Revenue Metering Reports
IESO Implementation Guide for EDI867 Meter Data

GDE-139

Public

ieso
Independent Electricity
System Operator

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Document Change History

Issue	Reason for Issue	Date
1.0	Baseline Release 34.0	September 9, 2015
2.0	For compliance of the Accessibility for Ontarians with Disabilities Act (AODA)	October 27 2020

Table of Changes

Reference (Section and Paragraph)	Description of Change
None Yet	None.

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1.   Introduction

This document describes the implementation to be used for the Ontario electric meter read data transfer and is based on the EDI-867 implementations in use in other jurisdictions. The general parameters for the EDI-867 transfer set for use in the utility industry were developed by the Utility Industry Working Group. Meter reading data will be provided by the IESO to market participants in the format described in this document.

1.1   Document Conventions

This document follows several conventions. In each segment description there are columns labeled, Req, Max Use, Repeat, Note, and Usage. These columns are as follows:

Loop Structure:

Req   Indicates whether a field is Mandatory, Conditional or Optional within the general EDI-867 framework. Mandatory indicates the value is always required for a valid EDI-867. Conditional indicates a value may be required, being dependent on previous values or other conditions. Optional means the value is not required for a valid EDI-867, but may be used.

Max Use   Indicates the maximum number of times an element may be used with a given segment or loop.

Repeat   Indicates the maximum (e.g. 5) or minimum (e.g., > 1) number of times a loop must be present.

Usage   Indicates the actual usage under this implementation. This field may be "used" or "must use". "Must use" indicates that the value must be present, regardless of whether it is optional in the broader EDI spec, for proper data distribution under this implementation. "Used" indicates that the value is used based on the conditions outlined within the specification.

Element Structure:

Req   Indicates whether a field is Mandatory, Conditional or Optional within the general EDI-867 framework. Mandatory indicates the value is always required for a valid EDI-867. Conditional indicates a value may be required, being dependent on previous values or other conditions. Optional means the value is not required for a valid EDI-867, but may be used.

Type   Indicates the type of the value contained within the elements. Types include ID – specially defined identifier, AN – alphanumeric string, DT – date-time string.

Min/Max   Indicates the minimum and maximum number of characters within the field. Note: fixed length fields (fields where the maximum and minimum are the same) will be right padded with spaces to the end of the field.

Usage	Indicates the actual usage under this implementation. This field may be "used" or "must use". "Must use" indicates that the value must be present, regardless of whether it is optional in the broader EDI spec, for proper data distribution under this implementation. "Used" indicates that the value is used by trading partners in this implementation based on the conditions outlined within the specification.

The term "Metering System identifier" is used throughout this document. A Metering System identifier can represent a Delivery Point, a Summary Meter or a Meter Point.

1.2   Assumptions and Limitations

The UIG EDI-867 specification, release 4010 recommends against the use of "ZZ" qualifier. "ZZ" is used to indicate mutually defined identifiers between trading partners. In general avoiding "ZZ" represents a best practice. Rather than create special identifiers, use ones that already exist and are maintained by a neutral third party. However, the "ZZ" qualifier is used at several points in this implementation. When the "ZZ" qualifier is used it represents an identifier which is supplied by the IESO itself, and which market participants must follow in order to retrieve data from the IESO.

Fields and segments not in use in this implementation guide are not listed. Please note that element reference is positional. Thus, if an element is not included in a segment, element delimiters are still required. For example, if a segment includes the QQ101, QQ103 and QQ104 elements, the output will look like the following:

QQ*Data for 101**Data for 103*Data for 104

Note: the pair of element delimiters (in this case asterisks) with nothing between them in the QQ102 position.

– End of Section –

<table>
<tr><td>867</td><td>Product Transfer and Resale Report</td></tr>
<tr><td></td><td>Functional Group = PT</td></tr>
</table>

2. Electronic Data Interchange(EDI) 867 Format Structure

This proposed interchange standard contains the format and establishes the data contents of the Product Transfer and Resale Report Transaction Set (867) for use within the context of an Electronic Data Interchange (EDI) environment. The transaction set can be used to: (1) report information about product that has been transferred from one location to another; (2) report sales of product from one or more locations to an end customer; or (3) report sales of a product from one or more locations to an end customer, and demand beyond actual sales (lost orders). Report may be issued by either buyer or seller.

