

ICC Docket No. 09-0263

**Commonwealth Edison Company's Response to
Local Union No. 15,
International Brotherhood of Electrical Workers, AFL-CIO ("IBEW")
Data Requests 2.10 – 2.19
Dated: July 20, 2009**

REQUEST NO. IBEW 2.13:

Aside from the "theft detecting flags" with which each AMI meter is equipped, will the AMI meters have the capacity to observe and detect such conditions as Closed Loops (Fire Damage); Meter Damage (Cabinet Damage, Cabinet Glass, Meter Glass, No Display, Fire Damage, Painted, Moisture); and Meter Tampering (Hole in Glass, Jumper Through, Bypass Switch, Wired Direct) that have traditionally been observed and reported by Company meter readers as they visit customer properties in the ordinary course of their meter-reading activities? If not, please explain how the Company intends to monitor such conditions at properties served by AMI meters.

RESPONSE:

The AMI meters are equipped and have the capacity to observe and detect such conditions as detailed in the tables below. While the list of conditions identified in the question (Closed Loops; Fire Damage; Meter Damage; Cabinet Damage; Cabinet Glass; Meter Glass; No Display; Fire Damage; Painted; Moisture; Hole in Glass; Jumper Through; Bypass Switch; and Wired Direct) may not be implicitly discovered by the AMI network, ComEd intends to learn how to interpret the AMI reported events into those conditions that have traditionally been observed and reported by Company meter readers as they visit customer properties. e.g., in the Table 3 below, event ID's 12004 and 15001 are tamper events. Specifically, ComEd's new meter systems are being designed to detect power divergence and theft conditions by identifying abnormal usage patterns. Some conditions will require modifications to the AMI system, while others will require field investigations by an Energy Technician.

ComEd has provided Tables 1, 2, and 3 below to illustrate the robust capabilities of the proposed meters and AMI system.

- Table 1 describes the Operational states of the AMI meters. Operational states allow ComEd to determine the network status of each meter as it progresses from received from the manufacturer (New) to eventually being operational (Active). A status of "Discovered" or "Unreachable", for example, will allow ComEd to identify potential issues to further investigate that may result in a field investigation by an Energy Technician.
- Table 2 further describes the reason for a transition from an existing operational state to the new operational state.
- Table 3 lists the events that will be generated by meters and the communications technology within the meters. Some of these events are clear and will result in field investigations by an Energy Technicians. Other events may need to be correlated with usage or outage information to determine whether a field investigation is required.

Table A: Operational States

The column headings are defined as follows:

- o Meter manufacturer data provisioned into UtilityIQ (Create)
- o Meter physically installed (Install)
- o Location data provisioned into UtilityIQ (Loc)
- o Discovered on network and route exists (Disc)
- o Communication to meter possible (Comm)
- o Data can be collected from meter (Data Collected)

Operational State	Create	Install	Loc	Disc	Comm	Data Collected	Notes
New	Yes	No	No	No	No	No	In inventory and ready for field installation.
Installed	Yes	Yes	Yes	No	No	No	Field installed, location data provisioned into UtilityIQ, but not yet discovered.
Discovered	Yes	Yes	No	Yes	Yes	No	Field installed, discovered, but location data not yet provisioned into UtilityIQ. Not applicable to IMUs.
Initializing	Yes	Yes	Yes	Yes	Yes	No	Verification checks performed (including program verification) before it can transition to Initialized.
Init_Failed	Yes	Yes	Yes	Yes	Yes	No	Events explaining the cause of the failure generated, or, the meter program was disallowed.
Initialized	Yes	Yes	Yes	Yes	Yes	No	Administrative state is New, possibly because the device is not communicating.
Active	Yes	Yes	Yes	Yes	Yes	Yes	Fully operational. To be in this state, the device must have a location. If not, it transitions to Removed.
Inactive	Yes	Yes	Yes	Yes	Yes	Optional	Installed, discovered, and ready for data collection. You can configure schedules to read Inactive devices. To be in this state, the device must have a location. If not, it transitions to Removed.
Disconnected	Yes	Yes	Yes	Yes	Yes	Yes	Disconnected on the load side. Installed, discovered, and ready for data collection. You can configure schedules to read Disconnected devices. To be in this state, the device must have a location. If not, it transitions to Removed.
Service_Disconnect	Yes	Yes	Yes	No	No	No	Disconnected on the line side. Meter cannot be read. If connected, the meter requires an Administrative state change. To be in this state, the device must have a location. If not, it transitions to Removed.
Unreachable	Yes	Yes	Yes	No	No	No	Applies only to meters. A meter transitions to this state if a route exists but if the device has not been read for a configurable period. See Device State Configuration Options . Meters can only transition to this state from Active, Inactive, or Disconnected. To be in this state, the device must have a location. If not, it transitions to Removed.
Removed	Yes	No	No	No	No	No	Device removed from operation. This can be a temporary state prior to Maintenance, Retired, New, or Installed.
Maintenance	Yes	No	No	No	Yes	No	Device is not operational and is undergoing

Operational State	Create	Install	Loc	Disc	Comm	Data Collected	Notes
							maintenance. Location data is no longer associated with a device.
Retired	Yes	No	No	No	No	No	Device is no longer in service.
Investigate	Yes	Yes	Yes	Yes	Yes	Optional	Device is being investigated. To be in this state, the device must have a location. If not, it transitions to Removed.

Table 2: Operational State Transitions

Current State	Initiation	Reason for Transition	New State
Active	User	Administrative state changed	Disconnected
Active	User	Administrative state changed	Service_Disconnect
Active	User	Administrative state changed	Inactive
Active	User	Administrative state changed	Investigate
Active	User	Administrative state changed and location removed	Maintenance
Active	User / API	Device location removed	Removed
Active	User	Administrative state changed and location removed	Retired
Active	System	Device does not communicate within configurable amount of time	Unreachable
Active	User	Route for device is lost	Unreachable
Disconnected	User	Administrative state changed	Active
Disconnected	User	Administrative state changed	Investigate
Disconnected	User	Administrative state changed	Maintenance
Disconnected	User	Administrative state changed and location removed	Maintenance
Disconnected	User / API	Device location removed	Removed
Disconnected	User	Administrative state changed	Retired
Disconnected	User / API	Administrative state changed and location removed	Retired
Disconnected	User	Administrative state changed	Service_Disconnect
Disconnected	System	Device does not communicate within configurable amount of time	Unreachable
Disconnected	User	Route for device is lost	Unreachable
Discovered	User / API	Device location added	Initializing
Discovered	System	Route for device is lost	New
Inactive	User	Administrative state changed	Active
Inactive	User	Administrative state changed	Disconnected
Inactive	User	Administrative state changed	Service_Disconnect
Inactive	User	Administrative state changed	Investigate
Inactive	User	Administrative state changed and location removed	Maintenance
Inactive	User / API	Device location removed	Removed
Inactive	User	Administrative state changed and location removed	Retired
Inactive	System	Device does not communicate within configurable amount of time	Unreachable

Current State	Initiation	Reason for Transition	New State
		time	
Inactive	User	Route for device is lost	Unreachable
Init_Failed	User	Program not approved	Init_Failed
Init_Failed	System	Initialization retried	Initializing
Init_Failed	User	Change Admin state (and remove location)	Maintenance
Init_Failed	User	Choose to reprogram meter due to mismatch	Maintenance
Init_Failed	User	Change Admin state (and remove location)	Retired
Init_Failed	User	Administrative state changed	Service_Disconnect
Initialized	User	Administrative state changed	Active
Initialized	User	Administrative state changed	Disconnected
Initialized	User	Administrative state changed	Service_Disconnect
Initialized	User	Administrative state changed	Inactive
Initialized	System	Device does not communicate within configurable amount of time	Initialized
Initialized	User	Administrative state changed	Investigate
Initialized	User	Administrative state changed and location removed	Maintenance
Initialized	User	Device location removed	Removed
Initialized	User	Administrative state changed and location removed	Retired
Initialized	User	Route for device is lost	Unreachable
Initializing	System	Initialization succeeds; Admin state is Active	Active
Initializing	System	Admin state is Disconnected	Disconnected
Initializing	System	Initialization succeeds; Admin state is Disconnected	Service_Disconnect
Initializing	System	Initialization succeeds; Admin state is Inactive	Inactive
Initializing	System	Initialization fails	Init_Failed
Initializing	System	Initialization succeeds; Admin state is New	Initialized
Installed	System	Device registers on network	Initializing
Installed	User	Administrative state changed	Maintenance
Installed	User / API	Device location removed	New
Installed	User	Administrative state changed	Retired
Installed	User	Administrative state changed	Service_Disconnect
Investigate	User	Administrative state changed	Active
Investigate	User	Administrative state changed	Disconnected
Investigate	User	Administrative state changed	Service_Disconnect
Investigate	User	Administrative state changed	Inactive
Investigate	User	Administrative state changed and location removed	Maintenance
Investigate	User / API	Device location removed	Removed
Investigate	User	Administrative state changed and location removed	Retired
Maintenance	User / API	Administrative state changed to Active and location added. Device has already registered on the network.	Initializing
Maintenance	User / API	Administrative state changed to Active and location added	Installed
Maintenance	System	Device registers on network	Maintenance
Maintenance	User	Change Admin State to New, if meter never had route or	New

