



# Electronic Data Interchange Implementation Guide

TRANSACTION SET

**867**

**Version 4010**

(Last update July 12, 2006)

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San Francisco, CA 94177

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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 <a href="mailto:Maden@pge.com">Maden@pge.com</a> , 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 | ~<sup>a</sup>

Outbound Data Element Delimiter		(Hex Value 6A)
Outbound Data Segment Terminator	<sup>a</sup>	(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**

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## **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.

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## **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 MDMA's, including PG&E, will place meter data on their respective servers in the EDI 867 format.

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## **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.

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# 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:

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

## Header:

<u>Page No.</u>	<u>Pos. No.</u>	<u>Seg. ID</u>	<u>Name</u>	<u>Req. Des.</u>	<u>Max.Use</u>	<u>Loop Repeat</u>	<u>Notes and Comments</u>
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:

<u>Page No.</u>	<u>Pos. No.</u>	<u>Seg. ID</u>	<u>Name</u>	<u>Req. Des.</u>	<u>Max.Use</u>	<u>Loop Repeat</u>	<u>Notes and Comments</u>
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:

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

**Interchange Control Trailer:**

<u>Page No.</u>	<u>Pos. No.</u>	<u>Seg. ID</u>	<u>Name</u>	<u>Req. Des.</u>	<u>Max.Use</u>	<u>Loop Repeat</u>	<u>Notes and Comments</u>
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~<sup>a</sup>

### Data Element Summary

Ref.	Data Element	Name	Attributes
M	ISA01	<b>I01 Authorization Information Qualifier</b> Code to identify the type of information in the Authorization Information 00 No Authorization Information Present (No Meaningful Information in I02)	<b>M ID 2/2</b>
M	ISA02	<b>I02 Authorization Information</b> 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)	<b>M AN 10/10</b>
M	ISA03	<b>I03 Security Information Qualifier</b> Code to identify the type of information in the Security Information 00 No Security Information Present (No Meaningful Information in I04)	<b>M ID 2/2</b>
M	ISA04	<b>I04 Security Information</b> 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)	<b>M AN 10/10</b>
M	ISA05	<b>I05 Interchange ID Qualifier</b> Qualifier to designate the system/method of code structure used to designate the sender or receiver ID element being qualified 01 Duns (Dun & Bradstreet)	<b>M ID 2/2</b>
M	ISA06	<b>I06 Interchange Sender ID</b> 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	<b>M AN 15/15</b>
M	ISA07	<b>I05 Interchange ID Qualifier</b> 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	<b>M ID 2/2</b>
M	ISA08	<b>I07 Interchange Receiver ID</b> 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	<b>M AN 15/15</b>

<b>M</b>	<b>ISA09</b>	<b>I08</b>	<b>Interchange Date</b> Date of the interchange	<b>M DT 6/6</b>
<b>M</b>	<b>ISA10</b>	<b>I09</b>	<b>Interchange Time</b> Time of the interchange	<b>M TM 4/4</b>
<b>M</b>	<b>ISA11</b>	<b>I10</b>	<b>Interchange Control Standards Identifier</b> 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.	<b>M ID 1/1</b>
<b>M</b>	<b>ISA12</b>	<b>I11</b>	<b>Interchange Control Version Number</b> 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	<b>M ID 5/5</b>
<b>M</b>	<b>ISA13</b>	<b>I12</b>	<b>Interchange Control Number</b> A control number assigned by the interchange sender	<b>M N0 9/9</b>
<b>M</b>	<b>ISA14</b>	<b>I13</b>	<b>Acknowledgment Requested</b> Code sent by the sender to request an interchange acknowledgment (TA1) 0 No Acknowledgment Requested	<b>M ID 1/1</b>
<b>M</b>	<b>ISA15</b>	<b>I14</b>	<b>Usage Indicator</b> 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.	<b>M ID 1/1</b>
<b>M</b>	<b>ISA16</b>	<b>I15</b>	<b>Component Element Separator</b> 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	<b>M AN 1/1</b>

**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<sup>a</sup>

**Data Element Summary**

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

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<sup>a</sup>

**Data Element Summary**

Ref.	Data		
<u>Des.</u>	<u>Element</u>	<u>Name</u>	<u>Attributes</u>
>>	ST01	143	<b>Transaction Set Identifier Code</b> Code uniquely identifying a Transaction Set 867 Product Transfer and Resale Report <b>M ID 3/3</b>
>>	ST02	329	<b>Transaction Set Control Number</b> Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set <b>M AN 4/9</b>

**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<sup>a</sup>  
BPT|07|199904300003|19990430|C2|||0223<sup>a</sup>  
BPT|52|199904300005|19990430|C1|||0223<sup>a</sup>  
BPT|CO|199904300006|19990430|DD|||0223<sup>a</sup>

**Data Element Summary**

Ref.	Data Element	Name	Attributes
>>	<b>BPT01</b>	<b>353 Transaction Set Purpose Code</b> Code identifying purpose of transaction set	<b>M ID 2/2</b>
		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.	
R	<b>BPT02</b>	<b>127 Reference Identification</b> 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.	<b>O AN 1/30</b>
>>	<b>BPT03</b>	<b>373 Date</b> Date expressed as CCYYMMDD Date when the MDMA record is created by the application (CCYYMMDD)	<b>M DT 8/8</b>
>>	<b>BPT04</b>	<b>755 Report Type Code</b> Code indicating the title or contents of a document, report or supporting item	<b>O ID 2/2</b>
		C1 Cost Data Summary	