Transaction Control Header:

Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage
	ISA	Interchange Control Header	M	1			Must use
	GS	Functional Group Header	M	1			Must use

Heading:

Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage
010	ST	Transaction Set Header	M	1			Must use
020	BPT	Beginning Segment for Product Transfer and Resale	M	1			Must use

LOOP ID – N1 (Repeat 5)

Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage
080	N1	Name	O	3			Must use
120	REF	Reference Identification	O	2			Must use

Detail:

LOOP ID – PTD (Repeat >1)

Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage
010	PTD	Product Transfer and Resale Detail	M	1		N2/010	Must use
030	REF	Reference Identification	O	10			Used

LOOP ID – QTY (Repeat >1)

Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage
110	QTY	Quantity	O	1			Must use
160	MEA	Measurements	O	1			Used
190	REF	Reference Identification	O	2			Used
210	DTM	Date/Time Reference	O	2			Used

Summary:

Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage
030	SE	Transaction Set Trailer	M	1			Must use

Transaction Control Trailer:

Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage
	GE	Functional Group Trailer	M	1			Must use
	IEA	Interchange Control Trailer	M	1			Must use

Notes:

Each use of the PTD loop will represent one meter channel.

ISA	**Interchange Control Header**	Pos: Max: 1 Mandatory Loop: N/A Elements: 16

2.1   Interchange Control Header

This segment is used to start and identify an interchange of zero or more functional groups and interchange-related control segments. The ISA segment explicitly uses fixed length fields.

Element Summary:

Ref	ID	Element Name	Req	Type	Min/Max	Usage
ISA01	I01	**Authorization Information Qualifier** **Description:** Code to identify the type of information in the Authorization Information field **Code Name** 00 No Authorization Information present. (No meaningful information in I02.) **Note:** No other codes are supported in this implementation at this time.	M	ID	2/2	Must Use
ISA02	I02	**Authorization Information** **Description:** Information used for additional identification or authorization of the interchange sender or the data in the interchange; the type of information is set by the Authorization Information Qualifier. (I01)	M	AN	10/10	Must Use
ISA03	I03	**Security Information Qualifier** **Description:** Code to identify the type of information in the Security Information field. **Code Name** 00 No Security Information present. (No meaningful information in I04.) **Note:** No other codes are supported in this implementation at this time.	M	ID	2/2	Must Use
ISA04	I04	**Security Information** **Description:** This is used for identifying the security information about the interchange sender or the data in the interchange; the type of information is set by the Security Information Qualifier (I03)	M	AN	10/10	Must Use

Ref	ID	Element Name	Req	Type	Min/Max	Usage
ISA05	I05	**Interchange ID Qualifier** **Description:** Qualifier to designate the system/method of code structure used to designate the sender or receiver ID element being qualified **<u>Code</u> <u>Name</u>** ZZ Mutually Defined **Note:** No other codes are supported in this implementation at this time.	**M**	**ID**	**2/2**	**Must Use**
ISA06	I06	**Interchange Sender ID** **Description:** Identification code published by the sender for Other parties to use as the receiver ID to route data to them; the sender always codes this value in the sender ID element	**M**	**AN**	**15/15**	**Must Use**
ISA07	I05	**Interchange ID Qualifier** **Description:** Qualifier to designate the system/method of code structure used to designate the sender or receiver ID element being qualified **<u>Code</u> <u>Name</u>** ZZ Mutually Defined **Note:** No other codes are supported in this implementation at this time.	**M**	**ID**	**2/2**	**Must Use**
ISA08	I07	**Interchange Receiver ID** **Description:** Identification code published by the receiver of the data; When sending, it is used by the sender as their sending ID, thus other parties sending to them will use this as a receiving ID to route data to them.	**M**	**AN**	**15/15**	**Must Use**
ISA09	I08	**Interchange Date** **Description:** Date of the interchange. Date expressed as YYMMDD	**M**	**DT**	**6/6**	**Must Use**
ISA10	I09	**Interchange Time** **Description:** Time of the interchange. Time expressed in 24-hour clock time HHMM	**M**	**TM**	**4/4**	**Must Use**
ISA11	I10	**Interchange Control Standards Identifier** **Description:** Code to identify the agency responsible for the control standard used by the message that is enclosed by the interchange header and trailer.	**M**	**ID**	**1/1**	**Must Use**

