Electronic Data Interchange Implementation Guide

TRANSACTION SET

867

Version 4010

(Last update July 12, 2006)

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Summary of Changes

June 30, 1999	Initial Release 867 v.4010.
December 20, 1999	Added Interchange Control Structures (Envelope Data).
February 16, 2000	Added Quantity Received, Quantity Qualifier of 87 to indicate co-generation quantity put into the grid.
March 20, 2000	Added REF|MT|KH015CG to page 28 and updated REF02 127
September 25, 2000	Added MEA07 codes 41, 42, 43 to page 28.
September 27, 2001	Added GAS, Gas Service in PTD05 to page 23. Added GS in REF02 to page 26. Added notes to MEA02 and notes to C00101 on page 28.
December 4, 2002	Added BPT07 codes 73, RA, TS on page 19. To be used for Gas Daily Usage Consumption Files. Added 5B code on page 22.
December 24, 2003	Added new contact person and the e-mail address Maden@pge.com, page 6. Added word "Outbound" in the example, page 13, Added note under ISA07, page 13. Deleted some functional codes for GS01, page 16. Added "DA XREF in notes under REF01 12, page 22. Added "CF" under MEA02, page 28.
March 1, 2004	Added new contact on page 6 EDISupport@pge.com

PACIFIC GAS AND ELECTRIC SET-UP AND CONTACT INFORMATION

Internet Server File Naming:
Inbound File From ESP→LDC: ESP Short_Name+CCYY,MM,DD,HH,MM,SS
Example epmi.19990729123400
Outbound File From LDC→ESP: ESP Short_Name+CCYY,MM,DD,HH,MM,SS
Example epmi.19990730120500

Pacific Gas and Electric Communication ID:
(ISA Sender ID) **00691287702**

Communications ID Qualifier:
(ISA Sender ID Qualifier) **01**

ISA Example (ESP→LDC): ISA| 00 | | 00 | | 01 | 123456789 | 01 | 006912877| 990803 | 1350 | U | 00401 | 000000123 | 0 | P | ~[a]

Outbound Data Element Delimiter	|	(Hex Value 6A)
Outbound Data Segment Terminator	[a]	(Hex Value 5F)
Outbound Data SubElement Separator	~	(Hex Value A1)

Pacific Gas and Electric's Contacts

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PG&E utilizes ANSI X12 version 004010 following the Utility Industry Guideline (**UIG**) for 004010. This document is subject to change based upon future UIG approved standards and regulatory mandates.

867 Product Transfer and Resale Report

Introduction

Pacific Gas and Electric Company's Meter Usage (867) Guideline was developed through the efforts of the CPUC's "Rule 22" Direct Access Tariff Review Committee, Operations Coordinating Committee (OCC), Meter Usage Task Force, other California Local Distribution Company (LDC) and various Electric Service Providers (ESP) and Meter Data Management Agents (MDMA). The Guideline complies with the Utility Industry Group's (UIG) 867 Implementation Standards, Version 4010.

Purpose

The purpose of the 867 Transaction Set is to communicate incoming and outgoing electric meter usage data, for Interval, Cumulative (Monthly), and Historical consumption of energy by customer account to the customer's utility.

The EDI 867 Transaction Set will replace the external use of CMEP MEPMD01 and MEPMD02 electric meter data records. This means that MDMAs, including PG&E, will place meter data on their respective servers in the EDI 867 format.

Notes

867 Product Transfer and Resale Report

Best Practices

Global Best Practices

Interchange Control Number

- A unique and sequential interchange control number should be used on every envelope that is transmitted to a trading partner. This approach will allow the receiver to audit the interchange for any duplicate or missing transmissions.

Use of Dun & Bradstreet (DUNS) Number

- Dun & Bradstreet assigns a nine-digit identification number to every business entity. This number, known as the DUNS number, should be used to identify the trading partners.

Capitalization

- The use of all upper case (capital) letters is mandatory.

Time Value

- PG&E transmits and expects to receive all information using the international standard, Universal Coordinate Time (UTC). UTC, for the purposes of this document, is simply the Greenwich Mean Time (GMT) without daylight savings time correction. UTC is an internationally recognized time representation and is actually used in nearly all of our modern computer systems, including desktop PCs.

