

# Utility Industry Group Implementation Standard

For

**E**lectronic  
**D**ata  
**I**nterchange

TRANSACTION SET

# 810

## Invoice

**Ver/Rel 004010**

Outbound to Customer or Energy Service Provider

## Summary of Changes

June 4, 1998

Initial release.

The differences between this Ver/Rel 004010 and Ver/Rel 003070 are as follows:

Pos.	Ref Des	Data Element	Name	Attributes 3070	Attributes 4010
H020	BIG01	373	Date	M DT 6/6	M DT 8/8
H070	N104	67	Identification Code	X AN 2/20	X AN 2/80
H130	ITD06	446	Terms Net Due Date	O DT 6/6	O DT 8/8
H140		1250	Date Time Period Format Qualifier	DTM06 in 3070	DTM05 in 4010
Note: Ver 3070 provided qualifiers D6, D8, RD6, and RD8 in DTM06. Ver 4010 provides D8 and RD8 only in DTM05.					
H140		1251	Date Time Period	DTM07 in 3070	DTM06 in 4010
H212	BAL02	522	Amount Qualifier Code	M ID 1/2	M ID 1/3
H212	BAL03	782	Monetary Amount	M R 1/15	M R 1/18
H213	INC05	782	Monetary Amount	O R 1/15	O R 1/18
H214	PAM08	373	Date	X DT 6/6	X DT 8/8
D040	TXI02	782	Monetary Amount	X R 1/15	X R 1/18
D150		1250	Date Time Period Format Qualifier	DTM06 in 3070	DTM05 in 4010
Note: Ver 3070 provided qualifiers D6, D8, RD6, and RD8 in DTM06. Ver 4010 provides D8 and RD8 only in DTM05.					
D150		1251	Date Time Period	DTM07 in 3070	DTM06 in 4010
D237	TXI02	782	Monetary Amount	X R 1/15	X R 1/18
D240	N104	67	Identification Code	X AN 2/20	X AN 2/80
S020	TXI02	782	Monetary Amount	X R 1/15	X R 1/18
S050	TXI02	782	Monetary Amount	X R 1/15	X R 1/18

July 1, 1998

Corrections made to reference codes to align the 810 with the 814:

Header REF01 - Added code BF, deleted code TZ

Detail REF01 - Added codes NH and TZ; revised the definition for code RB

October 20, 1998

Revised the Best Practice, syntax notes, and definitions concerning Elements

SAC01 and SAC05 and added SAC13. See pages 5, 39 - 41, and 50 - 52,

BIG08 - Added code 05, revised the definition for code CO

Header REF Position 050 - Added codes 06, GK, and WF to REF01; revised the definitions at BF, BLT, and PC.

Header N1 - Added N106

Header REF Position 110 - Added REF03.

ITD - Added ITD03, ITD05, and ITD07.

Header DTM - Added qualifiers 186 and 187 to DTM01; noted that qualifiers 150 and 151 are not recommended for use.

IT1 - Added UNMET to IT109, added IT112 and IT113.

Detail TXI Position 040 and Position 237 - Added TXI08 and TXI09.

Detail MEA - Added qualifier CO to MEA02, added definition to T9 in C00101, and changed MEA06 to Recommended.

Detail REF Position 120 - Revised the Note, added qualifiers NH, PR, and TZ to REF01, added REF02 values for qualifier SU.

Detail N4 - Added N405 and N406.

Detail REF Position 280 - Added REF03.

Summary TXI Position 020 and Position 050 - Added TXI08 and TXI09.

May 2, 1999 | BIG07 – Added codes BD (Statement of Balance Due) and RA (Request for Reimbursement).

Header REF Position 050 – Added code BE.

PAM07 – Added code 194 (Period End Date).

IT109 – Added code RATE.

Detail DTM Position 150 – Added codes DT and RDT to DTM05.

June 10, 1999 | BIG07 – Added code SL (Summary Lease Schedule)

DTM02 – Added for optional use

IT109 – Code BILLDET added

MEA01 – Codes AN (work) and EN (environmental conditions) added

REF01 (REF 120 of Detail Section) – Code QQ added

REF01, 02 and 03 (REF 120 of Detail Section) – Notes for use of LU code modified/added

Note for SAC07 modified

SAC06 and 07 (SAC 040 of Summary Section) elements added

October 12, 1999

Pos.	Ref Des	Data Element	Name	Notes
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IT1, in Best Practices, added “/or”

Use of NTE in Document Specific Best Practices, changed to identify bill printing

H020	BIG02	76	Invoice Number	Removed reference to Utility
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H020	BIG07	640	Transaction Type Code	Added gray box to code SL
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H030	NTE		Notes	Clarified NTE for use in printing bill
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H030	NTE01	363	Note Reference Code	Removed reference to Utility
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H070	N101	98	Entity Identifier Code	Modified gray box for RE
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H140	DTM		Comments	Clarified time information
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H212	BAL02	522	Amount Qualifier Code	Added J9, clarified gray box for YB and J9
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D010	IT109	234	Product/Service Id	Added SUPCHG
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D040	TXI		Notes	Clarified placement of taxes
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D040	TXI03	954	Percent	Clarified use of percentage
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D059	MEA02	738	Measurement Qualifier	Added gray box on use of meter multiplier
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D059	MEA07	935	Measurement Significance Code	Added 76, 77, 78, 79
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D060	PID		Notes	Clarified use of NTE for bill print messages
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D120	REF		Notes	Clarified use of account number information
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D120	REF01	128	Reference Identification Qualifier	Added note for IX and LU in REF03. Added gray box for PRT
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D120	REF03	352	Description	Added note for LU
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D150	DTM		Comments	Clarified time
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D150	DTM01	374	Date/Time Qualifier	Removed gray box for 150 and 151
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D230	SAC13	230	Reference Identification	Added note on printing the bill
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June 7, 2000

	Pos.	Ref Des	Data Element	Name	Notes
	D237	TXI		Notes	Clarified placement of taxes
	S020	TXI		Notes	Clarified placement of taxes
	S040	SAC13	230	Reference Identification	Added note on use in printing the bill
	S070	CTT02	347	Hash Total	Removed CTT02 element
				Best Practices	Clarified requirement of one invoice per customer account
February 7, 2000	D020	BIG01	373	Beginning	Clarified gray box on transaction reference date
	020	BIG05	328	Beginning	Clarified gray box on cross reference numbering
	020	BIG07	640	Beginning	Added 13, AI, RP for Maintenance Request, Adjusted Invoice, Reporting, respectively
	212	BAL	212	Comment	Allow for use of negative numbers to represent payments received
	120	REF01	128	Reference	Clarified IX to represent number of dials on meter
	120	REF02	127	Reference	Clarify use of IX and QQ
	150	DTM05	1250	Date/Time	Changed gray box recommend not using DT. Removed comments on RD8 and RDT
	230	SAC06	378	Reference Identification	Added "9" to represents Late Payment Charge Base Amount
June 7, 2000					<b>Notes</b>
	020	BIG05	328	Beginning Segment	Clarified graybox to indicate 820 cross-reference
	070	N101	98	Name	Added codes AY, 48, 55, 85, and H8 in N101
	230 040	SAC09	355	Service Charge	Clarified graybox for codes BZ, HH, and TZ in all SAC09s

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# 810 Invoice

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## Introduction

The function of the Utility Industry Group is

To represent Electric, Gas, and Combination Utilities, their suppliers, their customers, and other interested parties as an Industry Action Group to the American National Standards Institute (ANSI) Accredited Standards Committee (ASC) X12, specifically in the standards-setting process, for their Electronic Data Interchange business needs.

To encourage, promote, and establish conventions for the use of ASC X12 standards as the "recommended" method of EDI. To develop and coordinate, as required, implementation guidelines and tools to promote the growth and timely implementation of Electronic Commerce/EDI within the industry.

To provide a forum for the exchange of ideas related to Electronic Commerce/EDI and its influence on the business needs of the industry.

The UIG will represent the Edison Electric Institute (EEI) and its members to facilitate implementation of Electronic Commerce/EDI in the Utility Industry.

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## Purpose

This Utility Industry Group (UIG) Implementation Guideline contains the format and establishes the data contents of the Invoice Transaction Set (810) as adopted by the UIG for use within the context of an Electronic Data Interchange (EDI) environment. The transaction set can be used to provide a detailed statement of charges due for utility services for a customer account.

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## Notes

This Implementation Guideline was designed to provide the customary invoice from a local distribution utility (LDC) to the end use customer as well as to address the business processes that occur between a local distribution utility (LDC) and a third-party energy service provider (ESP) in a deregulated, alternative energy supply environment.

In the customary, regulated environment, the principal parties involved in this Transaction Set 810 implementation are:

- The utility (Code 8S) which provides energy and services to the end use customer
- The end use customer (Code 8R or BT)

In the deregulated, alternative energy supply environment, the principal parties involved in this Transaction Set 810 implementation are:

- The utility (Code 8S) which provides services to the end use customer on behalf of the ESP
- The ESP (Code SJ) which supplies energy to the end use customer
- The end use customer (Code 8R)

The primary processes addressed by this Transaction Set 810 are:

- Billing the end use customer for energy and services provided by the utility or by the ESP
- Advising the ESP of metered consumption by the customer
- Advising the ESP of amounts billed by the utility on the ESP's behalf
- Billing the ESP for energy and services provided by the utility

# 810 Invoice

## Best Practices

### Global Best Practices

#### Use of 810 as a Single Invoice

- The UIG recommends that this transaction set be used to represent a single invoice for a single account. One account may contain multiple meters.

#### Use of Text Segments

- The UIG recommends that the note (NTE) segment be avoided because this segment is not machine-readable. Other text segments, such as MSG and PID, may be used if their use will lead to machine readable information in subsequent applications.

#### Use of ZZ Qualifier

- The use of data fields to transmit uncoded or textual information should be avoided. This practice is usually associated with the use of the ZZ qualifier as a normal course of doing business.