Ref	ID	Element Name	Req	Type	Min/Max	Usage
		Code Name UUS EDI Community of ASC X.12, TDCC, and UCS **Note:** No other codes are supported in this implementation at this time.				
ISA12	I11	**Interchange Control Version Number** **Description:** This version number covers the interchange control segments. **Code Name** 401 Draft Standards for Trial Use Approved for Publication by ASC X12 Procedures Review Board through October 1997 **Note:** No other codes are supported in this implementation at this time.	M	ID	5/5	Must Use
ISA13	I12	**Interchange Control Number** **Description:** A control number assigned by the interchange sender.	M	NO	9/9	Must Use
ISA14	I13	**Acknowledgment Requested** **Description:** Code sent by the sender to request an interchange acknowledgment (TA1) **Code Name** 0 No acknowledgement required **Note:** No other codes are supported in this implementation at this time.	M	ID	1/1	Must Use
ISA15	I14	**Usage Indicator** **Description:** Code to indicate whether data enclosed by this Interchange envelope is test, production or information. **Code Name** P Production Data T Test Data **Note:** No other codes are supported in this implementation at this time.	M	ID	1/1	Must Use
ISA16	I15	**Component Element Separator** **Description:** The component element separator is a delimiter and not a data element so "Type" is not applicable. This field provides the delimiter used to	M		1/1	Must Use

Ref	ID	Element Name	Req	Type	Min/Max	Usage
		separate component data elements within a composite data structure; this value must be different than the data element separator and the segment terminator. The Component Element Separator will always be a colon in this implementation. Composite fields are not used in this implementation.				

Example:

ISA*00*……*00*……*ZZ*0……*ZZ*123456……*150508*0648*U*00401*000015538*0*P*:

2.2   Functional Group Header

This segment is used to indicate the beginning of a functional group and to provide control information.

Semantics:

1. GS04 is the group date.
2. GS05 is the group time.
3. The data interchange control number GS06 in this header must be identical to the same data element in the associated functional group trailer, GE02.

Comments:

1. A functional group of related transaction sets, within the scope of X12 standards, consists of a collection of similar transaction sets enclosed by a functional group header and a functional group trailer.

Element Summary:

Ref	ID	Element Name	Req	Type	Min/Max	Usage
GS01	**479**	**Functional Identifier Code** **Description:** Code identifying a group of application related transaction sets. **Code Name** PT Product Transfer and Resale Report (867) **Note:** No other codes are supported in this implementation at this time.	**M**	**ID**	**2/2**	**Must Use**
GS02	**142**	**Application Sender's Code** **Description:** Code identifying party sending transmission; codes agreed to by trading partners.	**M**	**AN**	**2/15**	**Must Use**
GS03	**124**	**Application Receiver's Code** **Description:** Code identifying party receiving transmission. Codes agreed to by trading partners.	**M**	**AN**	**2/15**	**Must Use**
GS04	**373**	**Date** **Description:** Date expressed as CCYYMMDD	**M**	**DT**	**8/8**	**Must Use**
GS05	**337**	**Time** **Description:** Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99)	**M**	**TM**	**4/8**	**Must Use**

Ref	ID	Element Name	Req	Type	Min/Max	Usage
GS06	28	**Group Control Number** **Description:** Assigned number originated and maintained by the Sender	**M**	**NO**	**1/9**	**Must Use**
GS07	455	**Responsible Agency Code** **Description:** Code used in conjunction with Data Element 480 to Identify the issuer of the standard. **Code Name** X Accredited Standards Committee X12 **Note:** No other codes are supported in this implementation at this time.	**M**	**ID**	**½**	**Must Use**
GS08	480	**Version / Release / Industry Identifier Code** **Description:** Code indicating the version, release, sub-release, and industry identifier of the EDI standard being used, including the GS and GE segments; if code in DE455 in GS segment is X, then in DE 480 positions 1-3 are the version number; positions 4-6 are the release and sub-release, level of the version; and positions 7-12 are the industry or trade association identifiers (optionally assigned by user); if code in DE455 in GS segment is T, then other formats are allowed. **Code Name** 004010 Draft Standards Approved for Publication by ASC X12 Procedures Review Board through October 1997 **Note:** No other codes are supported in this implementation at this time.	**M**	**AN**	**1/12**	**Must Use**

Example:

-…GS*PT*0*102217*20150508*0648*15538*X*0040101

ST	**Transaction Set Header**	Pos: 010 Max: 1 Heading – Mandatory Loop: N/A Elements: 2

2.3   Transaction Set Header

This segment is used to indicate the start of a transaction set and to assign a control number.