- Meter readings, administrative operations, and billing transactions are all reported in UTC. Some account billing is based upon time-of-day which is normally defined in terms of local time. For those accounts, conversion from UTC to local time must be performed.

- Differences from UTC to PST is 8 hours, i.e. (480 minutes). PG&E's service territory local time is based on Pacific Standard Time (PST). The California UDC's have decided not to indicate a specific code in the 867 transaction set.

Transaction Set File Level

- FILE LEVEL: PG&E requires one transaction set type (i.e. 867) per file. In other words, a given file will contain a maximum of one transaction set type.

Global Best Practices - Con't

- FOLDER LEVEL: Multiple transaction sets can be sent per one folder (i.e. 867, 814, 810).

Valid Data

- PG&E will **reject** all data that is not ANSI - X12 compliant.
- PG&E will ignore codes and data content which are not explicitly stated in our 867 Implementation Guide.

Document-Specific Best Practices

Use of The N1 Segment

- When acting as an MDMA, PG&E will identify itself as both the MDMA (55) and the utility (8S). If you are the MDMA and the ESP, you will identify yourself as both the MDMA (55) and the ESP (SJ), otherwise provide a third party MDMA's Dun & Bradstreet Number.

Use of The PTD Segment

- The PTD loop conveys consumption information for one meter or multiple unit of measure and for one commodity for metered service, over a number of metering intervals. Accounts that have multiple meters or registers require multiple PTD loops. (KWH, KVARH, GKWH, GKVARH)
-
- PG&E will not summarize the total consumption from multiple meters in a separate PTD loop as allowed in the 867 Transaction Set.
-
- Non-metered accounts will be identified by the use of the SU code in the PTD02 field.

Use of The QTY Loop

- For Interval data: Each QTY/DTM loop conveys consumption/usage information about one metering interval for the meter identified in the PTD/REF segment.

- For Interval data: Each QTY/DTM(POS210) loop is required for each 15 minute interval. A DTM (Position 210) segment is required for each 15 minute interval.

- For Monthly/Cumulative data: Each QTY/MEA/DTM loop conveys consumption (usage/reads) information about one metering period for the meter identified in the PTD/REF segment.

- For Monthly/Cumulative data: MEA05 is optional. MEA06 is required. PG&E will only use MEA06 to communicate ending reads. MEA05 will not be sent. The MEA segment will only be used for Monthly/Cumulative data.

General Use

- All items marked with this symbol (**>>**) are required.

867 Product Transfer and Resale Report

Functional Group ID=PT

Introduction:

This Draft Standard for Trial Use 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.

Interchange Control Header:

Page No.	Pos. No.	Seg. ID	Name	Req. Des.	Max.Use	Loop Repeat	Notes and Comments
12	010	ISA	Interchange Control Header	M	1		
14	020	GS	Functional Group Header	M	1		

Header:

Page No.	Pos. No.	Seg. ID	Name	Req. Des.	Max.Use	Loop Repeat	Notes and Comments
16	010	ST	Transaction Set Header	M	1		
17	020	BPT	Beginning Segment for Product Transfer and Resale	M	1		
			LOOP ID - N1			5	
19	080	N1	Name	O	1		
21	120	REF	Reference Identification	O	12		

Detail:

Page No.	Pos. No.	Seg. ID	Name	Req. Des.	Max.Use	Loop Repeat	Notes and Comments
			LOOP ID - PTD			>1	
22	010	PTD	Product Transfer and Resale Detail	M	1		
23	020	DTM	Date/Time Reference	O	10		
24	030	REF	Reference Identification	O	20		
			LOOP ID - QTY			>1	
26	110	QTY	Quantity	O	1		
27	160	MEA	Measurements	O	40		
29	210	DTM	Date/Time Reference	O	10		

Summary:

Page No.	Pos. No.	Seg. ID	Name	Req. Des.	Max.Use	Loop Repeat	Notes and Comments
30	030	SE	Transaction Set Trailer	M	1		

Interchange Control Trailer:

Page No.	Pos. No.	Seg. ID	Name	Req. Des.	Max.Use	Loop Repeat	Notes and Comments
31	030	GE	Functional Group Trailer	M	1		
32	040	IEA	Interchange Control Trailer	M	1		

