data Read Choices

AMI 1.2 introduces secondary reporting schedule for register/billing data, in addition to the default reporting schedule, which reports all register/billing data from meter tables at read time and is typically configured to read at midnight.

Secondary reporting schedule enables more frequent reporting of bulk/register data.

- Only summations for total tier can be reported on more frequent schedule
- Demand, coincident and tier data cannot be included in secondary reporting schedule
- Best effort delivery of secondary schedule data: bulk data is not stored in persistent memory and hence can be lost in the event of power or long term network outages
- Reduced reporting latency

It is also possible to perform on-demand read of limited set of UOMs.

- Summations for all bulk/register data
- Summations for all bulk register data – kWh only
- On-demand read by CIM code associated with a UOM of interest
- Reduced reporting latency

Back filling of persistently stored data is improved with most recent two billing reads stored.

2.3.2 All Load Profile Channels

Supports reading and reporting of all twenty (20) load profile channels ofkV2c meters.

2.3.3 Demand Reset

On-demand and back office scheduled demand reset can be performed in kV2c meters. Only one demand reset command can be scheduled by back office system at eMCM.

2.3.4 Meter Program Update

Meter program and meter configurations can be updated over-the-air for a single meter and group of meters. The meter program can be unicast or multicast to a group of meters.

2.3.5 OTA Meter Controls

New set of functionality to remotely (over-the-air) control a meter or group of meters has been added.

- TOU and Season changes can be triggered from back office systems.
- DST support for LP and TOU modes for Southern Hemisphere; 50 DST changes per year, recurring, fixed, or floating, and non-recurring DST dates supported .

2.4 SGM3000 Meters

AMI 1.0 was the last release for SGM3000 meter family. Listed below are new features and key enhancements in AMI 1.2, since AMI 1.0, which are specific to SGM3000 meters.

2.4.1 Enhanced Billing Data Read Choices

AMI 1.2 introduces secondary reporting schedule for register/billing data, in addition to the default reporting schedule, which reports all register/billing data from meter tables at read time and is typically configured to read at midnight.

Secondary reporting schedule enables more frequent reporting of bulk/register data.

- Only summations for total tier can be reported on more frequent schedule
- Demand, coincident and tier data cannot be included in secondary reporting schedule
- Best effort delivery of secondary schedule data: bulk data is not stored in persistent memory and hence can be lost in the event of power or long term network outages
- Reduced reporting latency

It is also possible to perform on-demand read of limited set of UOMs.

- Summations for all bulk/register data
- Summations for all bulk register data – kWh only
- On-demand read by CIM code associated with a UOM of interest
- Reduced reporting latency

Back filling of persistently stored data is improved with most recent two billing reads stored.

2.4.2 Read All Load Profile Channels

Reading and reporting of eighteen (18) additional load profile channels is possible in AMI 1.2 release. Hence, all four load profile sets and all twenty four load profile channels (6 channels per load profile set) of SGM3000 meters are now supported.

Back filling of persistently stored interval data is improved to up to 16 interval reads. Default value of this configurable setting is 4 interval reads.

2.4.3 Power Quality Readings

Power quality reports can be obtained on-demand or on a periodic basis (scheduled). Similarly, power quality event indications are expanded to report momentary info and meter sag/swell events.

- Active, reactive and phasor-apparent power
- Total harmonic distortion (voltage, current, total)
- RMS and average voltage
- Sag and swell readings: current, voltage, duration, count
- Sag and swell event notification: event duration, event counts

- Voltage Balance and over/under frequency log reporting
- Local control event notification: prepaid meter , load shedding

2.4.4 Improved Reporting Reliability

Bulk and interval data reporting is randomized in every reporting period which improves flexibility in supporting various meter configurations and data transmission reliability.

2.4.5 Demand Reset

On-demand and back office scheduled demand reset can be performed in SGM3000 meters. Only one demand reset command can be scheduled by back office system at eMCM.

2.4.6 Momentary and Sustained Outages

Support for detection and differentiation between momentary and sustained outages has been added for SGM3000 meters. Along with this, other improvements have been made, such as, quick notification of power restoration, reporting of exact time of power restoration, more power savings in low power mode, etc.