Current State	Initiation	Reason for Transition	New State
		location	
Maintenance	User	Administrative state changed	Retired
New	System	Device registers on network	Discovered
New	User / API	Device associated with a location	Installed
New	User	Administrative state changed	Maintenance
New	User	Administrative state changed	Retired
Removed	User / API	Device associated with a location and device has already registered on the network or UIQ has an old route for this meter	Initializing
Removed	User / API	Device associated with a location and UIQ never had a route for this meter	Installed
Removed	System	Device registers on network	Removed
Retired	User	Administrative state changed	New
Retired	System	Device registers on network	Retired
Service_Disconnect	User	Administrative state changed	Active
Service_Disconnect	User	Administrative state changed	Investigate
Service_Disconnect	User	Administrative state changed	Maintenance
Service_Disconnect	User	Administrative state changed and location removed	Maintenance
Service_Disconnect	User / API	Device location removed	Removed
Service_Disconnect	User	Administrative state changed	Retired
Service_Disconnect	User / API	Administrative state changed and location removed	Retired
Service_Disconnect	User	Route for device is lost	Installed
Unreachable	System	Successful communication with the meter	Active
Unreachable	System	Successful communication with the meter	Disconnected
Unreachable	User	Administrative state changed	Investigate
Unreachable	System	Successful communication with the meter	Investigate (returns to prior state)
Unreachable	User	Administrative state changed and location removed	Maintenance
Unreachable	User / API	Device location removed	Removed
Unreachable	User	Administrative state changed and location removed	Retired
Unreachable	User	Route for device is lost	Unreachable

Table 3: Network and Meter Event Definitions

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
12000	NIC Power Failure	Emer	NIC_EVENT	NIC Power Failure	NETWORK_DEVICE	NIC	NIC Power Failure
12001	NIC Reboot Failure	Emer	NIC_EVENT	NIC Reboot Failure	NIC	NIC	NIC Reboot Failure
12002	NIC Meter Communication Failure	Warn	NIC_EVENT	NIC unable to communicate with meter	NIC	NIC	NIC unable to communicate with meter
12003	NIC Flash Communication Failure	Emer	NIC_EVENT	NIC unable to communicate with flash	NIC	NIC	NIC unable to communicate with flash
12004	NIC Tamper (NIC 4.x)	Err	NIC_EVENT	NIC Tamper	NIC	NIC	NIC Tamper
12005	NCC Low Battery	Warn	NIC_EVENT	NCC Low Battery	NIC	NIC	NCC Low Battery
12006	NCC Extremely Low Battery	Crit	NIC_EVENT	NCC Extremely Low Battery	NIC	NIC	NCC Extremely Low Battery
12007	Last Gasp	Err	NIC_EVENT	Last Gasp - power lost to NIC	NETWORK_DEVICE	NIC	"Last Gasp - NIC power lost for device: {0}, Reboot Count: {1}, NIC timestamp: {2}, Received timestamp: {3}"
12007	Last Gasp	Err	NIC_EVENT	Last Gasp - power lost to NIC	NETWORK_DEVICE	NIC	"Last Gasp - NIC power lost for device: {0}, Reboot Count: {1}, NIC timestamp: {2}, Received timestamp: {3}"
12007	Last Gasp	Err	NIC_EVENT	Last Gasp - power lost to NIC	NETWORK_DEVICE	NIC	"Last Gasp - NIC power lost for device: {0}, Reboot Count: {1}, NIC timestamp: {2}, Received timestamp: {3}"
12007	Last Gasp	Err	NIC_EVENT	Last Gasp - power lost to NIC	NETWORK_DEVICE	NIC	"Last Gasp - NIC power lost for device: {0}, Reboot Count: {1}, NIC timestamp: {2}, Received timestamp: {3}"
12008	Meter Trouble	Err	NIC_EVENT	Meter Trouble	NIC	NIC	Meter Trouble
12009	RF Failure	Err	NIC_EVENT	RF Failure	NIC	NIC	RF Failure
12010	NIC Backup Battery Active	Crit	NIC_EVENT	NIC operating on backup battery	NIC	NIC	NIC operating on backup battery
12011	NIC Backup Battery Critical	Emer	NIC_EVENT	NIC backup battery is critically low	NIC	NIC	NIC backup battery is critically low
12012	NIC Backup Battery Inactive	Clr	NIC_EVENT	NIC backup battery inactive	NIC	NIC	NIC backup battery inactive
12013	NIC Battery Not Critical	Clr	NIC_EVENT	NIC backup battery is not	NIC	NIC	NIC backup battery is not critical

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
				critical			
12014	NIC Program Change	Err	NIC_EVENT	NIC meter program configuration has been changed	NIC	NIC	NIC program change
12015	NIC Configuration Change	Err	NIC_EVENT	NIC configuration has been changed	NIC	NIC	NIC configuration change
12016	NIC Time Set	Info	NIC_EVENT	NIC time has been set	NIC	NIC	NIC time set
12017	NIC Time Change	Info	NIC_EVENT	NIC time has been updated	NIC	NIC	"NIC time change occurred, Delta In Seconds: {0} New Time: {1}"
12017	NIC Time Change	Info	NIC_EVENT	NIC time has been updated	NIC	NIC	"NIC time change occurred, Delta In Seconds: {0} New Time: {1}"
12018	NIC Clock Error	Err	NIC_EVENT	NIC clock error	NIC	NIC	"NIC clock error, Cause: {0}"
12019	NIC Battery Active Log Entry	Info	NIC_EVENT	NIC operating on backup battery - log entry	NIC	NIC	NIC operating on backup battery - log entry
12020	NIC Battery Critical Log Entry	Info	NIC_EVENT	NIC backup battery is critically low - log entry	NIC	NIC	NIC backup battery is critically low - log entry
15001	Reverse Energy Flow	Err	METER_EVENT	Reverse energy flow detected - possible tamper	METER	METER	"Diagnostic 1 - Polarity, Cross Phase, Reverse Energy Flow - possible tamper"
15002	Meter Program Change	Err	METER_EVENT	Meter Program change detected since meter was last read	GATEWAY	METER	Meter Program change detected - possible tamper
15010	Meter Recalibrated	Info	METER_EVENT	Meter has been recalibrated	METER	METER	Meter {0} calibrated by {1}.
15010	Meter Recalibrated	Info	METER_EVENT	Meter has been recalibrated	METER	METER	Meter {0} calibrated by {1}.
15011	Meter Reprogrammed	Info	METER_EVENT	Meter has been reprogrammed	METER	METER	Meter {0} programmed by {1}.
15011	Meter Reprogrammed	Info	METER_EVENT	Meter has been reprogrammed	METER	METER	Meter {0} programmed by {1}.
15012	Meter Demand Reset	Info	METER_EVENT	Meter demand reset occurred	METER	METER	Demand reset occurred for meter {0}.
15013	Meter RTP Entry	Info	METER_EVENT	Meter RTP entry has been updated	METER	METER	Meter {0} RTP updated.
15014	Meter Power Outage	Err	METER_EVENT	Meter reported	METER	METER	Meter {0} power outage.