Segment: **ISA** **Interchange Control Header**
Position: 010
Loop:
Level:
Usage: Mandatory
Max Use: 1
Purpose: To start and identify an interchange of zero or more functional groups and interchange-related control segments
Syntax Notes:
Semantic Notes:
Comments:
Notes: Ex (Outbound):
ISA|00||00||01|006912877|01|043000261|991015|0823|U|00401|000000333|0|P~[a]

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**ISA01**	**I01**	**Authorization Information Qualifier** Code to identify the type of information in the Authorization Information 00 No Authorization Information Present (No Meaningful Information in I02)	**M ID 2/2**
M	**ISA02**	**I02**	**Authorization Information** 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**
M	**ISA03**	**I03**	**Security Information Qualifier** Code to identify the type of information in the Security Information 00 No Security Information Present (No Meaningful Information in I04)	**M ID 2/2**
M	**ISA04**	**I04**	**Security Information** 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**
M	**ISA05**	**I05**	**Interchange ID Qualifier** Qualifier to designate the system/method of code structure used to designate the sender or receiver ID element being qualified 01 Duns (Dun & Bradstreet)	**M ID 2/2**
M	**ISA06**	**I06**	**Interchange Sender ID** 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**
M	**ISA07**	**I05**	**Interchange ID Qualifier** Qualifier to designate the system/method of code structure used to designate the sender or receiver ID element being qualified 01 PG&E expects this value ZZ Mutually Defined	**M ID 2/2**
M	**ISA08**	**I07**	**Interchange Receiver ID** 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**

M	**ISA09**	**I08**	**Interchange Date** Date of the interchange	**M**	**DT 6/6**
M	**ISA10**	**I09**	**Interchange Time** Time of the interchange	**M**	**TM 4/4**
M	**ISA11**	**I10**	**Interchange Control Standards Identifier** Code to identify the agency responsible for the control standard used by the message that is enclosed by the interchange header and trailer Refer to 004010 Data Element Dictionary for acceptable code values.	**M**	**ID 1/1**
M	**ISA12**	**I11**	**Interchange Control Version Number** This version number covers the interchange control segments 00303 Draft Standard for Trial Use Approved for Publication by ASC X12 Procedures Review Board Through October 1992 00401 Draft Standards for Trial Use Approved for Publication by ASC X12 Procedures Review Board through October 1997	**M**	**ID 5/5**
M	**ISA13**	**I12**	**Interchange Control Number** A control number assigned by the interchange sender	**M**	**N0 9/9**
M	**ISA14**	**I13**	**Acknowledgment Requested** Code sent by the sender to request an interchange acknowledgment (TA1) 0 No Acknowledgment Requested	**M**	**ID 1/1**
M	**ISA15**	**I14**	**Usage Indicator** Code to indicate whether data enclosed by this interchange envelope is test, production or information Refer to 004010 Data Element Dictionary for acceptable code values.	**M**	**ID 1/1**
M	**ISA16**	**I15**	**Component Element Separator** Type is not applicable; the component element separator is a delimiter and not a data element; this field provides the delimiter used to separate component data elements within a composite data structure; this value must be different than the data element separator and the segment terminator	**M**	**AN 1/1**

Segment: **GS** **Functional Group Header**
Position: 020
Loop:
Level:
Usage: Mandatory
Max Use: 1
Purpose: To indicate the beginning of a functional group and to provide control information
Syntax Notes:
Semantic Notes:
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.
Notes: Ex: GS|PT|006912877|045000234|990715|130510|123|X|004010[a]

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
M	**GS01**	**479**	**Functional Identifier Code** Code identifying a group of application related transaction sets PT Product Transfer and Resale Report (867)	**M**	**ID 2/2**
M	**GS02**	**142**	**Application Sender's Code** Code identifying party sending transmission; codes agreed to by trading partners	**M**	**AN 2/15**
M	**GS03**	**124**	**Application Receiver's Code** Code identifying party receiving transmission; codes agreed to by trading partners	**M**	**AN 2/15**
M	**GS04**	**373**	**Date** Date expressed as CCYYMMDD	**M**	**DT 8/8**
M	**GS05**	**337**	**Time** 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**
M	**GS06**	**28**	**Group Control Number** Assigned number originated and maintained by the sender	**M**	**N0 1/9**
M	**GS07**	**455**	**Responsible Agency Code** Code used in conjunction with Data Element 480 to identify the issuer of the standard X Accredited Standards Committee X12	**M**	**ID 1/2**
M	**GS08**	**480**	**Version / Release / Industry Identifier Code** Code indicating the version, release, subrelease, 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 subrelease, 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	**M**	**AN 1/12**

allowed

003030	Draft Standards Approved for Publication by ASC X12 Procedures Review Board Through October 1992
004010	Draft Standards Approved for Publication by ASC X12 Procedures Review Board through October 1997