- eMCM is in low power mode and node is in sleep during the momentary outage detection
- Power fail clear latency is decreased because power fail will be cleared on node join
- New power restoration event indicates exact power restoration time
- Momentary outage period is configurable as part of eMCM configuration

2.4.7 Meter Program Update

Meter program and meter configurations can be updated over-the-air for a single meter and group of meters. The meter program can be unicast or multicast to a group of meters.

2.4.8 Meter Configuration Information

Meter configuration information is sent to and stored at the HES during boot strapping by the eMCM. This does the following:

- Facilitates raw data transmission OTA and processing of the data at HES
- Improves overall system capacity
- No loss of resolution in meter readings

2.4.9 uStream

uStream is a transport protocol that provides end-to-end message reliability, performs fragmentation and reassembly of messages, facilitates large message transfer, controls message flow, and delivers quality of service.

- On-Demand Requests have higher priority and preempts the scheduled data – translates into latency benefits
- Message reliability is not affected by intermittent losses in link connectivity
- Resource reservation reduces the risk of billing data loss due to other autonomous transmissions like interval data

2.4.10 OTA Meter Controls

New set of functionality to remotely (over-the-air) control a meter or group of meters has been added.

- Connect /disconnect of auxiliary relay and Arm–to –Connect feature in addition to main relay
- Enable/Disable load control Points via IEC-CIM commands
- TOU and Season change trigger able from back office systems
- DST support for LP and TOU modes for Southern Hemisphere; 50 DST changes per year, recurring fixed or floating, and non-recurring DST dates supported
- DST support for demand-only mode

2.4.11 SetDataOrderReq with Filters and Schedules

SetDataOrderReq with filters and schedules was enhanced to provide flexibility in choosing reported quantities for filters and schedules.

2.4.12 OTV-based AMI Enhancements

- Operator is alerted through OTV when there is a metrology or program change.
- Support was added to allow clearing of all meter flags through OTV. AMI software release 1.0 only allowed alarm clearing.

3 General eMCM Enhancements

ID	AMI 1.2 Feature/Enhancement	I-210+	I-210+c	kV2c	SGM
4923	i210+C relay state should be derived from ST112, not MT115		X		
5784	Add timezone and DST override configuration options	X	X	X	X
5785	Add OTA reporting of external flash JEDEC ID	X	X	X	X
5829	Inhibit the setting of meter time close to midnight		X	X	X
6135	Add eMCM triggered daily/monthly demand reset feature		X	X	X
6299	On Demand Billing Data Read of limited set of UOMs (cloned)	X	X	X	X
6301	On Demand Load Profile Read (cloned)		X	X	X
6469	Add arm for connect option to RelayOperationReq				X
6655	Add currentSeason field in BillingDataInd		X	X	X
6694	Support for eMCM get/clear panic blocks OTA using MTP diagnostic port	X	X	X	X
6730	Load Profile Quality Reads and Optimizations		X	X	X
6745	Addition to extraMfg flags to MeterFlagInd reported by I210+c and SGM3xxx		X		X
6945	Automatically version DataOrders file block on eMCM	X	X	X	X
7105	Addition of cumulative demand to BillingDataInd		X	X	X
7151	Reduce latency: "(Dis)connect successfully executed" to "(Dis)connected"	X	X		X
7229	Support of 4 LP profile sets				X
7400	Combine METER_FLAG_IND and RELAY_STATE_IND	X	X	X	X
7471	Add meter flag/relay state filtering to DataOrders	X	X	X	X
7499	Moving flag/relay state polling period from SetDataOrdersReq on eMCM	X	X	X	X
7504	Addition of ManufacturerMeterSpecificInfo to EndDeviceInfoRsp		X	X	X
7652	Clean up memory on eMCM: AmiProtoTxInfo_t	X	X	X	X
6136	Advanced C12.19 read/write interface	X	X	X	X
6295	User-triggered Demand Resets		X	X	X
6758	Support for the OTA messages in eMCM 1.1	X	X	X	X
6824	eMCM should not send any "LoadProfileInd" with empty intervals		X	X	X
6939	Need a solution to View stored Data Orders in eMCM	X	X	X	X
7448	Updating numRelays field in MeterConfigReportRsp	X	X	X	X
7742	TOU meters with missing Load Profile soft switches		X	X	