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
				a loss of power		R	
15015	Meter TLC Update	Info	METER_EVENT	Meter transformer loss compensation updated	METER	METER	Meter {0} transformer loss compensation updated.
15016	Meter Inaccuracy Adjustment	Info	METER_EVENT	"Meter inaccuracy adjustment""	METER	METER	"Meter {0} inaccuracy adjustment""
15017	Meter Time Change	Warn	METER_EVENT	Meter time change initiated	METER	METER	Meter {0} time change initiated.
15018	Meter Last Communication Session	Warn	METER_EVENT	Communication session occurred for meter	METER	METER	Communication session occurred for meter {0}.
15019	C1219 Table 3 Power Loss	Emer	METER_EVENT	Battery Fail and Power Loss (C1219 Table 3: Er000002)	METER	METER	Battery Fail and Power Loss (C1219 Table 3: Er000002) occurred for meter {0}
15020	C1219 Table 3 System Error	Crit	METER_EVENT	System Error (C1219 Table 3: Er000020)	METER	METER	System Error (C1219 Table 3: Er000020) occurred for meter {0}.
15021	C1219 Table 3 RAM Error	Crit	METER_EVENT	RAM Error (C1219 Table 3: Er000100)	METER	METER	RAM Error (C1219 Table 3: Er000100) occurred for meter {0}.
15022	C1219 Table 3 NVRAM Error	Crit	METER_EVENT	NVRAM Error (C1219 Table 3: Er000200)	METER	METER	NVRAM Error (C1219 Table 3: Er000200) occurred for meter {0}.
15023	C1219 Table 3 ROM Error	Crit	METER_EVENT	ROM Error (C1219 Table 3: Er001000)	METER	METER	ROM Error (C1219 Table 3: Er001000) occurred for meter {0}.
15024	C1219 Table 3 Measurement Error	Crit	METER_EVENT	Measurement Error (C1219 Table 3: Er100000)	METER	METER	Measurement Error (C1219 Table 3: Er100000) occurred for meter {0}.
15025	C1219 Table 3 DSP Error	Crit	METER_EVENT	DSP Error (C1219 Table 3: Er200000)	METER	METER	DSP Error (C1219 Table 3: Er200000) occurred for meter {0}.
15026	C1219 Table 3 Low Battery	Emer	METER_EVENT	Low Battery (C1219 Table 3: CA000001)	METER	METER	Low Battery (C1219 Table 3: CA000001) occurred for meter {0}.
15027	C1219 Table 3 Unprogrammed	Crit	METER_EVENT	Meter Unprogrammed (C1219 Table 3: CA000010)	METER	METER	Meter Unprogrammed (C1219 Table 3: CA000010) occurred for meter {0}.
15028	C1219 Table 3 Program Loss	Emer	METER_EVENT	Loss of Program (C1219 Table 3: CA000040)	METER	METER	Loss of Program (C1219 Table 3: CA000040) occurred for meter {0}.
15030	C1219 Table 3 Low	Emer	METER_EVENT	Low Potential	METER	METER	Low Potential (C1219

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
	Potential			(C1219 Table 3: CA000400)		R	Table 3: CA000400 occurred for meter {0}.
15032	C1219 Table 3 Leading Kvarh	Err	METER_EVENT	Leading kvarh (C1219 Table 3: CA040000)	METER	METER	Leading kvarh (C1219 Table 3: CA040000) occurred for meter {0}.
15033	C1219 Table 3 Reverse Energy	Err	METER_EVENT	Reverse energy: Received KWh (C1219 Table 3: CA400000)	METER	METER	Reverse energy: Received KWh (C1219 Table 3: CA400000) occurred for meter {0}.
15035	C1219 Primary Power Down	Warn	METER_EVENT	Primary Power Down	METER	METER	Primary Power Down occurred for meter {0}.
15036	C1219 Primary Power Up	Clr	METER_EVENT	Primary Power Up	METER	METER	Primary Power Up occurred for meter {0}.
15037	C1219 Read Access	Info	METER_EVENT	End device accessed for read	METER	METER	End device accessed for read
15038	C1219 Write Access	Info	METER_EVENT	End device accessed for write	METER	METER	End device accessed for write
15039	C1219 Meter Programmed	Info	METER_EVENT	End device programmed	METER	METER	End device programmed
15040	C1219 Demand Reset	Info	METER_EVENT	Demand Reset occurred	METER	METER	Demand Reset occurred for meter {0}.
15041	C1219 Self Read	Info	METER_EVENT	Self Read occurred	METER	METER	Self Read occurred for meter {0}.
15042	C1219 Test Mode Enter	Info	METER_EVENT	Test Mode Enter	METER	METER	Test Mode Enter occurred for meter {0}.
15043	C1219 Test Mode Exit	Info	METER_EVENT	Test Mode Exit	METER	METER	Test Mode Exit occurred for meter {0}.
15044	KV2C Diagnostic 1 Set	Emer	METER_EVENT	Diag1: Polarity or Cross Phase or Reverse Energy Flow	METER	METER	"Diag1: Polarity, Cross Phase, Reverse Energy Flow occurred for meter {0}. Angle out of tolerance {1}"
15044	KV2C Diagnostic 1 Set	Emer	METER_EVENT	Diag1: Polarity or Cross Phase or Reverse Energy Flow	METER	METER	"Diag1: Polarity, Cross Phase, Reverse Energy Flow occurred for meter {0}. Angle out of tolerance {1}"
15045	KV2C Diagnostic 1 Cleared	Clr	METER_EVENT	Cleared: Diag1 Condition	METER	METER	Diag1 Condition cleared for meter {0}.
15046	KV2C Diagnostic 2 Set	Emer	METER_EVENT	Diag2: Voltage Imbalance	METER	METER	Diag2: Voltage Imbalance occurred for meter {0}. Voltage out of tolerance {1}
15046	KV2C Diagnostic 2 Set	Emer	METER_EVENT	Diag2: Voltage Imbalance	METER	METER	Diag2: Voltage Imbalance occurred for meter {0}. Voltage out of tolerance {1}
15047	KV2C Diagnostic 2	Clr	METER_EVENT	Cleared: Diag2	METER	METER	Diag2 Condition cleared for

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
	Cleared			Condition		R	meter {0}.
15048	KV2C Diagnostic 3 Set	Emer	METER_EVENT	Diag3: Inactive Phase Current	METER	METER	Diag3: Inactive Phase Current occurred for meter {0}. Current out of tolerance {1}
15048	KV2C Diagnostic 3 Set	Emer	METER_EVENT	Diag3: Inactive Phase Current	METER	METER	Diag3: Inactive Phase Current occurred for meter {0}. Current out of tolerance {1}
15049	KV2C Diagnostic 3 Cleared	Clr	METER_EVENT	Cleared: Diag3 Condition	METER	METER	Diag3 Condition cleared for meter {0}.
15050	KV2C Diagnostic 4 Set	Emer	METER_EVENT	Diag4: Phase Angle Alert	METER	METER	Diag4: Phase Angle Alert occurred for meter {0}. Angle out of tolerance {1}
15050	KV2C Diagnostic 4 Set	Emer	METER_EVENT	Diag4: Phase Angle Alert	METER	METER	Diag4: Phase Angle Alert occurred for meter {0}. Angle out of tolerance {1}
15051	KV2C Diagnostic 4 Cleared	Clr	METER_EVENT	Cleared: Diag4 Condition	METER	METER	Diag4 Condition cleared for meter {0}.
15052	KV2C Diagnostic 5 Set	Emer	METER_EVENT	Diag5: High Distortion	METER	METER	Diag5: High Distortion occurred for meter {0}.
15053	KV2C Diagnostic 5 Cleared	Clr	METER_EVENT	Cleared: Diag5 Condition	METER	METER	Diag5 Condition cleared for meter {0}.
15054	KV2C Diagnostic 6 Set	Emer	METER_EVENT	Diag6: Under Voltage - Element A	METER	METER	"Diag6: Under Voltage, Element A occurred for meter {0}."
15055	KV2C Diagnostic 6 Cleared	Clr	METER_EVENT	Cleared: Diag6 Condition	METER	METER	Diag6 Condition cleared for meter {0}.
15056	KV2C Diagnostic 7 Set	Emer	METER_EVENT	Diag7: Over Voltage - Element A	METER	METER	"Diag7: Over Voltage, Element A occurred for meter {0}."
15057	KV2C Diagnostic 7 Cleared	Clr	METER_EVENT	Cleared: Diag7 Condition	METER	METER	Diag7 Condition cleared for meter {0}.
15058	KV2C Diagnostic 8 Set	Emer	METER_EVENT	Diag8: High Neutral Current	METER	METER	Diag8: High Neutral Current occurred for meter {0}.
15059	KV2C Diagnostic 8 Cleared	Clr	METER_EVENT	Cleared: Diag8 Condition	METER	METER	Diag8 Condition cleared for meter {0}.
15060	KV2C Under Voltage Set	Warn	METER_EVENT	Under Voltage (CA000400)	METER	METER	Under Voltage (CA000400) for meter {0}. Voltage out of tolerance {1}
15060	KV2C Under Voltage Set	Warn	METER_EVENT	Under Voltage (CA000400)	METER	METER	Under Voltage (CA000400) for meter {0}. Voltage out of tolerance {1}
15061	KV2C Under Voltage Cleared	Clr	METER_EVENT	Cleared: Under Voltage (CA000400)	METER	METER	Under Voltage cleared (CA000400) for meter {0}.
15062	KV2C Demand Overload	Err	METER_EVENT	Demand Overload (CA004000)	METER	METER	Demand Overload (CA004000) occurred for meter {0}.
15063	KV2C Demand Overload Cleared	Clr	METER_EVENT	Cleared: Demand	METER	METER	Demand Overload cleared (CA004000) for meter {0}.