Segment: **ST** **Transaction Set Header**
Position: 010
Loop:
Level: Heading
Usage: Mandatory
Max Use: 1
Purpose: To indicate the start of a transaction set and to assign a control number
Syntax Notes:
Semantic Notes: **1** The transaction set identifier (ST01) is used by the translation routines of the interchange partners to select the appropriate transaction set definition (e.g., 810 selects the Invoice Transaction Set).
Comments:
Notes: Ex:
ST|867|000000656[a]

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
>>	**ST01**	**143**	**Transaction Set Identifier Code** Code uniquely identifying a Transaction Set 867 Product Transfer and Resale Report	**M ID 3/3**
>>	**ST02**	**329**	**Transaction Set Control Number** 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**

Segment: **BPT** **Beginning Segment for Product Transfer and Resale**
Position: 020
Loop:
Level: Heading
Usage: Mandatory
Max Use: 1
Purpose: To indicate the beginning of the Product Transfer and Resale Report Transaction Set and transmit identifying data
Syntax Notes:
Semantic Notes:
1 BPT02 identifies the transfer/resale number.
2 BPT03 identifies the transfer/resale date.
3 BPT08 identifies the transfer/resale time.
4 BPT09 is used when it is necessary to reference a Previous Report Number.
Comments:
1 BPT01 = 07 is used if previously furnished information is being provided in a new file. In this case, or if data points have been corrected, only the corrected meters' data need to be provided, even if multiple meters were originally sent. If a previously transmitted file is simply being reposted for download from a server, the original designation of BPT01 = 00 or CO does not need to be changed.

Notes:
Ex:
BPT|00|199904300002|19990430|C2||||0223[a]
BPT|07|199904300003|19990430|C2||||0223[a]
BPT|52|199904300005|19990430|C1||||0223[a]
BPT|CO|199904300006|19990430|DD||||0223[a]

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
>>	**BPT01**	**353**	**Transaction Set Purpose Code** Code identifying purpose of transaction set 00 Original Conveys original readings for the account being reported. 07 Duplicate (for interval metering data) Indicates that this is a retransmission of previously furnished information. A resend. 52 Response to Historical Inquiry Response to a request for historical meter reading. CO Corrected (for interval metering data) Indicates that the readings previously reported for the account are being corrected.	**M ID 2/2**
R	**BPT02**	**127**	**Reference Identification** Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier A unique transaction identification number, assigned by the originator. Recommended for CA.	**O AN 1/30**
>>	**BPT03**	**373**	**Date** Date expressed as CCYYMMDD Date when the MDMA record is created by the application (CCYYMMDD)	**M DT 8/8**
>>	**BPT04**	**755**	**Report Type Code** Code indicating the title or contents of a document, report or supporting item C1 Cost Data Summary	**O ID 2/2**

				Interval values	
			C2	Functional Cost and Hour	
				Cumulative values reported by time-of-use period	
			DD	Distributor Inventory Report	
				Cumulative values without time-of-use information	
>>	**BPT07**	**306**	**Action Code**		**O TM 4/8**
			For Gas Daily Usage Consumption Data to indicate the reason for account that did not bill.		
			73	Not Read	
			RA	Error Memo	
			TS	Scored Read	
>>	**BPT08**	**337**	**Time**		**O TM 4/8**
			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)		
			Time when the MDMA record is created by the application (HHMM)		

Segment: **N1** **Name**
Position: 080
Loop: N1 Optional
Level: Heading
Usage: Optional
Max Use: 1
Purpose: To identify a party by type of organization, name, and code
Syntax Notes:
1 At least one of N102 or N103 is required.
2 If either N103 or N104 is present, then the other is required.