#### 997 - Functional Acknowledgment

- The purpose of the 997 is to verify receipt of a transmitted document only, not the acceptance of the document. For example, the acceptance of a purchase order (850) is accomplished through the use of the purchase order acknowledgment transaction (855).

#### 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 (D-U-N-S) Number

- Dun & Bradstreet assigns a nine-digit identification number to every business entity. This number, known as the D-U-N-S number, should be used to identify the trading partners. A trading partner may append a four-digit suffix to the D-U-N-S number to uniquely identify a specific location within the entity; this number is referred to as a D-U-N-S + 4 number

#### Banking Transactions

- Guidelines that outline the use of transactions relating to interactions between a sender and the sender's financial institution are available from the Bankers EDI Council and the NACHA EDI Council. Other publications that address the use of financial payment transactions include Technical Report 1 (TR1) and Technical Report 2 (TR2); both of these publications are available from DISA.

#### Capitalization

- The use of all upper case (capital) letters is preferred over the use of mixed upper and lower case letters.

## Document-Specific Best Practices

### Use of The NTE Segment

- Although the UIG recommends that the NTE segment be avoided, there are occasions when the utility is required by law or regulation to include messages or notices in all invoices. Under these circumstances, the NTE segment should be used for notes and messages to be printed on the bill and the PID should be used for notes that apply directly to the IT1 .

### Use of The IT1 Segment

- An IT1 loop is used to accumulate all consumption and/or charge detail for a single meter or service. Each meter or service will be detailed in a separate IT1 loop.

### Use of the MEA Segment

- The MEA segment is used to convey consumption readings for one metering period. Transaction Set 867 should be used if interval meter readings are required.

### UIG Definitions for MEA07 Measurement Significance Codes

- The metering characteristics of the utility industry require measurement definitions in addition to those found in Data Element 935, *Measurement Significance Code*. The UIG has submitted data maintenance (DM) requests to have these additional definitions added to DE 935 in a future version of the X12 standards. In order to provide these measurement definitions for version 4010 implementations, the UIG has provided UIG-specific definitions for valid DE 935 codes. To assist application developers, who may wish to include the requested future codes in their application logic, the list of non-standard definitions found in MEA07 includes references to the requested codes.

### Use of the PID Segment

- The PID segment is used to convey required messages that apply to a particular service only .

### Use of the Detail IT1/REF Segment, Position 120

- This segment is used only when the IT1 loop is used to present account information. Trading partners using the meter model (where an IT1 conveys meter charges and usage) should provide the account reference information in the Header REF, position 050.

### Use of the SLN Segment

- The IT1/SLN segment is used to overcome the limitation on the number of IT1/SAC loops. In some environments, more than 25 separate charges or allowances are associated with one IT1. Use of the SLN segment provides for a maximum of 1,000 individual SAC and TXI iterations. If and when the 810 is revised to permit more than 25 IT1/SAC loops, this 810 Guideline will be revised to remove the SLN segment.

### Values in Elements SAC01 and SAC05

- Previous editions of this guideline stated that the amount shown in SAC05 will always be positive and that the code used in SAC01 will indicate whether to add or subtract the SAC05 amount to or from the TDS. As a result of a clarification provided by X12F, it has been determined that the above statement is incorrect; future versions of the UIG guidelines will no longer contain the above statement. The code used in SAC01 does not indicate the sign of the amount in SAC05. The amount shown in SAC05 may be either

positive or negative; if negative, the minus sign, " - ", must be transmitted. Trading partners who implemented the former guidance regarding SAC01 and SAC05 may continue to follow that guidance or may elect to revise their implementation to conform to the current guidance. New implementations should follow the guidance contained herein.



# 810 Invoice

Functional Group ID=**IN**

## Heading

	<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>
Must Use	010	ST	Transaction Set Header	M	1		
Must Use	020	BIG	Beginning Segment for Invoice	M	1		
	030	NTE	Note/Special Instruction	O	100		
	040	CUR	Currency	O	1		
	050	REF	Reference Identification	O	12		
LOOP ID - N1						200	
	070	N1	Name	O	1		
	080	N2	Additional Name Information	O	2		
	090	N3	Address Information	O	2		
	100	N4	Geographic Location	O	1		
	110	REF	Reference Identification	O	12		
	120	PER	Administrative Communications Contact	O	3		
	130	ITD	Terms of Sale/Deferred Terms of Sale	O	>1		
	140	DTM	Date/Time Reference	O	10		
	212	BAL	Balance Detail	O	>1		
	213	INC	Installment Information	O	1		
	214	PAM	Period Amount	O	>1		

## Detail

	<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 - IT1						200000	
	010	IT1	Baseline Item Data (Invoice)	O	1		
	040	TXI	Tax Information	O	10		
	059	MEA	Measurements	O	40		
LOOP ID - PID						1000	
	060	PID	Product/Item Description	O	1		
	120	REF	Reference Identification	O	>1		
Must Use	150	DTM	Date/Time Reference	O	10		
LOOP ID - SLN						1000	
	200	SLN	Subline Item Detail	O	1		
	230	SAC	Service, Promotion, Allowance, or Charge Information	O	25		
	237	TXI	Tax Information	O	10		
LOOP ID - N1						200	
	240	N1	Name	O	1		
	250	N2	Additional Name Information	O	2		
	260	N3	Address Information	O	2		
	270	N4	Geographic Location	O	1		
	280	REF	Reference Identification	O	12		

**Summary**

	<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>
Must Use	010	TDS	Total Monetary Value Summary	M	1		
	020	TXI	Tax Information	O	10		
			LOOP ID - SAC			25	
	040	SAC	Service, Promotion, Allowance, or Charge Information	O	1		
	050	TXI	Tax Information	O	10		
	070	CTT	Transaction Totals	O	1		n1
Must Use	080	SE	Transaction Set Trailer	M	1		

**Transaction Set Notes**

1. Number of line items (CTT01) is the accumulation of the number of IT1 segments. If used, hash total (CTT02) is the sum of the value of quantities invoiced (IT102) for each IT1 segment.

**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) 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:**

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	ST01	143	<b>Transaction Set Identifier Code</b> Code uniquely identifying a Transaction Set 810 Invoice	<b>M ID 3/3</b>
Must Use	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:** **BIG** Beginning Segment for Invoice  
**Position:** 020  
**Loop:**  
**Level:** Heading:  
**Usage:** Mandatory  
**Max Use:** 1  
**Purpose:** To indicate the beginning of an invoice transaction set and to transmit identifying numbers and dates

**Syntax Notes:**  
**Semantic Notes:** 1 BIG01 is the invoice issue date.  
**Comments:** 1 BIG07 is used only to further define the type of invoice when needed.

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	BIG01	373	<b>Date</b>  Date expressed as CCYYMMDD The transaction creation date. This is the date that the transaction was created by the sender's application system	<b>M DT 8/8</b>
Must Use	BIG02	76	<b>Invoice Number</b> Identifying number assigned by issuer Unique invoice number identifying this bill.	<b>M AN 1/22</b>
	BIG04	324	<b>Purchase Order Number</b> Identifying number for Purchase Order assigned by the orderer/purchaser	<b>O AN 1/22</b>
	BIG05	328	<b>Release Number</b>  Cross Reference Number originally sent in the BPT02 segment of the 867, used to tie the usage and billing transactions together. This same number may also appear in the REF~6O element of the 820. The need for this code came about due to the cancel/re-bill scenarios where usage can be sent multiple times for the same billing period. Use of this cross reference number eliminates confusion as to which billing transaction goes with which usage transaction	<b>O AN1/30</b>
Recomm	BIG07	640	<b>Transaction Type Code</b> Code specifying the type of transaction	<b>O ID 2/2</b>
		13	Maintenance Request Used when ESP requests Utility to remove some of the charges on a customer bill	
		AI	Adjusted Invoice Used when this is an adjusted invoice	
		BD	Statement of Balance Due In the alternative energy supply environment, used to identify bills that are for balance only; no readings or charge details will be included (no IT1 Loops will be populated).	
		CI	Consolidated Invoice	
		FB	Final Bill	
		FE	Memorandum, Final Bill The final (last) bill for a non-payable invoice (memo)	
		ME	Memorandum	
		PR	Product (or Service)	
		RA	Request for Reimbursement	
		RP	Reporting (Standard Offer Accounts)	

SL Summary Lease Bill  
**Indicates summary bill.**

An 810 is designed to show invoice information for one customer. The use of the SL code is not meant to imply that the 810 should be used as a summary of bills for more than one customer which would rightly be the 811 Transaction Set.

Recomm **BIG08** **353** **Transaction Set Purpose Code** **O** **ID 2/2**

Code identifying purpose of transaction set

00	Original
01	Cancellation Cancels an entire invoice.
05	Replace Reissue of an entire invoice, with the intent that the previous invoice be ignored.
07	Duplicate
CO	Corrected Reissue of an entire invoice. This definition of this code will change for future versions of the UIG guidelines. A reissue of an entire invoice should be coded 05 – Replace. When an invoice is corrected with a back out and re-bill, it is “corrected” and code CO is appropriate.

**Segment:** **NTE** Note/Special Instruction  
**Position:** 030  
**Loop:**  
**Level:** Heading:  
**Usage:** Optional  
**Max Use:** 100  
**Purpose:** To transmit information in a free-form format, if necessary, for comment or special instruction

**Syntax Notes:**  
**Semantic Notes:**  
**Comments:**

1 The NTE segment permits free-form information/data which, under ANSI X12 standard implementations, is not machine processable. The use of the NTE segment should therefore be avoided, if at all possible, in an automated environment.

**Notes:** 1. Used for required messages and notices that are to be printed on the invoice. The PID at detail position 060 should be used to provide additional information about the IT1.