Semantics:

1. The transaction set identifier (ST01) used by the translation routines of the interchange partners to select the appropriate transaction set definition (e.g., 810 selects the Invoice Transaction Set).

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
ST01	**143**	**Transaction Set Identifier Code** **Description:** Code uniquely identifying a Transaction Set **Code Name** 867 Product Transfer and Resale Report	**M**	**ID**	**3/3**	**Must use**
ST02	**329**	**Transaction Set Control Number** **Description:** Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set. **Note:** This number is used to pair the Transaction Set Header with the Transaction Set Trailer. In EDI formats where multiple ST segments can occur, this control number is very important to maintaining the integrity of the file. In this EDI-867 implementation, only one ST loop is allowed per file. Because of this restriction this value will always be 0001.	**M**	**AN**	**4/9**	**Must use**

Example:

ST*867*0001

BPT	Beginning Segment for Product Transfer and Resale	Pos: 020 Max: 1 Heading - Mandatory Loop: N/A Elements: 5

2.4 Beginning Segment for Product Transfer and Resale

This segment is used to indicate the beginning of the Product Transfer and Resale Report Transaction Set and transmit identifying data.

Semantics:

1. BPT02 identifies the report number.

2. BPT03 identifies the report date.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
BPT01	353	**Transaction Set Purpose Code** **Description:** Code identifying purpose of transaction set **Code Name** 00 Original **Description:** Conveys original readings for the account being reported. Use for both Inbound and Outbound transactions **Note:** No other codes are supported in this implementation at this time. The full UIG EDI-867 specification does allow for other codes.	M	ID	2/2	**Must use**
BPT02	127	**Reference Identification** **Description:** Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier. It is a unique transaction identification number assigned by the originator of this transaction. **Note:** This number should be unique for every EDI-867 file produced by a given system. If trading partners are using multiple systems, this identifier may not be unique.	O	AN	1/30	**Used**
BPT03	373	**Date** **Description:** Date expressed as CCYYMMDD. Transaction Creation Date	M	DT	8/8	**Must Use**

Ref	Id	Element Name	Req	Type	Min/Max	Usage
BPT04	755	**Report Type Code** **Description:** Code indicating the title or contents of a document, report or supporting item **Code Name** C1 Cost Data Summary **Description:** Interval readings **Note:** No other codes are supported in this implementation at this time. The full UIG EDI-867 specification does allow for other codes.	O	ID	2/2	Used
BPT09	127	**Reference Information** **Description:** Code indicating the report type of the meter data EDI file **Note:** For Meter Data Report Profiles, the reference information is formatted as Participant Role-Report Type e.g. MMP-TMD-WL. For Ad-Hoc Requests, the reference information is formatted as MD-AD-HOC-Request ID e.g. MD-AD-HOC-12345	O	AN	1/30	Used

Example:

BPT*00*15538*20150508*C1*****MMP-TMD-WL (Meter Data Report Profile Totalized Meter Data with losses for MMP participant role)
BPT*00*15538*20150508*C1*****MMP-TMD-WOL (Meter Data Report Profile Totalized Meter Data without losses for MMP participant role)
BPT*00*15538*20150508*C1*****MMP-VMD (Meter Data Report Profile Validated Meter Data for MMP participant role)
BPT*00*15538*20150508*C1*****MD-AD-HOC-12345 (Meter Data Ad-Hoc Request)

2.5   Name of Organization and Type

This segment is used to identify a party by type of organization, name, and code.

Syntax:

1. N103 is required. N102 is not used for processing purposes. Note: the UIG EDI-867 specification allows for either N102 or N103 to be used. This implementation requires N103 exclusively.
2. If either N103 or N104 are present, then the others are required.