Semantic Notes:

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 Three N1 segments will be used in California, with N101 = 55, 8S, and SJ, unless the values of N104 corresponding to N101 = 8S or SJ would duplicate the value corresponding to N101 = 55. The end-use customer's account numbers for the meter data management agent (N101 = 55), utility (N101 = 8S), and the energy service provider (N101 = SJ) must be placed in REF segments following these N1 segments, with REF01 = 10, 12, and 11, respectively.
3 When N101 = 55 (Meter Data Management Agent), N106 = 41 (Submitter). When N101 = 8S (Utility) and SJ (Energy Service Provider), N106 = 40 (Receiver).

Notes:
Ex:
N1|55||1|006912877||41[a]
N1|8S||1|006912877||41[a]
N1|SJ||1|797859832||40[a]

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
>>	**N101**	**98**	**Entity Identifier Code** Code identifying an organizational entity, a physical location, property or an individual 55 Service Manager Person responsible for service department Used to identify the party that manages meter data on behalf of another. Often referred to as the Meter Data Management Agent (MDMA). 8S Consumer Service Provider (CSP) Utility SJ Service Provider Identifies name and address information as pertaining to a service provider for which billing is being rendered Energy Service Provider (ESP)	**M ID 2/3**
>>	**N103**	**66**	**Identification Code Qualifier** Code designating the system/method of code structure used for Identification Code (67) 1 D-U-N-S Number, Dun & Bradstreet	**X ID 1/2**
>>	**N104**	**67**	**Identification Code** Code identifying a party or other code	**X AN 2/80**
>>	**N106**	**98**	**Entity Identifier Code** Code identifying an organizational entity, a physical location, property or an individual	**O ID 2/3**

40	Receiver
	Entity to accept transmission
	Entity receiving transaction set
41	Submitter
	Entity transmitting transaction set
	Entity transmitting transaction set

Segment: **REF** **Reference Identification**
Position: 120
Loop: N1 Optional
Level: Heading
Usage: Optional
Max Use: 12
Purpose: To specify identifying information
Syntax Notes: **1** At least one of REF02 or REF03 is required.
Semantic Notes: **1** REF04 contains data relating to the value cited in REF02.
Comments: **1** See Comments related to the N1 segment.
Notes: Ex:
REF|10|000006544444[a]
REF|11|100004444[a]
REF|12|000006544444[a]

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
>>	**REF01**	**128**	**Reference Identification Qualifier** Code qualifying the Reference Identification 10 Account Managers Code Identifies the telecommunications manager assigned to this account Meter Data Management Agent (MDMA)-assigned account number for the end use customer. 11 Account Number Number identifies a telecommunications industry account Energy Service Provider (ESP)-assigned account number for the end use customer. 12 Direct Access Reference Number DA XREF # Utility-assigned account number for the end use customer. XREF= Gas/Electric Utility-assigned account number for the end use customer. 5B 5B = SAID Gas/Electric (Service Agreement) Utility-assigned account number for the end use customer.	**M ID 2/3**
>>	**REF02**	**127**	**Reference Identification** Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier	**X AN 1/30**

Segment: **PTD** **Product Transfer and Resale Detail**
Position: 010
Loop: PTD Mandatory
Level: Detail
Usage: Mandatory
Max Use: 1
Purpose: To indicate the start of detail information relating to the transfer/resale of a product and provide identifying data
Syntax Notes: **1** If either PTD04 or PTD05 is present, then the other is required.
Semantic Notes:
Comments: **1** The PTD loop conveys consumption information for one meter or register, and for one commodity for metered service, over a number of metering intervals. Accounts which have multiple meters or registers require multiple PTD loop; the total consumption from multiple meters may be summarized in another PTD loop, qualified by SU, at the option of the Meter Data Management Agent. Accounts which have multiple services (e.g., both electric and gas) or multiple metered commodities require separate PTD loops for each service or commodity. For unmetered service, multiple commodities may be reported in a single PTD loop.
Notes: Ex:
PTD|PM|||OZ|EL[a]
PTD|SU|||OZ|EL[a]

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
>>	**PTD01**	**521**	**Product Transfer Type Code** Code identifying the type of product transfer PM Physical Meter Information Physical Meter Information, including data from a meter, totalizer, or recorder. SU Summary Information provided is summarized/totalized by account or by meter. Use of SU also includes the reporting of unmetered service.	**M ID 2/2**
>>	**PTD04**	**128**	**Reference Identification Qualifier** Code qualifying the Reference Identification Code qualifying the Reference Identification provided in PTD05. OZ Product Number	**X ID 2/3**
>>	**PTD05**	**127**	**Reference Identification** Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier EL Electric Service GAS Gas Service	**X AN 1/30**