**Data Element Summary**

<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
NTE01	363	<b>Note Reference Code</b>	<b>O ID 3/3</b>
		Code identifying the functional area or purpose for which the note applies	
		ADD Additional Information	
		OTH Other Instructions	
		Regulatory-required messages or notices.	
<b>Must Use</b>	NTE02	352 <b>Description</b>	<b>M AN 1/80</b>
		A free-form description to clarify the related data elements and their content	

**Segment:** **CUR** Currency  
**Position:** 040  
**Loop:**  
**Level:** Heading:  
**Usage:** Optional  
**Max Use:** 1  
**Purpose:** To specify the currency (dollars, pounds, francs, etc.) used in a transaction  
**Syntax Notes:**  
**Semantic Notes:**  
**Comments:** 1 See Figures Appendix for examples detailing the use of the CUR segment.

**Notes:** Amounts are specified in the currency of the party that bills the end use customer.

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	CUR01	98	<b>Entity Identifier Code</b> Code identifying an organizational entity, a physical location, property or an individual 85 Billing Provider	<b>M ID 2/3</b>
Must Use	CUR02	100	<b>Currency Code</b> Code (Standard ISO) for country in whose currency the charges are specified	<b>M ID 3/3</b>

**Segment:** REF Reference Identification  
**Position:** 050  
**Loop:**  
**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:**  
**Comments:**

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	REF01	128	<b>Reference Identification Qualifier</b> Code qualifying the Reference Identification	<b>M ID 2/3</b>
			06 System Number When a utility uses logical account numbers (those that change when a meter route is changed, etc.), the utility can assign a System Number as a permanent key for the account. The customer account number may be used for the initial Request transaction (enrollment), but the System Number will be passed to the Service Provider during confirmation and will be used for all future transactions.	
			11 Account Number Energy Service Provider-assigned account number for the end use customer.	
			12 Billing Account Utility-assigned account number for the end use customer.	
			14 Master Account Number Account number used when BIG07 = CI to represent individual billing accounts which have been consolidated and/or summarized	
			45 Old Account Number Utility's previous account number for the end use customer.	
			4B Shipment Origin Code Premise code for the end use customer premise.	
			5B Supplemental Account Number Energy Service Provider-assigned account number for the Utility.	
			AA Accounts Receivable Statement Number Remit-to reference number.	
			AJ Accounts Receivable Customer Account Utility-assigned account number for the Energy Service Provider.	
			BE Business Activity Indicates the characteristics of the usage or usage and billing being reported to the Supplier.	
			BF Billing Center Identification Billing cycle. Cycle number when the billing will be rendered.	



BLT	Billing Type Identifies whether the LDC or ESP consolidates the bill or whether each party will render their own bill. See REF02 for valid values.
CT	Contract Number
GK	Third Party Reference Number Former/departing ESP's account number for the end use customer.
OI	Original Invoice Number Sent when BIG08 = 01 or CO.
PC	Production Code Identifies the party that calculates the bill. See REF02 for valid values.
WF	Locally Assigned Control Number ESP's previous account number for the end use customer.

<b>REF02</b>	<b>127</b>	<b>Reference Identification</b>	<b>X AN 1/30</b>
Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier			
When REF01 is BLT, valid values for REF02 are:			
LDC - The Utility bills the customer			
ESP - The ESP bills the customer			
DUAL - Each party bills the customer			
When REF01 is PC, valid values for REF02 are:			
LDC - The Utility calculates the charges on the bill			
ESP - The ESP calculates the charges on the bill			
DUAL - Each party calculates its portion of the bill			
<b>REF03</b>	<b>352</b>	<b>Description</b>	<b>X AN 1/80</b>
A free-form description to clarify the related data elements and their content			

**Segment:** **N1** Name  
**Position:** 070  
**Loop:** N1  
**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.

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	N101	98	<b>Entity Identifier Code</b> Code identifying an organizational entity, a physical location, property or an individual	<b>M ID 2/3</b>
		48	In-service Source Used to identify the party that reads the meter, often referred to as the meter reading service provider (MRSP).	
		55	Service Manager Used to identify the party that manages the meter data on behalf of another, often referred to as the Meter Data Management Agent (MDMA).	
		85	Billing Provider. Used to identify the party that will present the bill to the end use customer, often referred to as the billing agent (BA).	
		H8	Servicing Agent Used to identify the party that services and maintains the meter, often referred to as the Meter Service Provider (MSP).	
		AY	Clearinghouse A centralized entity that sends, processes, and/or receives data to/from multiple sources.	
		8R	Consumer Service Provider (CSP) Customer	
		8S	Consumer Service Provider (CSP) Utility	
		AG	Agent/Agency Billing agent	
		BT	Bill To Party Used when directly billing the end use customer	
		RE	Party to receive commercial invoice remittance Remit-to party	
		SJ	Service Provider Energy Service Provider	
	N102	93	<b>Name</b> Free-form name	<b>X AN 1/60</b>
	N103	66	<b>Identification Code Qualifier</b> Code designating the system/method of code structure used for Identification Code (67)	<b>X ID 1/2</b>
		1	D-U-N-S Number, Dun & Bradstreet	

	9	D-U-N-S+4, D-U-N-S Number with Four Character Suffix		
	24	Employer's Identification Number		
	91	Assigned by Seller or Seller's Agent		
		An identifier assigned by the billing party		
	92	Assigned by Buyer or Buyer's Agent		
		An identifier assigned by the receiving party		
<b>N104</b>	<b>67</b>	<b>Identification Code</b>	<b>X</b>	<b>AN 2/80</b>
		Code identifying a party or other code		
<b>N106</b>	<b>98</b>	<b>Entity Identifier Code</b>	<b>O</b>	<b>ID 2/3</b>
		Code identifying an organizational entity, a physical location, property or an individual.		
		Used in addition to the N103 and N104 to identify the transaction sender and receiver when more than two parties are identified by N1 loops.		
	40	Receiver		
		Entity to accept transmission		
	41	Submitter		
		Entity transmitting transaction set		

**Segment:** **N2** Additional Name Information  
**Position:** 080  
**Loop:** N1  
**Level:** Heading:  
**Usage:** Optional  
**Max Use:** 2  
**Purpose:** To specify additional names or those longer than 60 characters in length  
**Syntax Notes:**  
**Semantic Notes:**  
**Comments:**

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	N201	93	<b>Name</b> Free-form name	<b>M AN 1/60</b>
	N202	93	<b>Name</b> Free-form name	<b>O AN 1/60</b>

**Segment:** **N3** Address Information  
**Position:** 090  
**Loop:** N1  
**Level:** Heading:  
**Usage:** Optional  
**Max Use:** 2  
**Purpose:** To specify the location of the named party  
**Syntax Notes:**  
**Semantic Notes:**  
**Comments:**

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	N301	166	<b>Address Information</b> Address information	M AN 1/55
	N302	166	<b>Address Information</b> Address information	O AN 1/55

**Segment:** **N4 Geographic Location**  
**Position:** 100  
**Loop:** N1  
**Level:** Heading:  
**Usage:** Optional  
**Max Use:** 1  
**Purpose:** To specify the geographic place of the named party  
**Syntax Notes:**  
**Semantic Notes:**  
**Comments:**

- 1 A combination of either N401 through N404, or N405 and N406 may be adequate to specify a location.
- 2 N402 is required only if city name (N401) is in the U.S. or Canada.

**Data Element Summary**

<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
N401	19	<b>City Name</b> Free-form text for city name	O AN 2/30
N402	156	<b>State or Province Code</b> Code (Standard State/Province) as defined by appropriate government agency	O ID 2/2
N403	116	<b>Postal Code</b> Code defining international postal zone code excluding punctuation and blanks (zip code for United States)	O ID 3/15
N404	26	<b>Country Code</b> Code identifying the country	O ID 2/3

**Segment:** **REF** Reference Identification  
**Position:** 110  
**Loop:** N1  
**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:**  
**Comments:**  
**Notes:** Used to further identify any customer-required identification numbers, e.g.,  
 accounting distribution.

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	REF01	128	<b>Reference Identification Qualifier</b> Code qualifying the Reference Identification Use any valid Data Element 128 code qualifiers, as mutually agreed between the trading partners.	<b>M ID 2/3</b>
	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>
	REF03	352	<b>Description</b> A free-form description to clarify the related data elements and their content	<b>X AN 1/80</b>

**Segment:** **PER Administrative Communications Contact**

**Position:** 120

**Loop:** N1

**Level:** Heading:

**Usage:** Optional

**Max Use:** 3

**Purpose:** To identify a person or office to whom administrative communications should be directed

- Syntax Notes:**
- 1 If either PER03 or PER04 is present, then the other is required.
  - 2 If either PER05 or PER06 is present, then the other is required.
  - 3 If either PER07 or PER08 is present, then the other is required.

**Semantic Notes:**

**Comments:**

**Data Element Summary**

Ref.	Data	Name	Attributes
<u>Des.</u>	<u>Element</u>		
Must Use	PER01	<b>366 Contact Function Code</b> Code identifying the major duty or responsibility of the person or group named CR Customer Relations IC Information Contact	<b>M ID 2/2</b>
	PER02	<b>93 Name</b> Free-form name	<b>O AN 1/60</b>
	PER03	<b>365 Communication Number Qualifier</b> Code identifying the type of communication number EM Electronic Mail FX Facsimile TE Telephone	<b>X ID 2/2</b>
	PER04	<b>364 Communication Number</b> Complete communications number including country or area code when applicable	<b>X AN 1/80</b>
	PER05	<b>365 Communication Number Qualifier</b> Code identifying the type of communication number EM Electronic Mail FX Facsimile TE Telephone	<b>X ID 2/2</b>
	PER06	<b>364 Communication Number</b> Complete communications number including country or area code when applicable	<b>X AN 1/80</b>
	PER07	<b>365 Communication Number Qualifier</b> Code identifying the type of communication number EM Electronic Mail FX Facsimile TE Telephone	<b>X ID 2/2</b>
	PER08	<b>364 Communication Number</b> Complete communications number including country or area code when applicable	<b>X AN 1/80</b>



**Segment:** **ITD** **Terms of Sale/Deferred Terms of Sale**  
**Position:** 130  
**Loop:**  
**Level:** Heading:  
**Usage:** Optional  
**Max Use:** >1  
**Purpose:** To specify terms of sale  
**Syntax Notes:** 1 If ITD03 is present, then at least one of ITD04 ITD05 or ITD13 is required.  
**Semantic Notes:**  
**Comments:**

**Data Element Summary**

<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
ITD03	338	<b>Terms Discount Percent</b> Terms discount percentage, expressed as a percent, available to the purchaser if an invoice is paid on or before the Terms Discount Due Date	O R 1/6
ITD05	351	<b>Terms Discount Days Due</b> Number of days in the terms discount period by which payment is due if terms discount is earned	X NO 1/3
ITD06	446	<b>Terms Net Due Date</b> Date when total invoice amount becomes due, expressed in format CCYYMMDD Payment due date (if applicable).	O DT 8/8
ITD07	386	<b>Terms Net Days</b> Number of days until total invoice amount is due (discount not applicable)	O NO 1/3

**Segment:** **DTM** Date/Time Reference  
**Position:** 140  
**Loop:**  
**Level:** Heading:  
**Usage:** Optional  
**Max Use:** 10  
**Purpose:** To specify pertinent dates and times  
**Syntax Notes:**  
 1 At least one of DTM02 DTM03 or DTM06 is required.  
 2 If either DTM06 or DTM07 is present, then the other is required.  
**Semantic Notes:**  
**Comments:** Time is 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).