Comments:

1. This segment, used alone, provides the most efficient method of providing organizational identification. To obtain this efficiency the "ID Code" (N104) must provide a key to the table maintained by the transaction processing party.
2. Two N1 segments will be used in this implementation. One identifying the originator of the transaction, the other identifying the receiver of the transaction. This is specific to the Independent Electricity System Operator and differs from the UIG specification.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N101	98	**Entity Identifier Code** **Description:** Code identifying an organizational entity, a physical location, property or an individual **Code Name** 8S Exchanger **Description:** Used to identify the organization (i.e., the IESO) operating the market. SJ Service Provider **Description:** Market Participant (MP) **Note:** No other codes are supported in this implementation at this time. The full UIG EDI-867 specification does allow for other codes.	M	ID	2/3	**Must Use**
N102	93	**Name** **Description:** Free-form name, this name if used is only for clarity of the transaction. Not used in processing, not verified consistent with N104. This should be the short name of the participant. The IESO itself will be identified by "Independent Electricity System Operator". **Note:** This field is not used for processing by the IESO. It is not recommended that this field be used for processing by participants.	C	AN	1/60	Used

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N103	66	**Identification Code Qualifier** **Description:** Code designating the system/method of code structure used for Identification Code (67) **Code Name** Mutually Defined - **Note:** No other codes are supported in this implementation at this time. The full UIG EDI-867 specification does allow for other codes.	C	ID	1/2	**Must Use**
N104	67	**Identification Code** **Description:** Code identifying a party or other code. This will be the Organization ID of the participant as assigned by the IESO. The IESO itself will be identified by the code "0".	C	AN	2/80	**Used**
N106	98	**Entity Identifier Code** **Description:** Code identifying an organizational entity, a physical location, property or an individual **Code Name** 40 Receiver **Description:** Entity to accept transmission 41 Submitter **Description:** Entity transmitting transaction set **Note:** The entity providing the data (in this case the IESO) will always be considered the Submitter. The entity receiving the data (in this case the participant) will always be considered the Receiver. Use of these codes may change with transactions between other trading partners.	O	ID	2/3	**Must Use**

Example:

N1*8S*Independent Electricity System Operator*ZZ*0**41

N1*SJ*Big Electric Co*ZZ*123456**40

Note:

The UIG spec allows for the use of N2, N3, and N4 segments. These segments provide additional information regarding address and location. These segments are not used in this implementation.

REF	Reference Identification	Pos: 120 Max: 2
		Heading - Optional
		Loop: N1 Elements:2

2.6 Reference Identification

This segment is used to specify identifying information.

Comments:

1. Only one REF01 code is required.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
REF01	128	**Reference Identification Qualifier** **Description:** Code qualifying the Reference Identification **Code Name** LU Location Number **Note:** No other codes are supported in this implementation at this time. The full UIG EDI-867 specification does allow for other codes.	M	AN	2/3	Must Use
REF02	127	**Reference Identification** **Description:** This represents the Metering System Identifier or the word "ALL" for reports on all meters under contract for a given report. These IDs are assigned to points by the IESO based on the selected service point options in your meter data report profile or the ad-hoc meter data report request. ALLDP = All Delivery Points ALLSP = All Summary Points ALLMP = All Meter Points ALLDP+ALLSP = All Delivery Points and Summary Points ALLDP+ALLMP = All Delivery Points and Meter Points ALLSP+ALLMP = All Summary Points and Meter Points ALL = ALLDP + ALLSP + ALLMP DP = One or more Delivery Point	C	AN	1/30	Must Use

Example:

REF*LU*ALL

PTD	**Product Transfer and Resale Detail**	Pos: 010 Max: 1 Detail - Mandatory Loop: PTD Elements: 3

2.7　　　Product Transfer and Resale Detail

This segment is used to indicate the start of detail information relating to the transfer/resale of a product and provide identifying data. Each PTD represents one meter channel.