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
				Overload (CA004000)			
15064	KV2C Received Energy Set	Warn	METER_EVENT	Received Energy (CA400000)	METER	METER	Received Energy (CA400000) occurred for meter {0}.
15065	KV2C Received Energy Cleared	Clr	METER_EVENT	Cleared: Received Energy (CA400000)	METER	METER	Received Energy Cleared (CA400000) occurred for meter {0}.
15066	KV2C Leading Quadergy Set	Warn	METER_EVENT	Leading Quadergy (CA040000)	METER	METER	Leading Quadergy (CA040000) occurred for meter {0}.
15067	KV2C Leading Quadergy Cleared	Clr	METER_EVENT	Cleared: Leading Quadergy (CA400000)	METER	METER	Leading Quadergy Cleared (CA400000) occurred for meter {0}.
15068	KV2C RTP Activated	Info	METER_EVENT	Real Time Pricing Activated	METER	METER	Real Time Pricing activated for meter {0}.
15069	KV2C RTP Deactivated	Info	METER_EVENT	Real Time Pricing Deactivated	METER	METER	Real Time Pricing deactivated for meter {0}.
15070	KV2C Calibration Mode	Info	METER_EVENT	Calibration Mode activated	METER	METER	Calibration Mode activated for meter {0}.
15071	KV2C Revenue Guard	Warn	METER_EVENT	Revenue Guard activated	METER	METER	Revenue Guard activated for meter {0}.
15075	C1219 Table 3 Power Loss Cleared	Clr	METER_EVENT	Cleared: Power Loss	METER	METER	Power Loss cleared for meter {0}
15076	C1219 Table 3 System Error Cleared	Clr	METER_EVENT	Cleared: System Error	METER	METER	System Error cleared for meter {0}.
15077	C1219 Table 3 RAM Error Cleared	Clr	METER_EVENT	Cleared: RAM Error \	METER	METER	RAM Error cleared for meter {0}.
15078	C1219 Table 3 NVRAM Error Cleared	Clr	METER_EVENT	Cleared: NVRAM Error	METER	METER	NVRAM Error cleared for meter {0}.
15079	C1219 Table 3 ROM Error Cleared	Clr	METER_EVENT	Cleared: ROM Error	METER	METER	ROM Error cleared for meter {0}.
15080	C1219 Table 3 Measurement Error Cleared	Clr	METER_EVENT	Cleared: Measurement Error	METER	METER	Measurement Error cleared for meter {0}.
15081	C1219 Table 3 DSP Error Cleared	Clr	METER_EVENT	Cleared: DSP Error	METER	METER	DSP Error cleared for meter {0}.
15082	C1219 Table 3 Low Battery Cleared	Clr	METER_EVENT	Cleared: Low Battery	METER	METER	Low Battery cleared for meter {0}.
15083	C1219 Table 3 Unprogrammed Cleared	Clr	METER_EVENT	Cleared: Meter Unprogrammed	METER	METER	Meter Unprogrammed cleared for meter {0}.
15084	C1219 Table 3 Program Loss Cleared	Clr	METER_EVENT	Cleared: Program Loss	METER	METER	Program Loss cleared for meter {0}.

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
15085	C1219 Table 3 Low Potential Cleared	Clr	METER_EVENT	Cleared: Low Potential	METER	METER	Low Potential cleared for meter {0}.
15087	C1219 Table 3 Leading Kvarh Cleared	Clr	METER_EVENT	Cleared: Leading kvarh	METER	METER	Leading kvarh cleared for meter {0}.
15088	C1219 Table 3 Reverse Energy Cleared	Clr	METER_EVENT	Cleared: Reverse energy: Received KWh	METER	METER	Reverse energy: Received KWh cleared for meter {0}.
15089	I210 NVRAM I2C	Err	METER_EVENT	Difficulty in communicating with non-volatile memory	METER	METER	NVRAM Error: Difficulty in communicating with non-volatile memory
15090	I210 NVRAM CRC	Err	METER_EVENT	Error accessing or reading the non-volatile memory in the meter	METER	METER	NVRAM Error: Error accessing or reading the non-volatile memory in the meter.
15091	I210 Meter Error	Err	METER_EVENT	The register is not receiving the expected inputs from the meter chip.	METER	METER	Meter Error: The register is not receiving the expected inputs from the meter chip.
15092	I210 Meter Service Caution	Err	METER_EVENT	Meter reports mismatch between the meter and socket	METER	METER	Service Caution: Mismatch between the meter and socket
15093	DC Detection	Err	METER_EVENT	Meter reports DC Detection - sustained imbalance of current over a threshold	METER	METER	DC Detection: Sustained imbalance of current over a threshold
15094	Reverse Energy	Err	METER_EVENT	Meter reports received energy from load to line side of the meter	METER	METER	Reverse Energy: Identifies received energy from load to line side of the meter
15095	Power Failure Count	Info	METER_EVENT	Identifies an outage condition at the meter: reported in the form of a counter	METER	METER	Power Failure Count: difference={0} old count={1} new count={2}
15095	Power Failure Count	Info	METER_EVENT	Identifies an outage condition at the meter: reported in the form of a	METER	METER	Power Failure Count: difference={0} old count={1} new count={2}

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
				counter			
15095	Power Failure Count	Info	METER_EVENT	Identifies an outage condition at the meter: reported in the form of a counter	METER	METER	Power Failure Count: difference={0} old count={1} new count={2}
15096	Sag Count	Info	METER_EVENT	Power sag condition detected by meter: reported in the form of a counter	METER	METER	Sag Count: difference={0} old count={1} new count={2}
15096	Sag Count	Info	METER_EVENT	Power sag condition detected by meter: reported in the form of a counter	METER	METER	Sag Count: difference={0} old count={1} new count={2}
15096	Sag Count	Info	METER_EVENT	Power sag condition detected by meter: reported in the form of a counter	METER	METER	Sag Count: difference={0} old count={1} new count={2}
15097	Swell Count	Info	METER_EVENT	Power swell condition detected by meter: reported in the form of a counter	METER	METER	Swell Count: difference={0} old count={1} new count={2}
15097	Swell Count	Info	METER_EVENT	Power swell condition detected by meter: reported in the form of a counter	METER	METER	Swell Count: difference={0} old count={1} new count={2}
15097	Swell Count	Info	METER_EVENT	Power swell condition detected by meter: reported in the form of a counter	METER	METER	Swell Count: difference={0} old count={1} new count={2}
15098	Inversion Count	Info	METER_EVENT	Inversion detected by the meter: reported in the form of a counter	METER	METER	Inversion Count: difference={0} old count={1} new count={2}

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
15098	Inversion Count	Info	METER_EVENT	Inversion detected by the meter: reported in the form of a counter	METER	METER	Inversion Count: difference={0} old count={1} new count={2}
15098	Inversion Count	Info	METER_EVENT	Inversion detected by the meter: reported in the form of a counter	METER	METER	Inversion Count: difference={0} old count={1} new count={2}
15099	I210 NVRAM I2C Cleared	Clr	METER_EVENT	Cleared: Difficulty in communicating with non-volatile memory	METER	METER	"Event, difficulty in communicating with non-volatile memory, has been cleared."
15100	I210 NVRAM CRC Cleared	Clr	METER_EVENT	Cleared: I210_NVRAM_CRC invalid table data	METER	METER	"Event, I210_NVRAM_CRC invalid table data, has been cleared."
15101	I210 Meter Error Cleared	Clr	METER_EVENT	Cleared: Problem with the meter chip	METER	METER	"Event, problem with the meter chip, has been cleared."
15102	I210 Service Caution Cleared	Clr	METER_EVENT	Cleared: Misapplied meter	METER	METER	"Event, misapplied meter, has been cleared."
15103	DC Detection Cleared	Clr	METER_EVENT	Cleared: Detects imbalance of current through CT. 2nd harmonics cause the positive and negative 1/2 cycles of current to be imbalanced	METER	METER	"Event, detected imbalance of current through CT, has been cleared."
15104	Reverse Energy Cleared	Clr	METER_EVENT	Cleared: Reverse Energy	METER	METER	"Event, reverse energy, has been cleared."
15105	I210C Under Voltage Set	Warn	METER_EVENT	Under Voltage (CA000400)	METER	METER	Under Voltage (CA000400) occurred for meter {0}.
15106	I210C Under Voltage Cleared	Clr	METER_EVENT	Cleared: Under Voltage (CA000400)	METER	METER	Under Voltage cleared (CA000400) for meter {0}.
15107	I210C Demand Overload	Err	METER_EVENT	Demand Overload (CA004000)	METER	METER	Demand Overload (CA004000) occurred for meter {0}.
15108	I210C Demand Overload Cleared	Warn	METER_EVENT	Cleared: Demand Overload	METER	METER	Demand Overload cleared (CA004000) for meter {0}.