Segment: **DTM** **Date/Time Reference**
Position: 020
Loop: PTD Mandatory
Level: Detail
Usage: Optional
Max Use: 10
Purpose: To specify pertinent dates and times
Syntax Notes: **1** If either DTM05 or DTM06 is present, then the other is required.
2 At least one of DTM02 DTM03 or DTM06 is required.
Semantic Notes:
Comments:
Notes: Ex:
DTM|150||||DT|199903310800[a]
DTM|151||||DT|199904290800[a]

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
>>	**DTM01**	**374**	**Date/Time Qualifier** Code specifying type of date or time, or both date and time 150 Service Period Start 151 Service Period End	**M ID 3/3**
>>	**DTM05**	**1250**	**Date Time Period Format Qualifier** Code indicating the date format, time format, or date and time format DT Date and Time Expressed in Format CCYYMMDDHHMM	**X ID 2/3**
>>	**DTM06**	**1251**	**Date Time Period** Expression of a date, a time, or range of dates, times or dates and times Service Period Start or End Date	**X AN 1/35**

Segment: **REF** **Reference Identification**
Position: 030
Loop: PTD Mandatory
Level: Detail
Usage: Optional
Max Use: 20
Purpose: To specify identifying information
Syntax Notes: **1** At least one of REF02 or REF03 is required.
Semantic Notes: **1** REF04 contains data relating to the value cited in REF02.
Comments: **1** See Comments related to the N1 segment.
Notes: Ex:
REF|JH|A[a]
REF|LU||1014328000001075551[a]
REF|MG|487R22[a]
REF|MT|K1MON[a]
REF|MT|KH015CG
REF|SC|U[a] (For Non-metered only)

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
>>	**REF01**	**128**	**Reference Identification Qualifier** Code qualifying the Reference Identification JH Tag Meter Role. Valid values for REF02 are: A = Additive (this consumption contributes to the total for the account), S = Subtractive (this consumption must be subtracted from the total for the account). LU Location Number Identifier for the Service Delivery Point (SDP). (See REF03 for valid use and values.) MG Meter Number If PTD01=SU for multiple meter, no meter number value is required. MT Meter Ticket Number Meter Data Type (see examples in REF02) SC Shipper Car Order Number Service Indicator for non-metered accounts. Use REF02 = U if applicable.	**M ID 2/3**
>>	**REF02**	**127**	**Reference Identification** Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier When REF01 is MT, the meter type is expressed as a 5 or 7-character field that identifies the type of consumption measured by this meter, the interval between measurements and Co-generation measurements put into the grid. The first two characters are the type of consumption, expressed in the units of measure from Data Element 355, as follows: K1 Kilowatt Demand Represents potential power load measured at predetermined intervals	**X AN 1/30**

		K2 Kilovolt Amperes Reactive Demand Reactive power that must be supplied for specific types of customer's equipment; billable when kilowatt demand usage meets or exceeds defined parameters K3 Kilovolt Amperes Reactive Hour Represents actual electricity equivalent to kilowatt hours; billable when usage meets or exceeds defined parameters KH Kilowatt Hour The 3-character metering interval is expressed as one of the following values: Nnn = number of minutes from 001 to 999, or MON = monthly. For example, KHMON represents kWh per month, K1MON represents maximum kW demand during the month, and KH015 represents kWh per hourly interval. CG Co Generation The last 2 characters that appear in a 7 character field (position 6 and 7) identifies Co-generation type of measurement. Used to indicate measurement back into the grid. Example: REF|MT|KH015CG REF|MT|K3015CG GS Gas Service Example: REF|MT|GSMON When REF01 is LU, REF02 is not used.		
REF03	**352**	**Description** A free-form description to clarify the related data elements and their content If REF02 value is NOT "LU". When REF01 is LU, REF03 must be used and contains the SDP Code assigned by the utility.	**X**	**AN 1/80**	