**Data Element Summary**

Ref. Des.	Data Element	Name	Attributes
Must Use	DTM01	<b>374 Date/Time Qualifier</b>	<b>M ID 3/3</b>
		Code specifying type of date or time, or both date and time	
		135 Booking	
		150 Service Period Start	
		This code is no longer recommended and will be removed in future versions of the UIG guidelines. Code 186 should be used instead.	
		151 Service Period End	
		This code is no longer recommended and will be removed in future versions of the UIG guidelines. Code 187 should be used instead.	
		186 Invoice Period Start	
		187 Invoice Period End	
		221 Penalty Begin	
		Date on which late payment charges begin.	
		266 Base	
		434 Statement	
		Date on which billing document was created	
		733 Date of Last Payment Received	
		Date of last payment by the end use customer.	
		MRR Meter Reading	
	DTM02	<b>373 Date</b>	<b>X DT 8/8</b>
		Date expressed as CCYYMMDD	
		Use of DTM02/03 allows the translator to validate date and time.	
	DTM05	<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	
		D8 Date Expressed in Format CCYYMMDD	
		RD8 Range of Dates Expressed in Format CCYYMMDD-CCYYMMDD	
		A range of dates expressed in the format CCYYMMDD-CCYYMMDD where CCYY is the numerical expression of the century CC and year YY, MM is the numerical expression of the month within the year, and DD is the numerical expression of the day within the year; the first occurrence of CCYYMMDD is the beginning date and the second occurrence is the ending date	

**DTM06**     **1251**     **Date Time Period**     **X**     **AN 1/35**  
Expression of a date, a time, or range of dates, times or dates and times

**Segment:** **BAL** Balance Detail  
**Position:** 212  
**Loop:**  
**Level:** Heading:  
**Usage:** Optional  
**Max Use:** >1  
**Purpose:** To identify the specific monetary balances associated with a particular account  
**Syntax Notes:**  
**Semantic Notes:**  
**Comments:** Negative amounts are allowed to represent payments received

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	BAL01	951	<b>Balance Type Code</b> Code indicating the type of balance	<b>M ID 1/2</b>
			M Current Month Billed, payment, and balance amounts shown in BAL03 are in this billing period.	
			P Previous Month Balance of previous period charges prior to applying payments and adjustments for the previous period billing Billed, payment and balance amounts shown in BAL03 are for the period prior to this billing period.	
			Y Year to Date Deferred plan balance.	
Must Use	BAL02	522	<b>Amount Qualifier Code</b> Code to qualify amount	<b>M ID 1/3</b>
			PB Billed Amount Total amount due on the period bill	
			TP Total Payment Amount	
			YB Actual Unpaid Principal Balance BAL*P*YB is used to display the amount the customer owed as a result of the previous bill, prior to applying payments and adjustments for the previous billing period.	
			BAL*M*YB is used to display the customer's total outstanding balance. This is what the customer owes from previous billing periods plus the current billing charges.	
			BAL*Y*YB is used to display the customer's current outstanding budget balance.	
		J9	Beginning Balance BAL*M*J9 is used to display the amount the customer owed prior to the current billing with payments and adjustments applied.	
Must Use	BAL03	782	<b>Monetary Amount</b> Monetary amount	<b>M R 1/18</b>

**Segment:** **INC** **Installment Information**  
**Position:** 213  
**Loop:**  
**Level:** Heading:  
**Usage:** Optional  
**Max Use:** 1  
**Purpose:** To specify installment-billing arrangement  
**Syntax Notes:**  
**Semantic Notes:**

- 1 INC02 is the installment period (e.g., months).
- 2 INC03 is the total number of installments.
- 3 INC04 is the number of the current installment.
- 4 INC05 is the installment balance after the current installment is applied.

**Comments:**

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	INC01	336	<b>Terms Type Code</b> Code identifying type of payment terms 04 Deferred or Installment 32 Lease Agreement 36 Contract Basis Terms are based on a contract with the customer.	M ID 2/2
Must Use	INC02	355	<b>Unit or Basis for Measurement Code</b> Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken MO Months	M ID 2/2
Must Use	INC03	380	<b>Quantity</b> Numeric value of quantity	M R 1/15
Must Use	INC04	380	<b>Quantity</b> Numeric value of quantity	M R 1/15
	INC05	782	<b>Monetary Amount</b> Monetary amount	O R 1/18

**Segment:** **PAM** Period Amount  
**Position:** 214  
**Loop:**  
**Level:** Heading:  
**Usage:** Optional  
**Max Use:** >1  
**Purpose:** To indicate a quantity, and/or amount for an identified period  
**Syntax Notes:**

- 1 If any of PAM01 PAM02 or PAM03 is present, then all are required.
- 2 At least one of PAM02 PAM05 or PAM14 is required.
- 3 If either PAM06 or PAM07 is present, then the other is required.
- 4 If PAM07 is present, then at least one of PAM08 or PAM09 is required.
- 5 If PAM07 is present, then PAM06 is required.
- 6 If PAM08 is present, then PAM07 is required.

**Semantic Notes:**  
**Comments:**  
**Notes:**

This segment is used when historical consumption data must accompany the invoice.

**Data Element Summary**

<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
PAM01	673	<b>Quantity Qualifier</b> Code specifying the type of quantity	X ID 2/2
		99 Quantity Used Quantity of units used	
		CP Current Period Imbalance Used for imbalance notice	
		KA Estimated The quantity shown is an estimated quantity	
PAM02	380	<b>Quantity</b> Numeric value of quantity	X R 1/15
Must Use PAM03	355	<b>Unit or Basis for Measurement Code</b> Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken	M ID 2/2
		2I British Thermal Units (BTUs) Per Hour	
		99 Watt	
		BY British Thermal Unit (BTU)	
		BZ Million BTU's	
		CF Cubic Feet	
		DA Days	
		EA Each	
		GA Gallon	
		HH Hundred Cubic Feet	
		HJ Horsepower	
		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
K5	Kilovolt Amperes Reactive
K7	Kilowatt
KH	Kilowatt Hour
LB	Pound
MO	Months
T9	Thousand Kilowatt Hours
	Megawatt Hours
TD	Therms
TH	Thousand
TZ	Thousand Cubic Feet
UN	Unit
WK	Week
YR	Years

**PAM06 344 Unit of Time Period or Interval X ID 2/2**

Code indicating the time period or interval

AD	Average Daily
AM	Average Monthly
AN	Annual
AY	Average Year
CC	Cycles
DY	Day
HR	Hours
MO	Month
PM	Preceding 12 Months
YD	Year to Date

**PAM07 374 Date/Time Qualifier X ID 3/3**

Code specifying type of date or time, or both date and time

194	Period End Date
221	Penalty Begin
	Penalty begin date for imbalance notification
MRR	Meter Reading

**PAM08 373 Date X DT 8/8**

Date expressed as CCYYMMDD

**Segment:** **IT1** **Baseline Item Data (Invoice)**  
**Position:** 010  
**Loop:** IT1  
**Level:** Detail:  
**Usage:** Optional  
**Max Use:** 1  
**Purpose:** To specify the basic and most frequently used line item data for the invoice and related transactions

- Syntax Notes:**
- 1 If any of IT102 IT103 or IT104 is present, then all are required.
  - 2 If either IT106 or IT107 is present, then the other is required.
  - 3 if either IT108 or IT109 is present, then the other is required.
  - 4 If either IT110 or IT111 is present, then the other is required.

- Semantic Notes:** 1 IT101 is the purchase order line item identification.  
**Comments:**
- 1 Element 235/234 combinations should be interpreted to include products and/or services. See the Data Dictionary for a complete list of IDs.
  - 2 IT106 through IT125 provide for ten different product/service IDs for each item. For example: Case, Color, Drawing No., U.P.C. No., ISBN No., Model No., or SKU.

- Notes:**
- 1 The typical usage of the IT1 entails including all usage and charges attributed to one meter; in this case, the IT1 loop is qualified with "METER" in the IT108/IT109 pair. In the case where some charges are not attributed to a specific meter, for example, basic customer charge or late payment charge the IT1 loop is qualified with "ACCOUNT" in the IT108/IT109 pair. An 810 invoice may contain both "METER" and "ACCOUNT" IT1 loops.
  - 2 A Meter IT1 loop can be mapped differently, depending on whether Time-of-Use (TOU) or straight meter measurement is employed. With a TOU measurement, multiple MEA segments will convey the usage, with the MEA07 in each MEA providing the TOU classification. The IT1 loop for a non-TOU or straight meter measurement will contain a single MEA segment with no MEA07.