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
				(CA004000)			
15109	I210C Received Energy Set	Warn	METER_EVENT	Received Energy (CA400000)	METER	METER	Received Energy (CA400000) occurred for meter {0}.
15110	I210C Received Energy Cleared	Clr	METER_EVENT	Cleared: Received Energy (CA400000)	METER	METER	Received Energy cleared (CA400000) for meter {0}.
15111	I210C Leading Quadergy Set	Warn	METER_EVENT	Leading Quadergy (CA040000)	METER	METER	Leading Quadergy occurred (CA040000) for meter {0}.
15112	I210C Leading Quadergy Cleared	Clr	METER_EVENT	Cleared: Leading Quadergy (CA400000)	METER	METER	Leading Quadergy cleared (CA400000) for meter {0}.
15113	I210C RTP Activated	Info	METER_EVENT	Real Time Pricing activated	METER	METER	Real Time Pricing activated for meter {0}.
15114	I210C RTP Deactivated	Info	METER_EVENT	Real Time Pricing deactivated	METER	METER	Real Time Pricing deactivated for meter {0}.
15115	I210C Calibration Mode	Info	METER_EVENT	Calibration Mode activated	METER	METER	Calibration Mode activated for meter {0}.
15116	I210C DC Detection	Info	METER_EVENT	DC Detection	METER	METER	DC Detection occurred on meter {0}.
15117	I210C DC Detection Cleared	Info	METER_EVENT	Cleared: DC Detection	METER	METER	DC Detection cleared on meter {0}.
15118	I210D ECP Activated	Info	METER_EVENT	Emergency Conservation Period activated	METER	METER	Emergency Conservation Period activated for meter {0}.
15119	I210D ECP Deactivated	Info	METER_EVENT	Emergency Cconservation Period deactivated	METER	METER	Emergency Conservation Period deactivated for meter {0}.
15120	I210D DLP Activated	Info	METER_EVENT	Demand Limiting Period activated	METER	METER	Demand Limiting Period activated for meter {0}.
15121	I210D DLP Deactivated	Clr	METER_EVENT	Demand Limiting Period deactivated	METER	METER	Demand Limiting Period deactivated for meter {0}.
15122	I210D RCDC Switch Open	Info	METER_EVENT	RCDC Switch Open	METER	METER	"RCDC switch open for meter {0}, Cause: {1}."
15122	I210D RCDC Switch Open	Info	METER_EVENT	RCDC Switch Open	METER	METER	"RCDC switch open for meter {0}, Cause: {1}."
15123	I210D RCDC Switch Closed	Info	METER_EVENT	RCDC Switch Closed	METER	METER	"RCDC switch closed for meter {0}, Cause: {1}."
15123	I210D RCDC Switch Closed	Info	METER_EVENT	RCDC Switch Closed	METER	METER	"RCDC switch closed for meter {0}, Cause: {1}."

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
15124	Sustained Interruptions Increased	Warn	METER_EVENT	The count of IEEE sustained interruptions has increased	METER	METER	"Meter {0}, IEEE sustained interruptions count increased."
15125	Momentary Interruptions Increased	Warn	METER_EVENT	The count of IEEE momentary interruptions has increased	METER	METER	"Meter {0}, IEEE momentary interruptions count increased."
15126	Momentary Events Increased	Warn	METER_EVENT	The count of IEEE momentary events has increased	METER	METER	"Meter {0}, IEEE momentary events count increased."
15127	C1219 Table 3 Bad Pwd	Warn	METER_EVENT	Exceeded limit of bad passwords in a single session (C1219 Table 3)	METER	METER	"Exceeded limit of bad passwords in a single session (C1219 Table 3), occurred for meter {0}"
15128	C1219 Table 3 Bad Pwd Cleared	Clr	METER_EVENT	Cleared: Exceeded limit of bad passwords in a single session (C1219 Table 3)	METER	METER	"Cleared: Exceeded limit of bad passwords in a single session (C1219 Table 3), occurred for meter {0}"
15129	C1219 Table 3 High Temp	Warn	METER_EVENT	Device detected a high temperature condition (C1219 Table 3)	METER	METER	Meter {0} detected a high temperature condition. (C1219 Table 3)
15130	C1219 Table 3 High Temp Cleared	Clr	METER_EVENT	Cleared: Device detected a high temperature condition (C1219 Table 3)	METER	METER	Cleared: Meter {0} detected a high temperature condition. (C1219 Table 3)
15131	C1219 Table 3 Metering Error	Warn	METER_EVENT	"General metering error condition, see MT 69 (C1219 Table 3)"	METER	METER	"Meter {0} set general metering error condition, see MT 69. (C1219 Table 3)"
15132	C1219 Table 3 Metering Error Cleared	Clr	METER_EVENT	"Cleared: General metering error condition, see MT 69 (C1219 Table 3)"	METER	METER	"Cleared: Meter {0} set general metering error condition, see MT 69. (C1219 Table 3)"
15133	C1219 Table 3 DC Detected	Warn	METER_EVENT	Device did not detect DC (C1219 Table 3)	METER	METER	Meter {0} did not detect DC (C1219 Table 3)

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
15134	C1219 Table 3 DC Detected Cleared	Clr	METER_EVENT	Cleared: Device did not detect DC (C1219 Table 3)	METER	METER	Cleared: Meter {0} did not detect DC (C1219 Table 3)
15135	MFG Table 69 Meter Chip Error	Crit	METER_EVENT	Meter reports error in meter chip (MFG Table 69)	METER	METER	Meter {0} detected error in meter chip (MFG Table 69)
15136	MFG Table 69 Meter Chip Error Cleared	Clr	METER_EVENT	Cleared: Meter reports error in meter chip (MFG Table 69)	METER	METER	Cleared: Meter {0} detected error in meter chip (MFG Table 69)
15137	MFG Table 69 Watchdog Timeout	Warn	METER_EVENT	Meter detected watchdog timeout has occurred. (MFG Table 69)	METER	METER	Meter {0} detected watchdog timeout has occurred (MFG Table 69)
15138	MFG Table 69 RAM Error	Crit	METER_EVENT	Meter detected RAM error (MFG Table 69)	METER	METER	Meter {0} detected RAM error (MFG Table 69)
15139	MFG Table 69 RAM Error Cleared	Clr	METER_EVENT	Cleared: Meter detected RAM error (MFG Table 69)	METER	METER	Cleared: Meter {0} detected RAM error (MFG Table 69)
15140	MFG Table 69 ROM Error	Crit	METER_EVENT	Meter detected ROM error (MFG Table 69)	METER	METER	Meter {0} detected ROM error (MFG Table 69)
15141	MFG Table 69 ROM Error Cleared	Clr	METER_EVENT	Cleared: Meter detected ROM error (MFG Table 69)	METER	METER	Cleared: Meter {0} detected ROM error (MFG Table 69)
15142	MFG Table 69 Battery Pot Failure	Crit	METER_EVENT	Meter detected battery failure/power outage (MFG Table 69)	METER	METER	Meter {0} detected battery failure/power outage (MFG Table 69)
15143	MFG Table 69 Battery Pot Failure Cleared	Clr	METER_EVENT	Cleared: Meter detected battery failure/power outage (MFG Table 69)	METER	METER	Cleared: Meter {0} detected battery failure/power outage (MFG Table 69)
15144	MFG Table 69 Meter Chip Error 1	Crit	METER_EVENT	Meter detected error in meter chip (MFG Table 69)	METER	METER	Meter {0} detected error in meter chip (MFG Table 69)
15145	MFG Table 69 Meter Chip Error 1 Cleared	Clr	METER_EVENT	Cleared: Meter detected error in meter chip (MFG Table 69)	METER	METER	Cleared: Meter {0} detected error in meter chip (MFG Table 69)