Segment: **QTY** **Quantity**
Position: 110
Loop: QTY Optional
Level: Detail
Usage: Optional
Max Use: 1
Purpose: To specify quantity information
Syntax Notes:
1 At least one of QTY02 or QTY04 is required.
2 Only one of QTY02 or QTY04 may be present.
Semantic Notes:
1 QTY04 is used when the quantity is non-numeric.
Comments:
1 Each QTY/MEA/DTM loop conveys consumption information about one metering interval. QTY02 reports billable quantities, including demands, while MEA05 and MEA06 report meter readings that are used to determine the billable quantities.
2 If MEA03 contains a multiplier, QTY02 equals the product of the multiplier and the meter readings reported in MEA05 and MEA06. Until it is resolved by UIG whether a MEA segment containing a multiplier (MEA02 = MU) can also contain meter reads, it is recommended that the multiplier should be placed in a separate MEA segment within the QTY loop.
3 QTY03 is not required if the unit of measurement has been defined by the REF02 value corresponding to REF01 = MT.
Notes:
Ex:
QTY|32|17.5[a]
QTY|A5|100[a]

Data Element Summary

	Ref. Des.	Data Element	Name		Attributes
>>	**QTY01**	**673**	**Quantity Qualifier** Code specifying the type of quantity		**M ID 2/2**
			32	Quantity Sold Normal data transmission (not estimated, adjusted, or anomalous)	
			A5	Adjusted Quantity Adjusted value to correct metering inconsistencies or errors.	
			AO	Verified Receipts Verified - data is actual but appears anomalous	
			KA	Estimated The quantity shown is an estimated quantity Data that has been calculated based on standard estimation rules.	
			87	Quantity Received Actual quantity received from the customer in a co-generation environment. Used to indicate the flow back into the grid.	
>>	**QTY02**	**380**	**Quantity** Numeric value of quantity		**X R 1/15**

Segment: **MEA** **Measurements**
Position: 160
Loop: QTY Optional
Level: Detail
Usage: Optional
Max Use: 40
Purpose: To specify physical measurements or counts, including dimensions, tolerances, variances, and weights (See Figures Appendix for example of use of C001)
Syntax Notes:
1 If MEA05 is present, then MEA04 is required.
2 If MEA06 is present, then MEA04 is required.
3 If MEA07 is present, then at least one of MEA03 MEA05 or MEA06 is required.
4 At least one of MEA03 MEA05 MEA06 or MEA08 is required.
Semantic Notes:
1 MEA04 defines the unit of measure for MEA03, MEA05, and MEA06.
Comments:
1 When citing dimensional tolerances, any measurement requiring a sign (+ or -), or any measurement where a positive (+) value cannot be assumed, use MEA05 as the negative (-) value and MEA06 as the positive (+) value.
Notes: For interval meter data, the MEA segment is optional. If used, this segment should be sent with the first iteration of the QTY loop for interval meter data, to establish the initial measurement values and readings. For subsequent iterations of the QTY loop, this segment need not be sent because the readings can be inferred by accumulating the QTY02 value.

For cumulative data, MEA06 is required if the service is metered, and contains the meter read at the end of the billing period. MEA05 is optional.

MEA05 and MEA06 report meter readings that are used to determine billable quantities, while QTY02 reports the billable quantities, including demands.

Ex:
MEA||MU|1|K1|17200|17403|45[a]
MEA||MU|1|K1|17506|17912|74[a]
MEA||MU|1|K1|11984|12245|73[a]

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
>>	**MEA02**	**738**	**Measurement Qualifier** Code identifying a specific product or process characteristic to which a measurement applies MU Multiplier Electric billing constant. The factor multiplied by the meter readings to obtain the true kWh usage. Calculation constant. CF Cubic Feet, Gas billing multiplier. The therm factor multiplied by the meter readings to obtain therms.	**O ID 1/3**
>>	**MEA03**	**739**	**Measurement Value** The value of the measurement Represents the billing constant when MEA02 equals "MU". When no multiplier is present, or when no value is contained in MEA05 or MEA06, use a value of 1.	**X R 1/20**