Syntax:

1.　If either PTD04 or PTD05 is present, then the other is required.

Comments:

Each PTD loop will represent a meter channel, whether demand, monthly, or detailed interval data.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PTD01	521	**Product Transfer Type Code** **Description:** Code identifying the type of product transfer **Code Name** PM Physical Meter Information 　　　**Description:**　Individual meter installation. **Note:** No other codes are supported in this implementation at this time. The full UIG EDI-867 specification does allow for other codes.	M	ID	2/2	**Must Use**
PTD04	128	**Reference Identification Qualifier** **Description:** Code qualifying the Reference Identification. The Reference Identification Qualifier will always be "OZ" for this implementation. **Code Name** OZ Product Number **Note:** No other codes are supported in this implementation at this time. The full UIG EDI-867 specification does allow for other codes.	C	ID	2/3	**Used**
PTD05	127	**Reference Identification** **Description:** Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier **Code Name** EL Electric Service **Note:** No other codes are supported in this implementation at this time. The full UIG EDI-867 specification does allow for other codes.	C	AN	1/30	**Used**

Example:

PTD*PM***OZ*EL

2.8   Reference Identification

This segment is used to specify identifying information.

Comments:

1. At least three REF records are required for every PTD loop: LU, MT, and MG if metered service - LU, MT, and SC if un-metered service.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
REF01	128	**Reference Identification Qualifier** **Description:** Code qualifying the Reference Identification **Code Name** 6W Sequence Number **Description:** Optional channel number. Only used when there is more than one channel on a meter measuring the same quantity (e.g. two KWh channels). LU Location Number **Description:** *Required.* The Metering System identifier as assigned by the IESO. Note: This reference is not necessarily numeric. MG Meter Number **Description:** *Required.* The physical meter serial number or seal number. MT Meter Type **Description:** *Required.* Used to identify the type of consumption measured by this meter and channel. Defines the interval between measurements. See REF02 for examples. **Note:** No other codes are supported in this implementation at this time. The full UIG EDI-867 specification does allow for other codes.	M	ID	2/3	Must Use
REF02	127	**Reference Identification** **Description:** Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier **User Note 3:** When REF01 is MT, the meter type is expressed as a 5-character field. The first two characters are the type of consumption, expressed as:	C	AN	1/30	Must Use

Ref	Id	Element Name	Req	Type	Min/Max	Usage
		K3 – Kilovolt Amperes Reactive Hour KH – Kilowatt Hour 68 – Amperes (represented in Ampere Squared Hours) 70 – Volts (represented in Volt Squared Hours) The next three-characters are the metering interval, expressed as: NNN = number of minutes; from 001 to 999 in factors or multiples of 5 Examples: KH005 5-minute interval data. KH015 15-minute interval data. KH060 Hourly interval data.				
REF03	352	**Description** **Description:** A free form description to clarify the related data elements and their content.	C	AN	1/80	Used

Example:

REF*6W*1*
REF*LU*1000099999*
REF*MG*R19362006*
REF*MT*KH005*

2.9 Quantity

This segment is used to specify quantity information.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
QTY01	673	**Quantity Qualifier** **Description:** Code specifying the type of quantity <u>Code Name</u> 87 Quantity Received. **Description:** Used to indicate power flow into the grid. QD Quantity Delivered. **Description:** Used to indicate power flow out of the grid. **Note:** No other codes are supported in this implementation at this time. The full UIG EDI-867 specification does allow for other codes.	M	ID	2/2	**Must Use**
QTY02	380	**Quantity** **Description:** Numeric value of quantity	C	R	1/15	**Must Use**
QTY03	C001	**Composite Unit of Measure** **Description:** To identify a composite unit of measure.	O	Comp		**Used**
	355	**Unit or Basis for Measurement Code** **Description:** Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken <u>Code Name</u> 68 Amperes **Description:** Amperes squared hours. Note: If this value is reported on multiple channels for the same meter, it can be assumed to be per phase. Also, this usage of Measurement Code 68 is non-standard. 70 Volts **Description:** Volts squared hours. Note: If this value is reported on multiple channels for the same meter, it can be assumed to be per phase. Also, this usage of Measurement Code 70 is non-standard.	M	ID	2/2	**Must Use**

Ref	Id	Element Name	Req	Type	Min/Max	Usage
		K3 Kilovolt Amperes Reactive Hour (KVARH) **Description:** The total reactive energy delivered to the load, the product of reactive power (kVAR) and the length of time (hours). Reactive energy is energy that cannot perform any work. KH Kilowatt Hour (KWH) **Description:** The total real energy delivered to the load, the accumulation of the product of real power (KW) and time in hours. Real energy is energy that can perform actual work. **Note:** No other codes are supported in this implementation at this time. The full UIG EDI-867 specification does allow for other codes.				