**Data Element Summary**

<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
IT101	350	<b>Assigned Identification</b> Alphanumeric characters assigned for differentiation within a transaction set Line item counter	<b>O AN 1/20</b>
IT106	235	<b>Product/Service ID Qualifier</b> Code identifying the type/source of the descriptive number used in Product/Service ID (234) SV Service Rendered	<b>X ID 2/2</b>
IT107	234	<b>Product/Service ID</b> Identifying number for a product or service Examples: ELECTRIC GAS WATER SEWER REFUSE	<b>X AN 1/48</b>
IT108	235	<b>Product/Service ID Qualifier</b> Code identifying the type/source of the descriptive number used in Product/Service ID (234) C3 Classification	<b>X ID 2/2</b>



<b>IT109</b>	<b>234</b>	<b>Product/Service ID</b> Identifying number for a product or service Examples: ACCOUNT METER RATE UNMET (To designate Unmetered Services) BILLDET SUPCHG (To show supplemental charges)	<b>X AN 1/48</b>
<b>IT110</b>	<b>235</b>	<b>Product/Service ID Qualifier</b> Code identifying the type/source of the descriptive number used in Product/Service ID (234) IT110 and IT111 are used only if IT109 = METER MB Measurement Type Code	<b>X ID 2/2</b>
<b>IT111</b>	<b>234</b>	<b>Product/Service ID</b> Identifying number for a product or service Examples: NT - Non-TOU Measurement TOU - Time of Use Measurement	<b>X AN 1/48</b>
<b>IT112</b>	<b>235</b>	<b>Product/Service ID Qualifier</b> Code identifying the type/source of the descriptive number used in Product/Service ID (234) IT112 and IT113 are used to indicate that consumption will be provided but the actual meter readings will not be provided. EQ Equipment Type	<b>X ID 2/2</b>
<b>IT113</b>	<b>234</b>	<b>Product/Service ID</b> Identifying number for a product or service NR = No reads will be presented	<b>X AN 1/48</b>

**Segment:** **TXI** Tax Information  
**Position:** 040  
**Loop:** IT1  
**Level:** Detail:  
**Usage:** Optional  
**Max Use:** 10  
**Purpose:** To specify tax information  
**Syntax Notes:** 1 At least one of TXI02 TXI03 or TXI06 is required.

**Semantic Notes:**  
 1 TXI02 is the monetary amount of the tax.  
 2 TXI03 is the tax percent expressed as a decimal.  
 3 TXI07 is a code indicating the relationship of the price or amount to the associated segment.

**Comments:**

**Notes:**

Taxes that apply to the entire IT1 segment, are shown in detail position 040. Taxes that do not apply to the entire IT1 segment, but do apply to a specific line charge are shown in TXI position 237, directly following the SAC charge in position 230. Taxes that apply to the entire invoice are considered Account level taxes and are shown in summary position 020. If an IT1 Account loop is used, account level taxes may appear within that loop.

**Data Element Summary**

Ref. Des.	Data Element	Name	Attributes
Must Use	TXI01	<b>963 Tax Type Code</b> Code specifying the type of tax Use any valid Data Element 963 codes as mutually agreed between the trading partners.	M ID 2/2
	TXI02	<b>782 Monetary Amount</b> Monetary amount	X R 1/18
	TXI03	<b>954 Percent</b> Percentage expressed as a decimal This is the tax rate that is applied to the bill. Present as a <b>decimal</b> , e.g., 6% should be expressed as .06	X R 1/10
	TXI06	<b>441 Tax Exempt Code</b> Code identifying exemption status from sales and use tax 1 Yes (Tax Exempt) 2 No (Not Tax Exempt)	X ID 1/1
	TXI07	<b>662 Relationship Code</b> Code indicating the relationship between entities A Add The amount in the TXI02 should be added when summing the invoice total. O Information Only The amount in the TXI02 should be ignored when summing the invoice total.	O ID 1/1
	TXI08	<b>828 Dollar Basis for Percent</b> Dollar basis to be used in the percent calculation of the allowance, charge or tax	O R 1/9
	TXI10	<b>350 Assigned Identification</b> Alphanumeric characters assigned for differentiation within a transaction set	O AN 1/20

**Segment:** **MEA Measurements**

**Position:** 059  
**Loop:** IT1  
**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 At least one of MEA03 MEA05 MEA06 or MEA08 is required.
  - 2 If MEA05 is present, then MEA04 is required.
  - 3 If MEA06 is present, then MEA04 is required.
  - 4 If MEA07 is present, then at least one of MEA03 MEA05 or MEA06 is required.
  - 5 Only one of MEA08 or MEA03 may be present.

**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:** The MEA segment conveys metering data for one period. The 867 transaction should be used to provide interval meter measurements data.

**Data Element Summary**

<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
MEA01	737	<b>Measurement Reference ID Code</b>	<b>O ID 2/2</b>
		Code identifying the broad category to which a measurement applies	
		AA Meter reading-beginning actual/ending actual	
		AB Average Balance	
		Average or contract demand	
		AE Meter reading-beginning actual/ending estimated	
		AF Actual Total	
		AN Work	
		Period actual	
		BC Billed Actual	
		BN Billed Minimum	
		BO Meter Reading as Billed	
		Used when billing charges are based on contractual agreements or pre-established usage and not on actual usage	
		BR Billed History	
		CF Conversion Factor	
		DT Dimensional Tolerance	
		EA Meter reading-beginning estimated/ending actual	
		EE Meter reading-beginning estimated/ending estimated	
		EN Environmental Conditions	
		Period Estimated	
		R1 Opening Reading	
		TI Time	
MEA02	738	<b>Measurement Qualifier</b>	<b>O ID 1/3</b>
		Code identifying a specific product or process characteristic to which a measurement applies	
		CJ Cycle Time	
		CO Core Loss	
		Transformer Loss Multiplier. Used when a	

		customer owns a transformer and the transformer loss is not measured by the meter.
LN		Length
MU		Multiplier
		It was generally agreed that the meter multiplier should be shown in its own MEA segment.
MX		Maximum
PU		Pressure Base
RUD		Usage Deviation (Applies to Kilowatt Hours, Kilowatt Demand and Reactive Demand)
TC		Temperature
VO		Voltage
		Meter voltage
ZA		Power Factor
		Relationship between watts and volt - amperes necessary to supply electric load
ZD		Load Factor
		Relationship between watt hours and watt demand necessary to supply electric load

**MEA03 739 Measurement Value X R 1/20**  
The value of the measurement

**MEA04 C001 Composite Unit of Measure**  
To identify a composite unit of measure (See Figures Appendix for examples of use).

**Must Use C00101 355 Unit or Basis for Measurement Code M ID 2/2**  
Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken

2I	British Thermal Units (BTUs) Per Hour
99	Watt
BL	Block
	Baseline usage for a predetermined period of time
BY	British Thermal Unit (BTU)
BZ	Million BTU's
CF	Cubic Feet
DA	Days
EA	Each
GA	Gallon
HH	Hundred Cubic Feet
HJ	Horsepower
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
K5	Kilovolt Amperes Reactive
K7	Kilowatt
KH	Kilowatt Hour
LB	Pound
MO	Months

		T1	Thousand pounds gross		
		T9	Thousand Kilowatt Hours		
			Megawatt Hours		
		TD	Therms		
		TH	Thousand		
		TZ	Thousand Cubic Feet		
		UN	Unit		
		WK	Week		
		YR	Years		
	<b>C00102</b>	<b>1018</b>	<b>Exponent</b>	<b>O</b>	<b>ID 2/2</b>
			Power to which a unit is raised		
	<b>C00103</b>	<b>649</b>	<b>Multiplier</b>	<b>O</b>	<b>ID 2/2</b>
			Value to be used as a multiplier to obtain a new value		
	<b>C00104</b>	<b>355</b>	<b>Unit or Basis for Measurement Code</b>	<b>O</b>	<b>ID 2/2</b>
			Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken		
		ZZ	Mutually Defined		
			Represents gas heating or billing factor		
	<b>C00105</b>	<b>1018</b>	<b>Exponent</b>	<b>O</b>	<b>ID 2/2</b>
			Power to which a unit is raised		
	<b>C00106</b>	<b>649</b>	<b>Multiplier</b>	<b>O</b>	<b>ID 2/2</b>
			Value to be used as a multiplier to obtain a new value		
<b>Recomm</b>	<b>MEA05</b>	<b>740</b>	<b>Range Minimum</b>	<b>X</b>	<b>R 1/20</b>
			The value specifying the minimum of the measurement range		
			Beginning reading		
<b>Recomm</b>	<b>MEA06</b>	<b>741</b>	<b>Range Maximum</b>	<b>X</b>	<b>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</b>	<b>ID 2/2</b>
			Code used to benchmark, qualify or further define a measurement value		
		10	Not equal to		
		22	Actual		
		31	Calculated		
		34	Ratchet		
			Highest previously attained value		
		39	Corrected		
		40	Uncorrected		
		41	Off Peak		
		42	On Peak		
		43	Intermediate		
		44	Average		
		46	Estimated		
		51	Total		
			Totalizer		
		62	Current		
		68	As Is		
			Indicates that the data is raw, no validation has been performed		
		88	Adjusted		
		93	Previous		

The UIG has made Data Maintenance Requests (DMs) for several additional codes. A new version of the 810 Guideline will be issued when the DMs are approved. Until then, the following non-standard definitions for the 4010 codes will be used.

Non-Standard 4010 Code Definitions	DM-Requested Codes
45 = Summer On Peak	AA
49 = Winter On Peak	AF
50 = Winter Mid Peak	AG
52 = Winter Super Off Peak	AJ
53 = Summer Day	AK
54 = Summer Night	AL
55 = Winter Day	AM
56 = Winter Night	AN
57 = Summer	AO
58 = Winter	AP
59 = Day	AQ
60 = Night	AR
63 = Peak-2	AS
64 = Peak-3	AT
65 = Peak-4	AU
66 = Shoulder	AV
67 = Non Time-Related Demand	AW
71 = Summer Super On Peak	AD
72 = Summer Super Off Peak	AE
73 = Summer Off Peak	AC
74 = Summer Mid Peak	AB
75 = Winter Off Peak	AH
76 = Summer On Peak-2	
77 = Winter On Peak-2	
78 = Summer Mid Peak-2	
79 = Winter Mid Peak-2	

**Segment:** **PID** Product/Item Description  
**Position:** 060  
**Loop:** PID  
**Level:** Detail:  
**Usage:** Optional  
**Max Use:** 1  
**Purpose:** To describe a product or process in coded or free form format  
**Syntax Notes:** 1 At least one of PID04 or PID05 is required.  
**Semantic Notes:**  
**Comments:** 1 If PID01 equals "F", then PID05 is used.  
**Notes:** 2. Used to provide required IT1 level bill print messages. NTE position 030 is for bill print messages that apply to the entire invoice.