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
				69)			
15146	MFG Table 69 Chip Communication Error	Crit	METER_EVENT	Meter detected communication error in meter chip (MFG Table 69)	METER	METER	Meter {0} detected communication error in meter chip (MFG Table 69)
15147	MFG Table 69 Chip Communication Error Cleared	Clr	METER_EVENT	Cleared: Meter detected communication error in meter chip (MFG Table 69)	METER	METER	Cleared: Meter {0} detected communication error in meter chip (MFG Table 69)
15148	MFG Table 69 Meter Chip Error 2	Crit	METER_EVENT	Meter detected error in meter chip (MFG Table 69)	METER	METER	Meter {0} detected error in meter chip (MFG Table 69)
15149	MFG Table 69 Meter Chip Error 2 Cleared	Clr	METER_EVENT	Cleared: Meter detected error in meter chip (MFG Table 69)	METER	METER	Cleared: Meter {0} detected error in meter chip (MFG Table 69)
15150	MFG Table 69 Chip Momentary Interval To	Warn	METER_EVENT	Meter detected no end of momentary interval signal received from meter chip (MFG Table 69)	METER	METER	Meter {0} detected no end of momentary interval signal received from meter chip (MFG Table 69)
15151	MFG Table 69 Chip Momentary Interval To Cleared	Clr	METER_EVENT	Cleared: Meter detected no end of momentary interval signal received from meter chip (MFG Table 69)	METER	METER	Cleared: Meter {0} detected no end of momentary interval signal received from meter chip (MFG Table 69)
15152	MFG Table 69 Meter Chip Error 3	Crit	METER_EVENT	Meter detected error in meter chip (MFG Table 69)	METER	METER	Meter {0} detected error in meter chip (MFG Table 69)
15153	MFG Table 69 Meter Chip Error 3 Cleared	Clr	METER_EVENT	Cleared: Meter detected error in meter chip (MFG Table 69)	METER	METER	Cleared: Meter {0} detected error in meter chip (MFG Table 69)
15154	MFG Table 69 Chip Overrun	Crit	METER_EVENT	Meter detected meter chip overrun has occurred (MFG Table 69)	METER	METER	Meter {0} detected meter chip overrun has occurred (MFG Table 69)
15155	MFG Table 69 Chip Overrun Cleared	Clr	METER_EVENT	Cleared: Meter detected meter	METER	METER	Cleared: Meter {0} detected meter chip overrun

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
				chip overrun has occurred (MFG Table 69)			has occurred (MFG Table 69)
15156	MFG Table 69 LP Data Error	Warn	METER_EVENT	Meter detected error occurred in LP data memory (MFG Table 69)	METER	METER	Meter {0} detected error occurred in LP data memory (MFG Table 69)
15157	MFG Table 69 LP Data Error Cleared	Clr	METER_EVENT	Cleared: Meter detected error occurred in LP data memory (MFG Table 69)	METER	METER	Cleared: Meter {0} detected error occurred in LP data memory (MFG Table 69)
15158	MFG Table 69 ROM Code Error	Warn	METER_EVENT	Meter detected error in code stored in ROM (MFG Table 69)	METER	METER	Meter {0} detected error in code stored in ROM (MFG Table 69)
15159	MFG Table 69 ROM Code Error Cleared	Clr	METER_EVENT	Cleared: Meter detected error in code stored in ROM. (MFG Table 69)	METER	METER	Cleared: Meter {0} detected error in code stored in ROM (MFG Table 69)
15160	MFG Table 69 Flash Code Error	Warn	METER_EVENT	Meter detected error in code stored in Flash (MFG Table 69)	METER	METER	Meter {0} detected error in code stored in Flash (MFG Table 69)
15161	MFG Table 69 Flash Code Error Cleared	Clr	METER_EVENT	Cleared: Meter detected error in code stored in Flash (MFG Table 69)	METER	METER	Cleared: Meter {0} detected error in code stored in Flash (MFG Table 69)
15162	MFG Table 69 User Calculation Error	Warn	METER_EVENT	Meter detected error in user-calculations code (MFG Table 69)	METER	METER	Meter {0} detected error in user-calculations code (MFG Table 69)
15163	MFG Table 69 User Calculation Error Cleared	Clr	METER_EVENT	Cleared: Meter detected error in user-calculations code (MFG Table 69)	METER	METER	Cleared: Meter {0} detected error in user-calculations code (MFG Table 69)
15164	MFG Table 69 Power Fail Segment Error	Crit	METER_EVENT	Meter detected error in power fail area of EEPROM (MFG Table 69)	METER	METER	Meter {0} detected error in power fail area of EEPROM (MFG Table 69)
15165	MFG Table 69 Power Fail Segment Error Cleared	Clr	METER_EVENT	Cleared: Meter detected error in power fail	METER	METER	Cleared: Meter {0} detected error in power fail area of EEPROM (MFG

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
				area of EEPROM (MFG Table 69)			Table 69)
15166	MFG Table 69 Configuration Segment Error	Crit	METER_EVENT	Meter detected error in configuration area of EEPROM (MFG Table 69)	METER	METER	Meter {0} detected error in configuration area of EEPROM (MFG Table 69)
15167	MFG Table 69 Configuration Segment Error Cleared	Clr	METER_EVENT	Cleared: Meter detected error in configuration area of EEPROM (MFG Table 69)	METER	METER	Cleared: Meter {0} detected error in configuration area of EEPROM (MFG Table 69)
15168	MFG Table 69 Program Segment 0 Error	Crit	METER_EVENT	Meter detected error in program segment 0 area of EEPROM (MFG Table 69)	METER	METER	Meter {0} detected error in program segment 0 area of EEPROM (MFG Table 69)
15169	MFG Table 69 Program Segment 0 Error Cleared	Clr	METER_EVENT	Cleared: Meter detected error in program segment 0 area of EEPROM (MFG Table 69)	METER	METER	Cleared: Meter {0} detected error in program segment 0 area of EEPROM (MFG Table 69)
15170	MFG Table 69 Program Segment 1 Error	Crit	METER_EVENT	Meter detected error in program segment 1 area of EEPROM (MFG Table 69)	METER	METER	Meter {0} detected error in program segment 1 area of EEPROM (MFG Table 69)
15171	MFG Table 69 Program Segment 1 Error Cleared	Clr	METER_EVENT	Cleared: Meter detected error in program segment 1 area of EEPROM (MFG Table 69)	METER	METER	Cleared: Meter {0} detected error in program segment 1 area of EEPROM (MFG Table 69)
15172	MFG Table 69 Current Revenue Segment 0 Error	Crit	METER_EVENT	Meter detected error in current revenue segment 0 area of EEPROM (MFG Table 69)	METER	METER	Meter {0} detected error in current revenue segment 0 area of EEPROM (MFG Table 69)
15173	MFG Table 69 Current Revenue	Clr	METER_EVENT	Cleared: Meter detected error	METER	METER	Cleared: Meter {0} detected error in current

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
	Segment 0 Error Cleared			in current revenue segment 0 area of EEPROM (MFG Table 69)			revenue segment 0 area of EEPROM (MFG Table 69)
15174	MFG Table 69 Current Revenue Segment 1 Error	Crit	METER_EVENT	Meter detected error in current revenue segment 1 area of EEPROM (MFG Table 69)	METER	METER	Meter {0} detected error in current revenue segment 1 area of EEPROM (MFG Table 69)
15175	MFG Table 69 Current Revenue Segment 1 Error Cleared	Clr	METER_EVENT	Cleared: Meter detected error in current revenue segment 1 area of EEPROM (MFG Table 69)	METER	METER	Cleared: Meter {0} detected error in current revenue segment 1 area of EEPROM (MFG Table 69)
15176	MFG Table 69 Static Revenue Segment Error	Crit	METER_EVENT	Meter detected error in static revenue segment area of EEPROM (MFG Table 69)	METER	METER	Meter {0} detected error in static revenue segment area of EEPROM (MFG Table 69)
15177	MFG Table 69 Static Revenue Segment Error Cleared	Clr	METER_EVENT	Cleared: Meter detected error in static revenue segment area of EEPROM (MFG Table 69)	METER	METER	Cleared: Meter {0} detected error in static revenue segment area of EEPROM (MFG Table 69)
15178	MFG Table 69 Event Log Error	Crit	METER_EVENT	Meter detected error in event log portion of EEPROM (MFG Table 69)	METER	METER	Meter {0} detected error in event log portion of EEPROM (MFG Table 69)
15179	MFG Table 69 Event Log Error Cleared	Clr	METER_EVENT	Cleared: Meter detected error in event log portion of EEPROM (MFG Table 69)	METER	METER	Cleared: Meter {0} detected error in event log portion of EEPROM (MFG Table 69)
15180	MFG Table 69 Flash Sector Error	Warn	METER_EVENT	Flash sector error detected (MFG Table 69)	METER	METER	Meter {0} detected flash error in sector {1} (MFG Table 69)
15180	MFG Table 69 Flash Sector Error	Warn	METER_EVENT	Flash sector error detected (MFG Table 69)	METER	METER	Meter {0} detected flash error in sector {1} (MFG Table 69)