ID	AMI 1.2 Feature/Enhancement	I-210+	I-210+c	kV2c	SGM
7780	eMCM DST: add support for non-recurring or non-floating recurring edges	X	X	X	X
7781	eMCM Provisioning / Factory Tools does not erase DataOrders block	X	X	X	X
7796	Add self-versioning to the BDS pal magic number	X	X	X	X
7802	Retries for billing data indication	X	X	X	X
7803	Set Season after data time set in GE meters in TOU mode		X	X	X
7843	Make a global meter config file	X	X	X	X
7865	Update to host_cmn_2.1.24 (cloned)	X	X	X	X
7867	Missed reading during DST change time	X	X	X	X
7876	Differentiate between eClassMaxAmps (SGM/i210c+ and MaxClassAmps (kV2c) in EndDeviceInfoRsp			X	
7905	Accounting for hot swapping (cloned)		X	X	X
7911	eMCM: Accept alternate PREV_AMI_1_1 for non-conflicting messages	X	X	X	X
7935	Setting Correct Meter Time on meter via program update		X	X	X
7938	Power Quality Report for SGM302x meters				X
7948	eMCM: Add factory-erase APIs	X	X	X	X
7965	Check V softswitch before reading MT111 (power quality event kV2c/I210+c)		X	X	
7966	Report CPP/RTP state of the meter.		X	X	X
7995	BootInd may not include some fields after meter read error	X	X	X	X
8000	C1219: Add ST8 checking retries for procedure invocations	X	X	X	X
8037	Setting of HOST_CMN_USP_AUTO_ACK_REQ_INTERVAL in host_common_conf	X	X	X	X
8081	eMCM: Provide unified, error-free way to cancel scheduled events		X	X	X
8100	Suppress LVD Boot as Abnormal Boot Reason in powerfail	X	X	X	X
8101	Report counts block failures in failed config and enter BAD_CONFIG state	X	X	X	X
8108	MPU: Expanded serial logging support	X	X	X	X
8164	Future proofing C1219Req for data write that is less that one byte long	X	X	X	X
8165	eMCM: Update default config for bulkStoredEntriesMax to 2		X	X	X
8181	Panic blocks: Add protobuf option for raw block and add sequence number	X	X	X	X
8265	Setting of HOST_CMN_USP_AUTO_ACK_REQ_INTERVAL in host_common_conf (cloned)	X	X	X	X
8286	eMCM: Add factory-erase APIs (cloned child for remaining tasks)	X	X	X	X
8364	eMCM: Add double-buffering for certain flash data	X	X	X	X

ID	AMI 1.2 Feature/Enhancement	I-210+	I-210+c	kV2c	SGM
8403	Inhibit time updates around DST edges and day boundaries. (cloned)		X	X	X
8410	Change default maxMomentaryInterruprtionDurationSec	X	X	X	
8426	Erase data on external flash in case of hard reset	X	X	X	X
8437	eMCM: Add factory-erase APIs (cloned child for remaining tasks) (cloned)	X	X	X	X
8496	Initial LP offset move to data orders		X	X	X
8522	Add GPIO output to DBG builds to verify that eMCM stays asleep	X	X	X	X

4 Fixed Issues

4.1 Meter-specific Fixed Issues

ID	Product	AMI Version	Outstanding issue from previous release
5754	SGM	1.0	4th Tier TOU not read
---	kV2c	1.1	eMCM needs to be reset if the kV2c meter mode changes

4.2 Fixed Issues from Prior AMI Releases

ID	AMI Version	Summary
5617	1.0	Image Security : last installed image left in flash
6512	1.0	KV2C/i210+c meter loses all the LP history if the meter does not store time
5379	1.0	emcm blocks PC to node messages in bad config states
7068	1.1	eMCM PQ events crashes if it runs before first PQ report
6911	1.1	eMCM was stuck in power fail mode
6930	1.1	SGM3000 ST15 table reads with incorrect offset and byte count
7129	1.1	Stacked BootInd Retransmit Messages in the eMCM UL buffer Throttling the Bandwidth
7222	1.1	eMCM not sending correct OTA panic block message
7246	1.1	MeterFlgRsp not displaying extraMfgFlags
7276	1.1	eMCM Failing to Re Queue the Stack after Flushing the UL buffer when it receives flushOutstandingMeterData: true in SetDataOrderReq
6655	1.1	Add currentSeason field in BillingDataInd
6694	1.1	Support for eMCM get/clear panic blocks OTA using MTP diagnostic port
6730	1.1	Load Profile Quality Reads and Optimizations
6806	1.1	Meter Comm error with error code "DATA_LOCKED"
6824	1.1	eMCM should not send any "LoadProfileInd" with empty intervals
7284	1.1	Update ami so that the LEDs do not blink when in cal test mode
7135	1.1	eMCM: MeterFlagClearReq appears broken when extraMfgFlags set for clearing
7274	1.1	GetUptimeRsp does not have the right uptimeSec vlaue