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	PID01	349	Item Description Type	M ID 1/1
			Code indicating the format of a description F Free-form	
	PID05	352	Description	X AN 1/80
			A free-form description to clarify the related data elements and their content	

**Segment:** **REF** Reference Identification  
**Position:** 120  
**Loop:** IT1  
**Level:** Detail:  
**Usage:** Optional  
**Max Use:** 12  
**Purpose:** To specify identifying information  
**Syntax Notes:** 1 At least one of REF02 or REF03 is required.  
**Semantic Notes:**  
**Comments:**

**Notes:** Used to provide account number information when the IT1 loop is used to present account information (i.e., the IT109 = ACCOUNT). Trading partners using the meter model (where an IT1 conveys meter charges and usage) should reference the account number information in the Header REF, position 050.

**Data Element Summary**

Ref. Des.	Data Element	Name	Attributes
Must Use REF01	128	<b>Reference Identification Qualifier</b> Code qualifying the Reference Identification	<b>M ID 2/3</b>
		11 Account Number Energy Service Provider-assigned account number for end use customer.	
		12 Billing Account Utility-assigned account number for end use customer.	
		45 Old Account Number Identifies accounts being changed Utility's previous account number for the end use customer.	
		46 Old Meter Number Identifies meters being removed	
		4B Shipment Origin Code	
		5B Supplemental Account Number Energy Service Provider-assigned account number for the Utility.	
		AA Accounts Receivable Statement Number Remit-to reference number.	
		AJ Accounts Receivable Customer Account Utility-assigned account number for the Energy Service Provider.	
		BE Business Activity	
		CT Contract Number	
		CZ Contract Rider Number (Used in conjunction with contract number)	
		IX Item Number Number of dials on meter. See REF02 for valid values.	
		LO Load Planning Number Load profile	
		LU Location Number Service Delivery Point (SDP) Identification number for the point where service is delivered to the customer.(See REF03 for values)	
		MG Meter Number	



NH	Rate Card Number Identifies a utility rate class or tariff
PD	Promotion/Deal Number
PR	Price Quote Number Identifies a unit pricing category under a rate code
PRT	Product Type Identifies the type of service; e.g., yard light, water heater, etc.
PT	Purchase Option Agreement
QQ	Unit Number Signifies number of non-metered units
QY	Service Performed Code
RB	Rate code number Identifies an Energy Service Provider rate class
SU	Special Processing Code Life support equipment verification. See REF02 for valid values.
SV	Service Charge Number
TZ	Total Cycle Number Meter Cycle. Cycle number when the meter will be read.
UP	Upstream Shipper Contract Number

**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 SU, valid values for REF02 are:  
 Y - Life Support Required  
 N - Life Support Not Required  
 I - Investigating whether Life Support is Required

When REF01 is LU, REF02 is not used (see REF03)

When REF01 is QQ, valid values for REF02 are:  
 L – Light  
 U – Un-metered

When REF01 is IX, REF02 is the number of dials on the meter.

Where meter dials have decimal values, the following usage is recommended:

The notation X.Y means that the meter has X dials to the left of the decimal point, and Y dials to the right. REF02 is then given the value X.Y

**REF03 352 Description X AN 1/80**  
 A free-form description to clarify the related data elements and their content  
 When REF01 is "LU", REF03 is used to describe the SDP Code assigned by the utility (LDC) because some descriptions are longer than 30 characters allowed in REF02.

Where meter dials have decimal values, the following usage is recommended:  
 The notation X.Y means that the meter has X dials to the left of the decimal point, and Y dials to the right. REF03 is then given in the value X.Y.

**Segment:** **DTM** Date/Time Reference

**Position:** 150  
**Loop:** IT1  
**Level:** Detail:  
**Usage:** Required  
**Max Use:** 10

**Purpose:** To specify pertinent dates and times

- Syntax Notes:**
- 1 At least one of DTM02 DTM03 or DTM05 is required.
  - 2 If either DTM05 or DTM06 is present, then the other is required.

**Semantic Notes:**

**Comments:** Time is 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).

**Notes:** This segment is required for all services

**Data Element Summary**

Ref. Des.	Data Element	Name	Attributes
Must Use	DTM01	<b>374</b> <b>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	
		319 Failed	
		Meter failure date	
		514 Transferred	
		Exchanged meter read date	
		634 Next Review Date	
		730 Next meter read date	
		Reporting Cycle Date	
		Period	
DTM02	373	<b>Date</b>	<b>X DT 8/8</b>
		Date expressed as CCYYMMDD	
		Use of DTM02/03 allows the translator to validate date and time.	
DTM05	1250	<b>Date Time Period Format Qualifier</b>	<b>X ID 2/3</b>
		Code indicating the date format, time format, or date and time format	
		D8 Date Expressed in Format CCYYMMDD	
		DT Date and Time Expressed in Format CCYYMMDDHHMM	
		UIG recommends that DT not be used because there is no reason to use time at this location of the transaction. It will be removed in future versions.	
		RD8 Range of Dates Expressed in Format CCYYMMDD-CCYYMMDD	

RDT

Range of Date and Time, Expressed in Format  
CCYYMMDDHHMM-CCYYMMDDHHMM  
UIG recommends that RDT not be used because  
there is no reason to use time at this location of  
the transaction. It will be removed in future  
versions.

**DTM06**    **1251**    **Date Time Period**    **X**    **AN 1/35**  
Expression of a date, a time, or range of dates, times or dates and times

**Segment:** **SLN** Subline Item Detail  
**Position:** 200  
**Loop:** SLN  
**Level:** Detail:  
**Usage:** Optional  
**Max Use:** 1  
**Purpose:** To specify product subline detail item data  
**Syntax Notes:**  
**Semantic Notes:**

- 1 SLN01 is the identifying number for the subline item.
- 2 SLN03 is the configuration code indicating the relationship of the subline item to the baseline item.

**Comments:**

- 1 See the Data Element Dictionary for a complete list of IDs.
- 2 SLN01 is related to (but not necessarily equivalent to) the baseline item number. Example: 1.1 or 1A might be used as a subline number to relate to baseline number 1.

**Notes:** The IT1/SLN segment is used to overcome the limitation on the number of IT1/SAC loops.  
Each SLN loop will contain only one SAC and TXI. Multiple charges/allowances require multiple SLN loops.

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	SLN01	350	<b>Assigned Identification</b> Alphanumeric characters assigned for differentiation within a transaction set Used as a loop counter	M AN 1/20
Must Use	SLN03	662	<b>Relationship Code</b> Code indicating the relationship between entities A Add	M ID 1/1

**Segment:** **SAC Service, Promotion, Allowance, or Charge Information**

**Position:** 230  
**Loop:** SLN  
**Level:** Detail  
**Usage:** Optional  
**Max Use:** 25  
**Purpose:** To request or identify a service, promotion, allowance, or charge; to specify the amount or percentage for the service, promotion, allowance, or charge

**Syntax Notes:**

- 1 At least one of SAC02 or SAC03 is required.
- 2 If either SAC03 or SAC04 is present, then the other is required.
- 3 If either SAC06 or SAC07 is present, then the other is required.
- 4 If either SAC09 or SAC10 is present, then the other is required.

**Semantic Notes:**

- 1 If SAC01 is "A" or "C", then at least one of SAC05, SAC07, or SAC08 is required. The value of the SAC01 indicator is not to be used to indicate the sign of the amount in SAC05.
- 2 SAC05 is the total amount for the service, promotion, allowance, or charge. If SAC05 is present with SAC07 or SAC08, then SAC05 takes precedence.
- 3 SAC08 is the allowance or charge rate per unit.
- 4 SAC10 and SAC11 are the quantity basis when the allowance or charge quantity is different from the purchase order or invoice quantity. SAC10 and SAC11 used together indicate a quantity range, which could be a dollar amount, that is applicable to service, promotion, allowance, or charge.

**Comments:**

- 1 SAC04 may be used to uniquely identify the service, promotion, allowance, or charge. In addition, it may be used in conjunction to further the code in SAC02.

**Notes:**

Each SLN loop will contain only one SAC and TXI. Multiple charges/allowances require multiple SLN loops.

Previous editions of this guideline stated that the amount shown in SAC05 will always be positive and that the code used in SAC01 will indicate whether to add or subtract the SAC05 amount to or from the TDS. As a result of a clarification provided by X12F, it has been determined that the above statement is incorrect; future versions of the UIG guidelines will no longer contain the above statement.

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	SAC01	248	<b>Allowance or Charge Indicator</b>	<b>M ID 1/1</b>
			A Allowance	Previous editions of this guideline stated that this code indicated that the amount in SAC05 should be subtracted when summing the invoice total. As a result of a clarification provided by X12F, it has been determined that the above statement is incorrect. Future versions of the UIG guidelines will no longer contain the above statement.
			C Charge	Previous editions of this guideline stated that this code indicated that the amount in SAC05 should be added when summing the invoice total. As a result of a clarification provided by X12F, it has been determined that the above statement is incorrect. Future versions of the UIG guidelines will no longer contain the above statement.