>>	**MEA04**	**C001**	**Composite Unit of Measure** To identify a composite unit of measure (See Figures Appendix for examples of use)	**X**		
>>	**C00101**	**355**	**Unit or Basis for Measurement Code** Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken	**M**	**ID 2/2**	
			K1 Kilowatt Demand Represents potential power load measured at predetermined intervals K2 Kilovolt Amperes Reactive Demand Reactive power that must be supplied for specific types of customer's equipment; billable when kilowatt demand usage meets or exceeds a defined parameter K3 Kilovolt Amperes Reactive Hour Represents actual electricity equivalent to kilowatt hours; billable when usage meets or exceeds defined parameters K4 Kilovolt Amperes Measure of electrical power KH Kilowatt Hour TD Therms			
	MEA05	**740**	**Range Minimum** The value specifying the minimum of the measurement range	**X**	**R 1/20**	
			Beginning reading (optional)			
>>	**MEA06**	**741**	**Range Maximum** The value specifying the maximum of the measurement range	**X**	**R 1/20**	
			Ending reading or single reading (e.g., demand)			
>>	**MEA07**	**935**	**Measurement Significance Code** Code used to benchmark, qualify or further define a measurement value	**O**	**ID 2/2**	
			For cumulative data, a measurement significance code may be required to describe the reported data. The UIG had made Data Maintenance Requests (DM) for several additional codes, which will take effect in a future version. Until the DM-Requested codes are in effect, the following non-standard previous-version code definitions will be in effect. 51 Total 45 Summer On Peak 74 Summer Mid Peak 73 Summer Off Peak ……..49…….Winter On Peak 50 Winter Mid Peak 75 Winter Off Peak ……..41…….Off Peak 42 On Peak 43 Part Peak			

Segment: **DTM** **Date/Time Reference**
Position: 210
Loop: QTY Optional
Level: Detail
Usage: Optional
Max Use: 10
Purpose: To specify pertinent dates and times
Syntax Notes: **1** If either DTM05 or DTM06 is present, then the other is required.
2 At least one of DTM02 DTM03 or DTM06 is required.
Semantic Notes:
Comments:
Notes: This segment may be sent to establish the date and time of the reported values, if the applicable data are available and desired by the recipient. For interval data, the ending time of each interval should be reported if the sender or receiver requires/requests these data.

Ex:
DTM|151||||DT|199904290800[a]

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
>>	**DTM01**	**374**	**Date/Time Qualifier** Code specifying type of date or time, or both date and time 151 Service Period End	**M ID 3/3**
>>	**DTM05**	**1250**	**Date Time Period Format Qualifier** Code indicating the date format, time format, or date and time format DT Date and Time Expressed in Format CCYYMMDDHHMM	**X ID 2/3**
>>	**DTM06**	**1251**	**Date Time Period** Expression of a date, a time, or range of dates, times or dates and times For Interval: Date/Time stamp for each 15 minute interval required.	**X AN 1/35**

Segment: **SE** **Transaction Set Trailer**
Position: 030
Loop:
Level: Summary
Usage: Mandatory
Max Use: 1
Purpose: To indicate the end of the transaction set and provide the count of the transmitted segments (including the beginning (ST) and ending (SE) segments)
Syntax Notes:
Semantic Notes:
Comments: **1** SE is the last segment of each transaction set.
Notes: Ex:
SE|17|000000660[a]

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
>>	**SE01**	**96**	**Number of Included Segments** Total number of segments included in a transaction set including ST and SE segments	**M N0 1/10**
>>	**SE02**	**329**	**Transaction Set Control Number** 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**

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Segment: **GE** **Functional Group Trailer**
Position: 030
Loop:
Level:
Usage: Mandatory
Max Use: 1
Purpose: To indicate the end of a functional group and to provide control information
Syntax Notes:
Semantic Notes: **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.
Notes: Ex: GE|1|43[a]

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**GE01**	**97**	**Number of Transaction Sets Included** Total number of transaction sets included in the functional group or interchange (transmission) group terminated by the trailer containing this data element	**M N0 1/6**
M	**GE02**	**28**	**Group Control Number** Assigned number originated and maintained by the sender	**M N0 1/9**

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Segment: **IEA** **Interchange Control Trailer**
Position: 040
Loop:
Level:
Usage: Mandatory
Max Use: 1
Purpose: To define the end of an interchange of zero or more functional groups and interchange-related control segments
Syntax Notes:
Semantic Notes:
Comments:
Notes: Ex: IEA|1|00000123[a]

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**IEA01**	**I16**	**Number of Included Functional Groups** A count of the number of functional groups included in an interchange	**M N0 1/5**
M	**IEA02**	**I12**	**Interchange Control Number** A control number assigned by the interchange sender	**M N0 9/9**