4.3 General Acceptance Release Fixed Issues

ID	AMI Version	Summary
7679	1.1	emcm panic "The LP Set Mask is 0!!!"
7700	1.1	emcm panic "Failed to retrieve data orders "
8025	1.1	Current Season not included in BillingDataInd message SGM meters
8166	1.1	eMCM: I210+ sag and swell flag reporting
8409	1.1	MPU: Audit/Compatibility checks need to be strict on data size (cloned)
8516	1.1	nanopb improperly sign extends enum values leading to unparseable meter comm errors
8519	1.1	eMCM: Protect eMCM against unexpected node state changes during Last Gasp
8521	1.1	Meter communication error after MeterFlagClearReq
8561	1.1	eMCM/MPU: current RX Pause usage model unsafe
8577	1.1	HOST_CMN_BUFF_PrepareRead corruption makes serial unsuable until reset (cloned)
8689	1.1	eMCM: Billing data reporting may fail when reporting period is smaller than schedule bound
8718	1.1	MPU: Panic block seen for momentary outage during C1219 execution
8753	1.1	RTP change request incorrectly prohibited in I210+c/V2c TOU mode
8776	1.1	Assert in file meter_pq.c related MT113 table read (cloned)
7708	1.1	Script issue - emcm_meter_get_relay_state.py
7743	1.1	eMCM DST: edges on the 29th-31st are moved to the 28th
7761	1.1	eMCM DST does not work in the southern hemisphere
7558	1.1	eMCM Should Generate METER_TIME_ERROR Whenever Meter Time is Corrected
7674	1.1	exception found on SGM meter
7779	1.1	eMCM: OTA missing reset magic not properly rejected
7804	1.1	ReadMeterTableReq alters requested length inappropriately
7810	1.1	eMCM: RXs with bad CRCs block downlink forever
7663	1.1	Setting bits for 'SelectFlags2' doesnt seem to work as expected
7807	1.1	Billing data may be corrupted if DataOrders change between read and report
7255	1.1	Emcm assert: "too many later app events queue"
8596	1.1	eMCM/BDS writes flash bits illegally
7464	1.1	eMCM does not read ST8 after relay operations and it should
7465	1.1	Recheck / rereport EndDeviceInfoHash after momentary outage
7466	1.1	SGM: Add Vin signal to powerfail / momentary outage criteria
7922	1.1	I210+ Temperature Sign Handling

5 Known Issues

5.1 eMCM Issues

ID	Description	Meters	Comments
7284	Update AMI so that the LEDs do not blink when in CAL test mode	All	Manufacturing concern
7768	Verify eMCM sleep behavior	All	In Unit Test
8522	Add GPIO output to DBG builds to verify that eMCM stays asleep during power fail	All	In-lab diagnostic enhancement
8561	eMCM/MPU: current RX Pause usage model unsafe	All	Issue not seen during functional test cycle. Tried to recreate with host CDLD and a MPU in progress but was not successful. Scenario: Any node-to-host message which can occur while a MPU is in-progress. Field Observation: MPU failure - meter may have to be reprogrammed again before functional
8676	Meter time conversion and/or how the meter presents event and LP block times is wrong	All	There is still an issue with historical readings over a DST edge which can be time stamped incorrectly. Scenario: Request historical LP date for readings which happened some hours before the last DST edge. Field Observation: OTV will show multiple readings with same timestamp but with different values. Note: all readings in the block will be shifted
8763	LP data reports that are scheduled to occur during the ambiguous hour may fail to be reported OTA	kv2c	This was seen since MM64 has a bug where it would configure 1 interval read per block
8757	RX messages waiting in queue should not be dropped on eMCM	All	Significant enhancement to fix. Planned in AMI 1.3 Scenario: A retransmission of a DL SDU may result in other SDU(s) in queue to be dropped when the retransmitted SDU is received
7354	Exception 6 during internal flash erase	All	Initially repeatable, not currently observed. May be test set up related. Scenario: Seen during our soak power failure testing (momentary power outages) Field Observation: This issue fails reporting of last gasp and possible bricking of nodes susceptible to power cut following potential power fail notice.
8356	eMCM Assert: No PF SDU STATUS from node. See Notes 4.2	All	Not been able to reproduce this with serial logging. Scenario: Aggressive power outage Field Observation: Likely none in multiple outages. Could be masked if super caps are drained by multiple outages as well.
7083	Missing Load Profile data if the LP Reporting period is set to more than 7 times the read period	All	Added as a footnote to "how to setup data orders"
7705	emcm panic "too many now app events queued" See Notes 4.2	All	Unclear root cause and not yet repeatable. Scenario : Could be Network related not AMI Field Observation: Data Loss