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
				69)			
15181	MFG Table 69 Non-LP Data Error	Warn	METER_EVENT	Meter detected error in non-LP data portion of flash (MFG Table 69)	METER	METER	Meter {0} detected error in non-LP data portion of flash (MFG Table 69)
15182	MFG Table 69 Non-LP Data Error Cleared	Clr	METER_EVENT	Cleared: Meter detected error in non-LP data portion of flash (MFG Table 69)	METER	METER	Cleared: Meter {0} detected error in non-LP data portion of flash (MFG Table 69)
15183	C1218 Insufficient Security Clearance	Info	METER_EVENT	C1218 Insufficient Security Clearance error	METER	METER	Detected Insufficient Security Clearance when reading device {0}
15184	PPM Balance Negative	Warn	METER_EVENT	Prepayment Balance Negative	METER	METER	Prepayment balance is negative on meter {0}.
15185	PPM Balance Negative Cleared	Clr	METER_EVENT	Cleared: Prepayment Balance Negative	METER	METER	Prepayment balance is positive on meter {0}.
15186	PPM Balance Negative Deactivated Cleared	Clr	METER_EVENT	"Cleared: Prepayment Balance Negative, Deactivated"	METER	METER	Prepayment has been deactivated on meter {0}.
15187	PPM Balance Low	Warn	METER_EVENT	Prepayment Balance Low	METER	METER	Prepayment balance is below configured threshold on meter {0}.
15188	PPM Balance Low Cleared	Clr	METER_EVENT	Cleared: Prepayment Balance Low	METER	METER	Prepayment balance is above configured threshold on meter {0}.
15189	PPM Balance Low Deactivated Cleared	Clr	METER_EVENT	"Cleared: Prepayment Balance Low, Deactivated"	METER	METER	Prepayment has been deactivated on meter {0}.
15190	C1219_TIME_CHANGED_CODE_3	Info	METER_EVENT	C1219 Table 76 Time Changed(old time)	METER	METER	Time Changed(old time) on meter {0}
15191	C1219_TIME_CHANGED_CODE_4	Info	METER_EVENT	C1219 Table 76 Time Changed(new time)	METER	METER	Time Changed(new time) on meter {0}
15192	C1219_TIME_CHANGED_CODE_5	Info	METER_EVENT	C1219 Table 76 Time Changed(old time)	METER	METER	Time Changed(old time) on meter {0}. Time set is: {1}
15192	C1219_TIME_CHANGED_CODE_5	Info	METER_EVENT	C1219 Table 76 Time	METER	METER	Time Changed(old time) on meter {0}. Time set is: {1}

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
				Changed(old time)			
15193	C1219_TIME_CHANGED_CODE_6	Info	METER_EVENT	C1219 Table 76 Time Changed(new time)	METER	METER	Time Changed(new time) on meter {0}. Time set is: {1}
15193	C1219_TIME_CHANGED_CODE_6	Info	METER_EVENT	C1219 Table 76 Time Changed(new time)	METER	METER	Time Changed(new time) on meter {0}. Time set is: {1}
15194	C1219_PROCEDURE_INVOKED	Info	METER_EVENT	Standard or Manufacturer Procedure Invoked	METER	METER	{0} Procedure {1} invoked on meter {2}.
15194	C1219_PROCEDURE_INVOKED	Info	METER_EVENT	Standard or Manufacturer Procedure Invoked	METER	METER	{0} Procedure {1} invoked on meter {2}.
15194	C1219_PROCEDURE_INVOKED	Info	METER_EVENT	Standard or Manufacturer Procedure Invoked	METER	METER	{0} Procedure {1} invoked on meter {2}.
15195	C1219_TABLE_WRITTEN_TO	Info	METER_EVENT	Standard or Manufacturer Procedure Invoked	METER	METER	{0} Table {1} written to on meter {2}.
15195	C1219_TABLE_WRITTEN_TO	Info	METER_EVENT	Standard or Manufacturer Procedure Invoked	METER	METER	{0} Table {1} written to on meter {2}.
15195	C1219_TABLE_WRITTEN_TO	Info	METER_EVENT	Standard or Manufacturer Procedure Invoked	METER	METER	{0} Table {1} written to on meter {2}.
15196	C1219_ABNORMAL_COMM_TERM	Info	METER_EVENT	Communication Terminated Abnormally	METER	METER	Communication Terminated Abnormally.
15197	C1219_NORMAL_COMM_TERM	Info	METER_EVENT	Communication Terminated Normally	METER	METER	Communication Terminated Normally.
15198	C1219_RESET_LIST_POINTERS	Info	METER_EVENT	C1219 Reset List Pointers	METER	METER	Reset list pointers for device {0} for tables {1}
15198	C1219_RESET_LIST_POINTERS	Info	METER_EVENT	C1219 Reset List Pointers	METER	METER	Reset list pointers for device {0} for tables {1}
15199	C1219_UPDATE_LIST_POINTERS	Info	METER_EVENT	C1219 Update List Pointers	METER	METER	Updated list pointers for device {0} For Tables {1}. Number of entries confirmed: {2}
15199	C1219_UPDATE_LIST_POINTERS	Info	METER_EVENT	C1219 Update List Pointers	METER	METER	Updated list pointers for device {0} For Tables {1}. Number of entries confirmed: {2}
15199	C1219_UPDATE_LIST_POINTERS	Info	METER_EVENT	C1219 Update	METER	METER	Updated list pointers for

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
	ST_POINTERS			List Pointers		R	device {0} For Tables {1}. Number of entries confirmed: {2}
15200	C1219_HISTORY_LOG_CLEARED	Info	METER_EVENT	C1219 History Log Cleared	METER	METER	History log cleared on device {0}
15201	C1219_HISTORY_LOG_UPDATED	Info	METER_EVENT	C1219 History Log Updated	METER	METER	History log updated on device {0} to value {1}
15201	C1219_HISTORY_LOG_UPDATED	Info	METER_EVENT	C1219 History Log Updated	METER	METER	History log updated on device {0} to value {1}
15202	C1219_EVENT_LOG_UPDATED	Info	METER_EVENT	C1219 Event Log Updated	METER	METER	Event log updated on device {0} to value {1}
15202	C1219_EVENT_LOG_UPDATED	Info	METER_EVENT	C1219 Event Log Updated	METER	METER	Event log updated on device {0} to value {1}
15203	C1219_EVENT_LOG_CLEARED	Info	METER_EVENT	C1219 Event Log Cleared	METER	METER	Event log cleared on device {0}
15204	C1219_DST_TIME_ON	Info	METER_EVENT	C1219 Daylight Savings Time On	METER	METER	Daylight savings time enabled on device {0}
15205	C1219_DST_TIME_OFF	Info	METER_EVENT	C1219 Daylight Savings Time Off	METER	METER	Daylight savings time disabled on device {0}
15206	C1219_SEASON_CHANGE	Info	METER_EVENT	C1219 Season Change	METER	METER	Season changed on device {0} to season number {1}
15206	C1219_SEASON_CHANGE	Info	METER_EVENT	C1219 Season Change	METER	METER	Season changed on device {0} to season number {1}
15207	C1219_RATE_CHANGE	Info	METER_EVENT	C1219 Rate Change	METER	METER	Rate changed on device {0} to new rate {1}
15207	C1219_RATE_CHANGE	Info	METER_EVENT	C1219 Rate Change	METER	METER	Rate changed on device {0} to new rate {1}
15208	C1219_SP_SCHEDULE_ACTIVATION	Info	METER_EVENT	C1219 Rate Change	METER	METER	Special schedule activation device {0}. New special schedule {1}
15208	C1219_SP_SCHEDULE_ACTIVATION	Info	METER_EVENT	C1219 Rate Change	METER	METER	Special schedule activation device {0}. New special schedule {1}
15209	C1219_TIER_SWITCH_CHANGE	Info	METER_EVENT	C1219 Tier Switch Change	METER	METER	"Tier switch change on device {0}. New Current Tier: {1}, New Demand Tier {2}"
15209	C1219_TIER_SWITCH_CHANGE	Info	METER_EVENT	C1219 Tier Switch Change	METER	METER	"Tier switch change on device {0}. New Current Tier: {1}, New Demand Tier {2}"
15209	C1219_TIER_SWITCH_CHANGE	Info	METER_EVENT	C1219 Tier Switch Change	METER	METER	"Tier switch change on device {0}. New Current Tier: {1}, New Demand Tier {2}"
15210	C1219_PENDING_TABLE_CLEAR	Info	METER_EVENT	C1219 Pending Table Clear	METER	METER	Pending table clear on device {0}. Table: {1}