Example:

QTY*QD*152.71*KH

2.10   Measurements

This segment is used to specify physical measurements or counts, including dimensions, tolerances, variances, and weights.

Syntax:

1.   At least one of MEA03, MEA05, MEA06 is required.
2.   If MEA07 is present, then at least one of MEA03, MEA05 or MEA06 is required.

Semantics:

1.   MEA04 defines the unit of measure for MEA03, MEA05, and MEA06.

Comments:

1.   On the MEA record, the beginning and ending read are always provided for all KH and K3 type measurements, except interval reads.

2.   On the MEA record, when interval reads are being provided the interval pulse count may be provided in MEA06.

3.   MEA05 and MEA06 will not be used by the Independent Electricity System Operator.

4.   The first QTY loop must contain a MEA segment.

5.   It is not necessary to provide an MEA segment for each subsequent QTY loop. Add an MEA segment only when the attributes of the measurement change.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
MEA01	**737**	**Measurement Reference ID Code** **Description:** Defines the quality of the meter read defined in MEA05 & MEA06. Code Name 　The following four codes are required for monthly usage reads to qualify fields five and six. Not used for interval reads. AA Meter reading-beginning actual/ending actual 　AE　Meter reading-beginning actual/ending estimated 　EA　Meter reading-beginning estimated/ending actual 　EE　Meter reading-beginning estimated/ending estimated **Note**: **This field will not be used in data transfers from the Independent Electricity System Operator**.	**O**	**ID**	**2/2**	**Used**
MEA02	**738**	**Measurement Qualifier**	**O**	**ID**	**1/3**	**Used**

Ref	Id	Element Name	Req	Type	Min/Max	Usage
		Description: Code identifying a specific product or process characteristic to which a measurement applies **Code** **Name** MU Multiplier **Required for non-interval usage.** **Note:** No other codes are supported in this implementation at this time. The full UIG EDI-867 specification does allow for other codes.				
MEA03	**739**	**Measurement Value** **Description:** The value of the measurement and only used if MEA02=MU **User Note 1:** Represents the meter constant when MEA02 = "MU". When no multiplier is present, use a value of "1".	**C**	**R**	**1/20**	**Used**
MEA04	**C001**	**Composite Unit of Measure** **Description:** To identify a composite unit of measure	**C**	**Comp**		**Used**
	355	**Unit or Basis for Measurement Code** **Description:** Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken. This should be the same as that found on the QTY record. **Code** **Name** 68 Amperes **Description:** Amperes squared hours. Note: If this value is reported on multiple channels for the same meter, it can be assumed to be per phase. Also, this usage of Measurement Code 68 is non-standard. 70 Volts **Description:** Volts squared hours. Note: If this value is reported on multiple channels for the same meter, it can be assumed to be per phase. Also, this usage of Measurement Code 70 is non-standard. K3 Kilovolt Amperes Reactive Hour (KVARH) **Description:** The total reactive energy delivered to the load, the product of reactive power (kVAR) and the length of time (hours). Reactive energy is energy that cannot perform any work. KH Kilowatt Hour (KWH) **Description:** The total real energy delivered to the load, the product of real power (KW) and length	**M**	**ID**	**2/2**	**Must Use**

Ref	Id	Element Name	Req	Type	Min/Max	Usage
		of time (hours). Real energy is energy that can perform actual work.				
MEA07	935	**Measurement Significance Code** **Description:** Code used to benchmark, qualify or further define usage conveyed in QTY02. **Code** **Name** 03 Approximately – used for readings created through meter disaggregation or compliance aggregation. 22 Actual – normal usage passed validation (included non-metered) 39.Substitute – plugging from alternate Meter 46 Estimated – estimated usage. 88 Edited **Note:** No other codes are supported in this implementation at this time. The full UIG EDI-867 specification does allow for other codes.	O	ID	2/2	Used

Example:

MEA**MU*12000.0*KH***22

2.11 Reference Identification

This segment is used to specify identifying information.