		N	No Allowance or Charge The amount in the SAC05 should be ignored when summing the invoice total.		
<b>SAC03</b>	<b>559</b>	<b>Agency Qualifier Code</b>		<b>X</b>	<b>ID 2/2</b>
		Code identifying the agency assigning the code values			
		EU	Electric Utilities Use this code until the DM for code UT to indicate the UIG is approved.		
<b>SAC04</b>	<b>1301</b>	<b>Agency Service, Promotion, Allowance, or Charge Code</b>		<b>X</b>	<b>AN 1/10</b>
		Agency maintained code identifying the service, promotion, allowance, or charge			
		The Utility Industry Group maintains this code list. See the UIG web site at <a href="http://www.uig.org">http://www.uig.org</a> or contact a UIG member for implementation details. The most current listing of codes will be available on the web site.			
<b>SAC05</b>	<b>610</b>	<b>Amount</b>		<b>O</b>	<b>N2 1/15</b>
		Monetary amount			
		Previous editions of this guideline stated that this amount will always be positive and that the SAC01 will indicate whether to add to or subtract from the TDS. As a result of a clarification provided by X12F, it has been determined that the above statement is incorrect; future versions of the UIG guidelines will no longer contain the above statement. The code used in SAC01 does not indicate the sign of the amount in SAC05. The amount shown in SAC05 may be either positive or negative; if negative, the minus sign, " - ", must be transmitted.			
<b>SAC06</b>	<b>378</b>	<b>Allowance/Charge Percent Qualifier</b>		<b>X</b>	<b>ID 1/1</b>
		Code indicating on what basis allowance or charge percent is calculated			
		Z	Mutually Defined Used for percent participation.		
		9	Late Payment Charge Base Amount Used to indicate a late charge percentage		
<b>SAC07</b>	<b>332</b>	<b>Percent</b>		<b>X</b>	<b>R 1/6</b>
		Percent expressed as a percent Used to express the percentage of the total load that is being supplied by the ESP. This is the multiplication of two fields that are on the 814 transaction, AMT*7N (Participating Interest) and AMT*QY (Eligible Load). Present as a percent: e.g. 75% should be expressed as 75, or, 67.67% should be expressed as 67.67.			
<b>SAC08</b>	<b>118</b>	<b>Rate</b>		<b>O</b>	<b>R 1/9</b>
		Rate expressed in the standard monetary denomination for the currency specified			
<b>SAC09</b>	<b>355</b>	<b>Unit or Basis for Measurement Code</b>		<b>X</b>	<b>ID 2/2</b>
		Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken			
		2I	British Thermal Units (BTUs) Per Hour		
		99	Watt		
		BL	Block Baseline usage for a predetermined period of time		
		BY	British Thermal Unit (BTU)		
		BZ	Million BTU's MMBtu for gas or MBtu for electricity or Decatherms.		
		CF	Cubic Feet		
		DA	Days		
		EA	Each		
		GA	Gallon		

HH	Hundred Cubic Feet Ccf
HJ	Horsepower
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
K5	Kilovolt Amperes Reactive
K7	Kilowatt
KH	Kilowatt Hour
LB	Pound
MO	Months
T1	Thousand pounds gross
T9	Thousand Kilowatt Hours
TD	Therms
TH	Thousand
TZ	Thousand Cubic Feet Mcf
UN	Unit
WK	Week
YR	Years

**SAC10 380 Quantity** X R 1/15  
 Numeric value of quantity

**SAC13 230 Reference Identification** X AN 1/30  
 Reference information as defined for a particular Transaction Set or as specified by the  
 Reference Identification Qualifier  
 Used as a sequencing number for the non-billing party to sequence bill  
 line items for printing the bill.

**SAC15 352 Description** X AN 1/80  
 A free-form description to clarify the related data elements and their content

**Segment:** **TXI Tax Information**

**Position:** 237  
**Loop:** SLN  
**Level:** Detail:  
**Usage:** Optional  
**Max Use:** 10

**Purpose:** To specify tax information

- Syntax Notes:** 1 At least one of TXI02 TXI03 or TXI06 is required.  
**Semantic Notes:** 1 TXI02 is the monetary amount of the tax.  
2 TXI03 is the tax percent expressed as a decimal.  
3 TXI07 is a code indicating the relationship of the price or amount to the associated segment.

**Comments:**

**Notes:** Taxes that apply to the entire IT1 segment, are shown in detail position 040. Taxes that do not apply to the entire IT1 segment, but do apply to a specific line charge are shown in TXI position 237, directly following the SAC charge in position 230. Taxes that apply to the entire invoice are considered Account level taxes and are shown in summary position 020. If an IT1 Account loop is used, account level taxes may appear within that loop.

**Data Element Summary**

Ref. Des.	Data Element	Name	Attributes
Must Use TXI01	963	<b>Tax Type Code</b> Code specifying the type of tax Use any valid Data Element 963 codes as mutually agreed between the trading partners.	M ID 2/2
TXI02	782	<b>Monetary Amount</b> Monetary amount	X R 1/18
TXI03	954	<b>Percent</b> Percentage expressed as a decimal Present as a <b>decimal</b> , e.g., 75% should be expressed as .75	X R 1/10
TXI06	441	<b>Tax Exempt Code</b> Code identifying exemption status from sales and use tax 1 Yes (Tax Exempt) 2 No (Not Tax Exempt)	X ID 1/1
TXI07	662	<b>Relationship Code</b> Code indicating the relationship between entities A Add The amount in the TXI02 should be added when summing the invoice total. O Information Only The amount in the TXI02 should be ignored when summing the invoice total.	O ID 1/1
TXI08	828	<b>Dollar Basis for Percent</b> Dollar basis to be used in the percent calculation of the allowance, charge or tax	O R 1/9
TXI10	350	<b>Assigned Identification</b> Alphanumeric characters assigned for differentiation within a transaction set	O AN 1/20



**Segment:** **N1** Name  
**Position:** 240  
**Loop:** N1  
**Level:** Detail  
**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.

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	N101	98	<b>Entity Identifier Code</b> Code identifying an organizational entity, a physical location, property or an individual MQ Metering Location	<b>M ID 2/3</b>
	N102	93	<b>Name</b> Free-form name	<b>X AN 1/60</b>
	N103	66	<b>Identification Code Qualifier</b> Code designating the system/method of code structure used for Identification Code (67) 92 Assigned by Buyer or Buyer's Agent Customer-assigned number	<b>X ID 1/2</b>
	N104	67	<b>Identification Code</b> Code identifying a party or other code Identifying number meaningful to the customer	<b>X AN 2/80</b>

**Segment:** **N2** Additional Name Information  
**Position:** 250  
**Loop:** N1  
**Level:** Detail  
**Usage:** Optional  
**Max Use:** 2  
**Purpose:** To specify additional names or those longer than 60 characters in length  
**Syntax Notes:**  
**Semantic Notes:**  
**Comments:**

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	N201	93	<b>Name</b> Free-form name	<b>M AN 1/60</b>
	N202	93	<b>Name</b> Free-form name	<b>O AN 1/60</b>

**Segment:** **N3** Address Information  
**Position:** 260  
**Loop:** N1  
**Level:** Detail:  
**Usage:** Optional  
**Max Use:** 2  
**Purpose:** To specify the location of the named party  
**Syntax Notes:**  
**Semantic Notes:**  
**Comments:**  
**Notes:** Service Address

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	N301	166	<b>Address Information</b> Address information	M AN 1/55
	N302	166	<b>Address Information</b> Address information	O AN 1/55

**Segment:** **N4** Geographic Location  
**Position:** 270  
**Loop:** N1  
**Level:** Detail:  
**Usage:** Optional  
**Max Use:** 1  
**Purpose:** To specify the geographic place of the named party  
**Syntax Notes:** 1 If N406 is present, then N405 is required.  
**Semantic Notes:**  
**Comments:** 1 A combination of either N401 through N404, or N405 and N406 may be adequate to specify a location.  
 2 N402 is required only if city name (N401) is in the U.S. or Canada.

**Notes:** Service address

**Data Element Summary**

<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
N401	19	<b>City Name</b> Free-form text for city name	O AN 2/30
N402	156	<b>State or Province Code</b> Code (Standard State/Province) as defined by appropriate government agency	O ID 2/2
N403	116	<b>Postal Code</b> Code defining international postal zone code excluding punctuation and blanks (zip code for United States)	O ID 3/15
N404	26	<b>Country Code</b> Code identifying the country	O ID 2/3
N405	309	<b>Location Qualifier</b> Code identifying type of location CO County/Parish and State	X ID 1/2
N406	310	<b>Location Identifier</b> Code which identifies a specific location	O AN 1/30

**Segment:** **REF** Reference Identification  
**Position:** 280  
**Loop:** N1  
**Level:** Detail:  
**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:**

**Notes:** Used to further identify any customer-required identification numbers, e.g., accounting distribution.

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	REF01	128	<b>Reference Identification Qualifier</b> Code qualifying the Reference Identification Use any valid Data Element 128 code qualifiers, as mutually agreed between the trading partners.	<b>M ID 2/3</b>
	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>
	REF03	352	<b>Description</b> A free-form description to clarify the related data elements and their content	<b>X AN 1/80</b>

**Segment:** **TDS** Total Monetary Value Summary  
**Position:** 010  
**Loop:**  
**Level:** Summary:  
**Usage:** Mandatory  
**Max Use:** 1  
**Purpose:** To specify the total invoice discounts and amounts  
**Syntax Notes:**  
**Semantic Notes:** 1 TDS01 is the total amount of invoice (including charges, less allowances) before terms discount (if discount is applicable).  
**Comments:**  
**Notes:** TDS01 is the total amount due for this invoice and must equal the algebraic sum of the amounts in the TXI02 and SAC05 segments. If this amount is negative, send the minus sign.

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	TDS01	610	Amount Monetary amount	M N2 1/15

**Segment:** **TXI Tax Information**  
**Position:** 020  
**Loop:**  
**Level:** Summary:  
**Usage:** Optional  
**Max Use:** 10  
**Purpose:** To specify tax information  
**Syntax Notes:**

- 1 At least one of TXI02 TXI03 or TXI06 is required.
- 2 If either TXI04 or TXI05 is present, then the other is required.
- 3 If TXI08 is present, then TXI03 is required.

**Semantic Notes:**

- 1 TXI02 is the monetary amount of the tax.
- 2 TXI03 is the tax percent expressed as a decimal.
- 3 TXI07 is a code indicating the relationship of the price or amount to the associated segment.