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
15210	C1219_PENDING_TABLE_CLEAR	Info	METER_EVENT	C1219 Pending Table Clear	METER	METER	Pending table clear on device {0}. Table: {1}
15211	C1219_PENDING_TABLE_ACTIVATION	Info	METER_EVENT	C1219 Pending Table Activation	METER	METER	Pending table activation on device {0}. Table: {1}
15211	C1219_PENDING_TABLE_ACTIVATION	Info	METER_EVENT	C1219 Pending Table Activation	METER	METER	Pending table activation on device {0}. Table: {1}
15212	C1219_STD_TABLE_76_EVENT	Info	METER_EVENT	C1219 Standard Table 76 Event	METER	METER	Standard C1219 event code: {1} on device: {0}
15212	C1219_STD_TABLE_76_EVENT	Info	METER_EVENT	C1219 Standard Table 76 Event	METER	METER	Standard C1219 event code: {1} on device: {0}
15213	C1219_MFG_TABLE_76_EVENT	Info	METER_EVENT	C1219 Manufacturer Table 76 Event	METER	METER	Manufacturing C1219 event code: {1} on device: {0}
15213	C1219_MFG_TABLE_76_EVENT	Info	METER_EVENT	C1219 Manufacturer Table 76 Event	METER	METER	Manufacturing C1219 event code: {1} on device: {0}
15214	METER_INVERSION	Err	METER_EVENT	Tamper Suspected: Meter has been inverted	METER	METER	Tamper Suspected: Meter has been inverted
15215	METER_INVERSION_CLEAR	Clr	METER_EVENT	C1219 Meter Inversion Clear	METER	METER	Meter Inversion clear on device {0}
15216	LG AX Service Disconnect Operation	Warn	METER_EVENT	Service Disconnect Operation	METER	METER	Service Disconnect Operation occurred for meter {0}.
15217	LG AX Logon Failure Detected	Warn	METER_EVENT	Logon Failure Detected	METER	METER	Logon Failure detected for meter {0}.
15218	LG AX Voltage Sag or Swell Started or Ended	Warn	METER_EVENT	Logon Failure Detected	METER	METER	Voltage Sag or Swell Started or Ended for meter {0}.
15219	LG AX SD switch operation error	Warn	METER_EVENT	SD switch operation error	METER	METER	SD switch operation error occurred for meter {0}.
15220	LG AX Unauthorized Requests	Warn	METER_EVENT	Unauthorized Requests	METER	METER	Unauthorized Requests occurred for meter {0}.
15221	LG AX Meter Flash Attempt	Warn	METER_EVENT	Meter Flash Attempt	METER	METER	Meter Flash Attempt occurred for meter {0}.
15222	LG AX Time adjustment	Warn	METER_EVENT	Time adjustment	METER	METER	Time adjustment (to the 32 kHz RTC based on line frequency) occurred for meter {0}.
15223	LG AX Enter stand-by mode	Warn	METER_EVENT	Enter stand-by mode	METER	METER	Meter {0} has entered stand-by mode.
15224	LG AX Exit stand-by mode	Warn	METER_EVENT	Exit stand-by mode	METER	METER	Meter {0} has exited stand-by mode.
15225	C1219 Meter shop mode started	Info	METER_EVENT	Meter shop mode started	METER	METER	Meter shop mode started for meter {0}.

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
15226	C1219 Meter shop mode stopped	Info	METER_EVENT	Meter shop mode stopped	METER	METER	Meter shop mode stopped for meter {0}.
15227	C1219 Configuration Error Detected	Info	METER_EVENT	Configuration Error Detected	METER	METER	Configuration Error Detected for meter {0}.
15228	C1219 Self Check Error Detected	Info	METER_EVENT	Self Check Error Detected	METER	METER	Self Check Error Detected for meter {0}.
15229	C1219 RAM failure Detected	Info	METER_EVENT	RAM failure Detected	METER	METER	RAM failure Detected for meter {0}.
15230	C1219 ROM failure Detected	Info	METER_EVENT	ROM failure Detected	METER	METER	ROM failure Detected for meter {0}.
15231	C1219 Nonvolatile memory failure Detected	Info	METER_EVENT	Nonvolatile memory failure Detected	METER	METER	Nonvolatile memory failure Detected for meter {0}.
15232	C1219 Clock error detected	Info	METER_EVENT	Clock error detected	METER	METER	Clock error detected for meter {0}.
15233	C1219 Measurement error detected	Info	METER_EVENT	Measurement error detected	METER	METER	Measurement error detected for meter {0}.
15234	C1219 Low battery detected	Info	METER_EVENT	Low battery detected	METER	METER	Low battery detected for meter {0}.
15235	C1219 Low loss potential detected	Info	METER_EVENT	Low loss potential detected	METER	METER	Low loss potential detected for meter {0}.
15236	C1219 Demand overload detected	Info	METER_EVENT	Demand overload detected	METER	METER	Demand overload detected for meter {0}.
15237	C1219 Tamper attempt detected	Info	METER_EVENT	Tamper attempt detected	METER	METER	Tamper attempt detected for meter {0}.
15238	C1219 Reverse rotation detected	Info	METER_EVENT	Reverse rotation detected	METER	METER	Reverse rotation detected for meter {0}.
15239	C1219 Control point changed by a cmd	Info	METER_EVENT	Control point changed by a cmd	METER	METER	Control point changed by a cmd for meter {0}.
15240	C1219 Control point changed by a schedule	Info	METER_EVENT	Control point changed by a schedule	METER	METER	Control point changed by a schedule for meter {0}.
15241	C1219 Control point changed by a condition	Info	METER_EVENT	Control point changed by a condition	METER	METER	Control point changed by a condition for meter {0}.
15242	C1219 Control point changed for the prepayment	Info	METER_EVENT	Control point changed for the prepayment	METER	METER	Control point changed for the prepayment for meter {0}.
15243	C1219 Add to remaining credit	Info	METER_EVENT	Add to remaining credit	METER	METER	Add to remaining credit for meter {0}.
15244	C1219 Subtract to remaining credit	Info	METER_EVENT	Subtract to remaining credit	METER	METER	Subtract to remaining credit for meter {0}.
15245	C1219 Adjust the	Info	METER_EVENT	Adjust the	METER	METER	Adjust the remaining credit

ID	Group Name / Desc.	Sev.	Category	Description	Source	Proxy	Message
	remaining credit			remaining credit		R	for meter {0}.
15246	C1219 End device sealed	Info	METER_EVENT	End device sealed	METER	METER	End device sealed for meter {0}.
15247	C1219 End device unsealed	Info	METER_EVENT	End device unsealed	METER	METER	End device unsealed for meter {0}.
15248	C1219 Procedure invoked	Info	METER_EVENT	Procedure invoked	METER	METER	Procedure invoked for meter {0}.
15249	C1219 Table Written to	Info	METER_EVENT	Table Written to	METER	METER	Table Written to for meter {0}.
15250	Recoverable Error Health Flag	Err	METER_EVENT	A recoverable error occurred.	METER	METER	Meter Error: A recoverable error occurred
15251	Recoverable Error Flag Cleared	Clr	METER_EVENT	Cleared: A recoverable error flag	METER	METER	"Event, Recoverable error flag has been cleared."
15252	Low Voltage Error Health Flag	Err	METER_EVENT	Low voltage detected.	METER	METER	Meter Error: Low voltage detected
15253	Low Voltage Error Flag Cleared	Clr	METER_EVENT	Cleared: Low Voltage error flag	METER	METER	"Event, Low voltage error flag has been cleared."
15254	Battery Error Health Flag	Err	METER_EVENT	A Battery Error detected.	METER	METER	Meter Error: Battery error detected
15255	Battery Error Flag Cleared	Clr	METER_EVENT	Cleared: Battery error flag	METER	METER	Battery error flag has been cleared.
15300	Potentials Loss/Restored	Info	METER_EVENT	Potentials Loss/Restored	METER	METER	Potentials Loss/Restored for meter {0}.
16995	KV2C_LINEBREAK	Clr	METER_EVENT	For Line Break	METER	METER	{0}
16996	KV2C Current	Clr	METER_EVENT	kV2C Current Argument	METER	METER	Current: Phase(s) {0}
16997	KV2C Voltage	Clr	METER_EVENT	kV2C Voltage Argument	METER	METER	Voltage: Phase(s) {0}
16998	KV2C Total	Clr	METER_EVENT	kV2C Total Argument	METER	METER	Total.
16999	KV2C Phase	Clr	METER_EVENT	kV2C Phase Argument	METER	METER	