Syntax:

1. At least one of REF02 or REF03 is required.

Notes:

1. This segment is required when the MEA07 = 46 (estimated) or when MEA07 = 31 (calculated).

2. When MEA07 = 46, REF02 must be populated.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
REF01	128	**Reference Identification Qualifier** **Description:** Code qualifying the Reference Identification – Estimation Type Code Code Name ESN Estimate Sequence Number	M	ID	2/3	Must Use
REF02	127	**Reference Identification** **Description:** Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier. These codes are specific to the Independent Electricity System Operator. When MEA07=46 (estimated), this field contains the type of estimation performed. Code Name HISTORICAL Historical Estimation LINEAR Linear Point to Point Interpolation REDUNDANT Data Substituted from an alternate Meter	C	AN	1/30	Used

Example:

REF*ESN*HISTORICAL*

DTM	**Date/Time Reference**	**Pos: 210 Max: 2** **Detail - Optional** **Loop: QTY Elements:3**

2.12   Date / Time Reference

This segment is used to specify pertinent dates and times.

Syntax:

1.   If either DTM05 or DTM06 is present, then the other is required.

Notes:

1.   Date Time Entries are provided in Eastern Standard Time.

Comments:

1.   The first QTY loop must contain a set of DTM segments.
2.   It is not necessary to provide a set of DTM segments for subsequent QTY loops. Add a set of DTM segments only when there is a gap in interval data.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
DTM01	374	**Date/Time Qualifier** **Description:** Code specifying type of date or time, or both date and time **CodeName** 150 Service Period Start (Interval Start) 151 Service Period End (Interval End)	M	ID	3/3	**Must Use**
DTM05	1250	**Date Time Period Format Qualifier** **Description:** Code indicating the date format, time format, or date and time format **CodeName** D8 Date Expressed in Format CCYYMMDD When D8 is used the time is assumed to default to 0000. DT Date and Time Expressed in Format CCYYMMDDHHMM	C	ID	2/3	**Must Use**
DTM06	1251	**Date Time Period** **Description:** Expression of a date, a time, or range of dates, times or dates and times.	C	AN	1/35	**Used**

Example:

DTM*150****DT*200007180000
DTM*151****DT*200007180005

SE	**Transaction Set Trailer**	**Pos: 030 Max: 1** **Summary - Mandatory** **Loop: N/A Elements: 2**

2.13   Transaction Set Trailer

To indicate the end of the transaction set and provide the count of the transmitted segments (including the beginning (ST) and ending (SE) segments).

Comments:

1. SE is the last segment of each transaction set.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SE01	**96**	**Number of Included Segments** **Description:** Total number of segments included in a transaction set including ST and SE segments	**M**	**NO**	**1/10**	**Must Use**
SE02	**329**	**Transaction Set Control Number** **Description:** Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set	**M**	**AN**	**4/9**	**Must Use**

Example:

SE*1136*0001

GE	**Functional Group Trailer**	**Pos: Max: 1** **Mandatory** **Loop: N/A Elements: 2**

2.14 Functional Group Trailer

This segment is used to indicate the end of a functional group and to provide control information.

Semantics:

1. The data interchange control number GE02 in this trailer must be identical to the same data element in the associated functional group header, GS06.

Comments:

1. The use of identical data interchange control numbers in the associated functional group header and trailer is designed to maximize functional group integrity. The control number is the same as that used in the corresponding header.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
GE01	**97**	**Number of Transaction Sets Included** **Description:** Total number of transaction sets included in the functional group or interchange (transmission) group terminated by the trailer containing this data element	**M**	**NO**	**1/6**	**Must Use**
GE02	**28**	**Group Control Number** **Description:** Assigned number originated and maintained by the sender.	**M**	**NO**	**1/9**	**Must Use**

Example:

GE*1*636

IEA	**Interchange Control Trailer**	Pos: Max: 1 Mandatory Loop: N/A Elements: 2

2.15 Interchange Control Trailer

To define the end of an interchange of zero or more functional groups and interchange-related control segments.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
IEA01	I16	**Number of Included Functional Groups** **Description:** A count of the number of functional groups included in an interchange.	M	NO	1/5	Must Use
IEA02	I12	**Interchange Control Number** **Description:** A control number assigned by the interchange sender.	M	NO	9/9	Must Use

Example:

IEA*1*636362649

– End of Section –

References

Document Title	Document ID
None Yet.	None.

Related Documents

Document Title	Document ID
Revenue Metering Reports – Importing and Reading the IESO EDI-867 Meter Data File	*GDE-140*

– End of Document –