				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
>>	<b>BPT07</b>	<b>306</b>	<b>Action Code</b>	<b>O TM 4/8</b>
			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
>>	<b>BPT08</b>	<b>337</b>	<b>Time</b>	<b>O TM 4/8</b>
			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<sup>a</sup>  
 N1|8S|1|006912877||41<sup>a</sup>  
 N1|SJ|1|797859832||40<sup>a</sup>

**Data Element Summary**

Ref.	Data			Attributes
<u>Des.</u>	<u>Element</u>	<u>Name</u>		
>>	<b>N101</b>	<b>98</b>	<b>Entity Identifier Code</b>	<b>M ID 2/3</b>
			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)	
>>	<b>N103</b>	<b>66</b>	<b>Identification Code Qualifier</b>	<b>X ID 1/2</b>
			Code designating the system/method of code structure used for Identification Code (67)	
		1	D-U-N-S Number, Dun & Bradstreet	
>>	<b>N104</b>	<b>67</b>	<b>Identification Code</b>	<b>X AN 2/80</b>
			Code identifying a party or other code	
>>	<b>N106</b>	<b>98</b>	<b>Entity Identifier Code</b>	<b>O ID 2/3</b>
			Code identifying an organizational entity, a physical location, property or an individual	

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<sup>a</sup>  
 REF|11|100004444<sup>a</sup>  
 REF|12|000006544444<sup>a</sup>

**Data Element Summary**

<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
>> REF01	128	<b>Reference Identification Qualifier</b> Code qualifying the Reference Identification	<b>M ID 2/3</b>
		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.	
>> REF02	127	<b>Reference Identification</b> Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier	<b>X AN 1/30</b>

**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<sup>a</sup>  
 PTD|SU|||OZ|EL<sup>a</sup>

**Data Element Summary**

Ref.	Data Element	Name	Attributes
>>	PTD01 521	<b>Product Transfer Type Code</b> Code identifying the type of product transfer	<b>M ID 2/2</b>
		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.	
>>	PTD04 128	<b>Reference Identification Qualifier</b> Code qualifying the Reference Identification	<b>X ID 2/3</b>
		OZ Product Number Code qualifying the Reference Identification provided in PTD05.	
>>	PTD05 127	<b>Reference Identification</b> Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier	<b>X AN 1/30</b>
		EL Electric Service	
		GAS Gas Service	

**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<sup>a</sup>  
 DTM|151|||DT|199904290800<sup>a</sup>

**Data Element Summary**

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



**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<sup>a</sup>  
 REF|LU||1014328000001075551<sup>a</sup>  
 REF|MG|487R22<sup>a</sup>  
 REF|MT|K1MON<sup>a</sup>  
 REF|MT|KH015CG  
 REF|SC|U<sup>a</sup> (For Non-metered only)

**Data Element Summary**

Ref. Des.	Data Element	Name	Attributes
>> REF01	128	Reference Identification Qualifier	M ID 2/3
		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.
>> REF02	127	Reference Identification	X AN 1/30
		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	

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.

<b>REF03</b>	<b>352</b>	<p><b>Description</b> <span style="float: right;"><b>X AN 1/80</b></span></p> <p>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.</p>
--------------	------------	---

**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<sup>a</sup>  
 QTY|A5|100<sup>a</sup>

**Data Element Summary**

Ref. Des.	Data Element	Name	Attributes
>> QTY01	673	Quantity Qualifier	M ID 2/2
		Code specifying the type of quantity	
		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	X R 1/15
		Numeric value of quantity	

**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|45a
MEA|MU|1|K1|17506|17912|74a
MEA|MU|1|K1|11984|12245|73a
```

**Data Element Summary**

Ref.	Data Element	Name	Attributes
>>	MEA02	738 Measurement Qualifier	O ID 1/3
		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.
>>	MEA03	739 Measurement Value	X R 1/20
		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.	

>>	<b>MEA04</b>	<b>C001</b>	<b>Composite Unit of Measure</b>	<b>X</b>
			To identify a composite unit of measure (See Figures Appendix for examples of use)	
>>	<b>C00101</b>	<b>355</b>	<b>Unit or Basis for Measurement Code</b>	<b>M ID 2/2</b>
			Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken	
			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	
	<b>MEA05</b>	<b>740</b>	<b>Range Minimum</b>	<b>X R 1/20</b>
			The value specifying the minimum of the measurement range	
			Beginning reading (optional)	
>>	<b>MEA06</b>	<b>741</b>	<b>Range Maximum</b>	<b>X R 1/20</b>
			The value specifying the maximum of the measurement range	
			Ending reading or single reading (e.g., demand)	
>>	<b>MEA07</b>	<b>935</b>	<b>Measurement Significance Code</b>	<b>O ID 2/2</b>
			Code used to benchmark, qualify or further define a measurement value	
			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<sup>a</sup>

**Data Element Summary**

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

**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<sup>a</sup>

**Data Element Summary**

<u>Ref.</u>	<u>Data</u>	<u>Name</u>	<u>Attributes</u>
>>	<b>SE01</b>	<b>96</b> <b>Number of Included Segments</b>	<b>M N0 1/10</b> Total number of segments included in a transaction set including ST and SE segments
>>	<b>SE02</b>	<b>329</b> <b>Transaction Set Control Number</b>	<b>M AN 4/9</b> Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set

**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<sup>a</sup>

#### Data Element Summary

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



**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<sup>a</sup>

#### Data Element Summary

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