**Comments:**  
**Notes:**

Taxes that apply to the entire IT1 segment, are shown in detail position 040. Taxes that do not apply to the entire IT1 segment, but do apply to a specific line charge are shown in TXI position 237, directly following the SAC charge in position 230. Taxes that apply to the entire invoice are considered Account level taxes and are shown in summary position 020. If an IT1 Account loop is used, account level taxes may appear within that loop.

**Data Element Summary**

Ref. Des.	Data Element	Name	Attributes
Must Use TXI01	963	<b>Tax Type Code</b> Code specifying the type of tax Use any valid Data Element 963 codes as mutually agreed between the trading partners.	M ID 2/2
TXI02	782	<b>Monetary Amount</b> Monetary amount	X R 1/18
TXI03	954	<b>Percent</b> Percentage expressed as a decimal Present as a <b>decimal</b> , e.g., 75% should be expressed as .75	X R 1/10
TXI06	441	<b>Tax Exempt Code</b> Code identifying exemption status from sales and use tax 1 Yes (Tax Exempt) 2 No (Not Tax Exempt)	X ID 1/1
TXI07	662	<b>Relationship Code</b> Code indicating the relationship between entities A Add The amount in the TXI02 should be added when summing the invoice total. O Information Only The amount in the TXI02 should be ignored when summing the invoice total.	O ID 1/1
TXI08	828	<b>Dollar Basis for Percent</b> Dollar basis to be used in the percent calculation of the allowance, charge or tax	O R 1/9
TXI10	350	<b>Assigned Identification</b> Alphanumeric characters assigned for differentiation within a transaction set	O AN 1/20

**Segment:** **SAC Service, Promotion, Allowance, or Charge Information**

**Position:** 040  
**Loop:** SAC  
**Level:** Summary:  
**Usage:** Optional  
**Max Use:** 1  
**Purpose:**

To request or identify a service, promotion, allowance, or charge; to specify the amount or percentage for the service, promotion, allowance, or charge

- Syntax Notes:**
- 1 At least one of SAC02 or SAC03 is required.
  - 2 If either SAC03 or SAC04 is present, then the other is required.
  - 3 If either SAC06 or SAC07 is present, then the other is required.
  - 4 If either SAC09 or SAC10 is present, then the other is required.

- Semantic Notes:**
- 1 If SAC01 is "A" or "C", then at least one of SAC05, SAC07, or SAC08 is required. The value of the SAC01 indicator is not to be used to indicate the sign of the amount in SAC05.
  - 2 SAC05 is the total amount for the service, promotion, allowance, or charge. If SAC05 is present with SAC07 or SAC08, then SAC05 takes precedence.
  - 3 SAC08 is the allowance or charge rate per unit.
  - 4 SAC10 and SAC11 are the quantity basis when the allowance or charge quantity is different from the purchase order or invoice quantity. SAC10 and SAC11 used together indicate a quantity range, which could be a dollar amount, that is applicable to service, promotion, allowance, or charge.
- Comments:**
- 1 SAC04 may be used to uniquely identify the service, promotion, allowance, or charge. In addition, it may be used in conjunction to further the code in SAC02.

**Notes:** Account/Invoice level charges and allowances.

Previous editions of this guideline stated that the amount shown in SAC05 will always be positive and that the code used in SAC01 will indicate whether to add or subtract the SAC05 amount to or from the TDS. As a result of a clarification provided by X12F, it has been determined that the above statement is incorrect; future versions of the UIG guidelines will no longer contain the above statement.

**Data Element Summary**

Ref. Des.	Data Element	Name	Attributes
Must Use	SAC01	248 Allowance or Charge Indicator	M ID 1/1
		Code which indicates an allowance or charge for the service specified	
		A Allowance	
			Previous editions of this guideline stated that this code indicated that the amount in SAC05 should be subtracted when summing the invoice total. As a result of a clarification provided by X12F, it has been determined that the above statement is incorrect. Future versions of the UIG guidelines will no longer contain the above statement.
		C Charge	
			Previous editions of this guideline stated that this code indicated that the amount in SAC05 should be added when summing the invoice total. As a result of a clarification provided by X12F, it has been determined that the above statement is incorrect. Future versions of the UIG guidelines will no longer contain the above statement.



		N	No Allowance or Charge The amount in the SAC05 should be ignored when summing the invoice total.		
<b>SAC03</b>	<b>559</b>	<b>Agency Qualifier Code</b>		<b>X</b>	<b>ID 2/2</b>
		Code identifying the agency assigning the code values			
		EU	Electric Utilities		
			Use this code until the DM for code UT to indicate the UIG is approved.		
<b>SAC04</b>	<b>1301</b>	<b>Agency Service, Promotion, Allowance, or Charge Code</b>		<b>X</b>	<b>AN 1/10</b>
		Agency maintained code identifying the service, promotion, allowance, or charge			
		The Utility Industry Group maintains this code list. See the UIG web site at <a href="http://www.uig.org">http://www.uig.org</a> or contact a UIG member for implementation details. The most current listing will be available on the web site.			
<b>SAC05</b>	<b>610</b>	<b>Amount</b>		<b>O</b>	<b>N2 1/15</b>
		Monetary amount			
		Previous editions of this guideline stated that this amount will always be positive and that the SAC01 will indicate whether to add to or subtract from the TDS. As a result of a clarification provided by X12F, it has been determined that the above statement is incorrect; future versions of the UIG guidelines will no longer contain the above statement. The code used in SAC01 does not indicate the sign of the amount in SAC05. The amount shown in SAC05 may be either positive or negative; if negative, the minus sign, " - ", must be transmitted.			
<b>SAC06</b>	<b>378</b>	<b>Allowance/Charge Percent Qualifier</b>		<b>X</b>	<b>ID 1/1</b>
		Code indicating on what basis allowance or charge percent is calculated			
		Z	Mutually Defined		
			Used for percent participation.		
<b>SAC07</b>	<b>332</b>	<b>Percent</b>		<b>X</b>	<b>R 1/6</b>
		Percent expressed as a percent			
		Used to express the percentage of the total load that is being supplied by the ESP. This is the multiplication of two fields that are on the 814 transaction, AMT*7N (Participating Interest) and AMT*QY (Eligible Load). Present as a percent: e.g. 75% should be expressed as 75, and 66.67% is expressed as 66.67.			
<b>SAC08</b>	<b>118</b>	<b>Rate</b>		<b>O</b>	<b>R 1/9</b>
		Rate expressed in the standard monetary denomination for the currency specified			
<b>SAC09</b>	<b>355</b>	<b>Unit or Basis for Measurement Code</b>		<b>X</b>	<b>ID 2/2</b>
		Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken			
		2I	British Thermal Units (BTUs) Per Hour		
		99	Watt		
		BL	Block		
			Baseline usage for a predetermined period of time		
		BY	British Thermal Unit (BTU)		
		BZ	Million BTU's		
			MMBtu or Decatherms		
		CF	Cubic Feet		
		DA	Days		
		EA	Each		
		GA	Gallon		
		HH	Hundred Cubic Feet		
			Ccf		
		HJ	Horsepower		

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
K5	Kilovolt Amperes Reactive
K7	Kilowatt
KH	Kilowatt Hour
LB	Pound
MO	Months
T1	Thousand pounds gross
T9	Thousand Kilowatt Hours
TD	Therms
TH	Thousand
TZ	Thousand Cubic Feet
	Mcf
UN	Unit
WK	Week
YR	Years

**SAC10 380 Quantity** X R 1/15  
 Numeric value of quantity

**SAC13 230 Reference Identification** X AN 1/30  
 Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier  
 Used as a sequencing number for the non-billing party to sequence bill line items for printing the bill.

**SAC15 352 Description** X AN 1/80  
 A free-form description to clarify the related data elements and their content

**Segment:** **TXI Tax Information**  
**Position:** 050  
**Loop:** SAC  
**Level:** Summary:  
**Usage:** Optional  
**Max Use:** 10  
**Purpose:** To specify tax information  
**Syntax Notes:** 1 At least one of TXI02 TXI03 or TXI06 is required.  
 2 If either TXI04 or TXI05 is present, then the other is required.  
 3 If TXI08 is present, then TXI03 is required.  
**Semantic Notes:** 1 TXI02 is the monetary amount of the tax.  
 2 TXI03 is the tax percent expressed as a decimal.  
 3 TXI07 is a code indicating the relationship of the price or amount to the associated segment.  
**Comments:**  
**Notes:** Taxes included in this position relate to the immediately preceding SAC charges.

**Data Element Summary**

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TXI06	441	<b>Tax Exempt Code</b> Code identifying exemption status from sales and use tax 1 Yes (Tax Exempt) 2 No (Not Tax Exempt)	X ID 1/1
TXI07	662	<b>Relationship Code</b> Code indicating the relationship between entities A Add The amount in the TXI02 should be added when summing the invoice total. O Information Only The amount in the TXI02 should be ignored when summing the invoice total.	O ID 1/1
TXI08	828	<b>Dollar Basis for Percent</b> Dollar basis to be used in the percent calculation of the allowance, charge or tax	O R 1/9
TXI10	350	<b>Assigned Identification</b> Alphanumeric characters assigned for differentiation within a transaction set	O AN 1/20

**Segment:** **CTT** Transaction Totals  
**Position:** 070  
**Loop:**  
**Level:** Summary:  
**Usage:** Optional  
**Max Use:** 1  
**Purpose:** To transmit a hash total for a specific element in the transaction set  
**Syntax Notes:**  
**Semantic Notes:**  
**Comments:** 1 This segment is intended to provide hash totals to validate transaction completeness and correctness.

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	CTT01	354	<b>Number of Line Items</b> Total number of line items in the transaction set The number of IT1 segments.	M NO 1/6

**Segment:** **SE** Transaction Set Trailer  
**Position:** 080  
**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.

**Data Element Summary**

	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	SE01	96	<b>Number of Included Segments</b> Total number of segments included in a transaction set including ST and SE segments	<b>M NO 1/10</b>
Must Use	SE02	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>