ID	Description	Meters	Comments
8220	INVALID_SERVICE_SEQUENCE_STATE with service LOGON on SGMs (3rd Party – GE)	SGM I210+C	See 5.3 GE Meter Issues
8223	INVALID_SERVICE_SEQUENCE_STATE with service NEGOTIATE on SGM and i210+c (3rd Party – GE)	All	See 5.3 GE Meter Issues
8419	eMCM didn't send anything on uplink for 23 hours See Notes 4.2	All	Not consistently repeatable. Stall of Node/HostCommon relationship. Field Observation: No data will be reported for 24 hours until emcm is rebooted
8792	SGM sends "BOOT_POST_FAIL" after overnight power fail	All	Seen twice on the same HW but not on a different HW (same test) Scenario: Meter powers on but SRAM test fails Field Observation: Meter fails to complete boot process. No readings sent.
8817	Non-zero LP data was reported during power outage (3rd Party – GE)	SGM	See 5.3 GE Meter Issues
8832	eMCM spuriously rejecting serial FW upgrade (cloned)	All	Not consistently repeatable. May be test set up related. Scenario: Serial FW upgrade fails Field Observation: Could be seen during provisioning where the upgrade would fail/timeout

5.2 Unresolved Issues from Prior AMI Releases

ID	AMI Version	Summary
5353	1.0	i210+c: periodic and/or spurious c1218 failures due to spec/timeout mismatch
5621	1.0	eMCM assert with the message "AHP response too big"
6359	1.0	Develop comprehensive time setting/sync error handling
6372	1.0	Bulk register (TOU current - ST23) gets reset after eMCM syncs time
6613	1.1	Time issues on meters that use POSIX time
7354	1.1	Exception 6 during internal flash erase
6784	1.1	eMCM spuriously rejecting serial FW upgrade
6850	1.1	Memory corruption assert on Ptero
7083	1.1	Missing Load Profile data if the LP Reporting period is set to more than 7 times the read period
7168	1.1	PF1 and PF2 on KV2C meter are overriding each other on KV2C meter
7263	1.1	Add proper support for prospective partial table reads
7278	1.1	eMCM needs to be reset when KV2C meter mode changes
6688	1.1	eMCM JTAG and Last Gasp sleep mode incompatible
7141	1.1	eMCM should honor NODE_SW_UPGRADE_IND and not power-cycle the node

ID	AMI Version	Summary
7142	1.1	eMCM should inhibit CDLD cutover (and other risky flash updates) during power fail

5.3 GE Meter Issues

ID	Product	Outstanding issue from previous release
8817	SGM	Non-zero LP data was reported during power outage SGM has been shown to misattribute interval data (also visible via MeterMate) after power failure. This may also affect other GE platforms as well. Scenario: Sustained power fail Field Observation: Interval readings show as non-zero during power outage
8220	SGM	INVALID_SERVICE_SEQUENCE_STATE service LOGON on SGM Scenario: Every 49.7 days of normal operation, the SGM will be unresponsive for ~1 hour Field Observation: Meter communication error event seen in OTV every 49.7 days
8223	SGM, I-210+c	INVALID_SERVICE_SEQUENCE_STATE with service NEGOTIATE on SGM and i210+c Field Observation: "Meter Communication error" event with “invalid_service_sequence_state,” may lose data.