Utility Industry Group Implementation Guideline

for

Electronic

Data

Interchange

810

Invoice
Ver/Rel 003070

Utility to Energy Service Provider

MARCH 1998

Summary of Changes

March 9, 1998 | Initial release.

810 Invoice

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.

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 for customary and established business and industry practice relative to the billing for goods and services provided.

Notes

This Implementation Guideline was designed 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.

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 has the primary business relationship with the end-use customer
- The end-use customer (Code 8R)

The primary processes addressed by this Transaction Set 810 are:
- Billing the ESP for energy and services provided by the utility
- Advising the ESP of metered consumption by the customer
- Advising the ESP of amounts billed by the utility on the ESP's behalf

810 Invoice

Best Practices

Global Best Practices

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 processable 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 avaiable from DISA.

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.

Use of The IT1 Segment

- An IT1 loop is used to accumulate all consumption and 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.

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 document will be revised to remove the SLN segment.

Values in Element SAC05

- The amount shown in SAC05 will always be positive. The SAC01 will indicate whether to add or subtract this amount to or from the TDS.

Capitalization

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

810 Invoice

Functional Group ID=IN

Header

	Pos. No.	Seg. ID	Name	Req. Des.	Max.Use	Loop Repeat	Notes and Comments
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

	Pos. No.	Seg. ID	Name	Req. Des.	Max.Use	Loop Repeat	Notes and Comments
			LOOP ID - IT1			200000	
Must Use	010	IT1	Baseline Item Data (Invoice)	O	1		
	040	TXI	Tax Information	O	10		
	059	MEA	Measurements	O	40		
	120	REF	Reference Identification	O	12		
Must Use	150	DTM	Date/Time Reference	O	10		
			LOOP ID - SLN			1000	
Must Use	200	SLN	Subline Item Detail	O	1		
	230	SAC	Service, Promotion, Allowance, or Charge Information	O	1		
	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

	Pos. No.	Seg. ID	Name	Req. Des.	Max.Use	Loop Repeat	Notes and Comments
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.

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

	Ref. Des.	Data Element	Name	Attributes
Must Use	**ST01**	**143**	**Transaction Set Identifier Code** Code uniquely identifying a Transaction Set 810 Invoice	**M ID 3/3**
Must Use	**ST02**	**329**	**Transaction Set Control Number** Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set	**M AN 4/9**

Segment:	**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.
	2	BIG03 is the date assigned by the purchaser to purchase order.
	3	BIG10 indicates the consolidated invoice number. When BIG07 contains code CI, BIG10 is not used.
Comments:	**1**	BIG07 is used only to further define the type of invoice when needed.

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
Must Use	**BIG01**	**373**	**Date** Date (YYMMDD)	**M**	**DT 6/6**
Must Use	**BIG02**	**76**	**Invoice Number** Identifying number assigned by issuer The Utility will send a unique number that should be returned with the payment.	**M**	**AN 1/22**
	BIG04	**324**	**Purchase Order Number** Identifying number for Purchase Order assigned by the orderer/purchaser	**O**	**AN 1/22**
	BIG07	**640**	**Transaction Type Code** Code specifying the type of transaction	**O**	**ID 2/2**

        FB   Final Bill
        FE   Memorandum, Final Bill
                         The final (last) bill for a non-payable invoice (memo)
        ME   Memorandum
        PR   Product (or Service)

	BIG08	**353**	**Transaction Set Purpose Code** Code identifying purpose of transaction set	**O**	**ID 2/2**

        00   Original
        01   Cancellation
        07   Duplicate
        CO   Corrected

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:	Used for required messages and notices

Data Element Summary

Ref. Des.	Data Element	Name	Attributes
NTE01	**363**	**Note Reference Code**	**O ID 3/3**

Code identifying the functional area or purpose for which the note applies

ADD	Additional Information
	Utility-required messages or notices.
OTH	Other Instructions
	Regulatory-required messages or notices.

Ref. Des.	Data Element	Name	Attributes
Must Use **NTE02**	**352**	**Description**	**M AN 1/80**

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

	Ref. Des.	Data Element	Name	Attributes
Must Use	CUR01	98	**Entity Identifier Code**	M ID 2/3

Code identifying an organizational entity, a physical location, property or an individual

    85   Billing Provider

	Ref. Des.	Data Element	Name	Attributes
Must Use	CUR02	100	**Currency Code**	M ID 3/3

Code (Standard ISO) for country in whose currency the charges are specified

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

	Ref. Des.	Data Element	Name	Attributes	
Must Use	**REF01**	**128**	**Reference Identification Qualifier**	**M**	**ID 2/3**

Code qualifying the Reference Identification

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.	
45	Old Account Number	
	Previous Utility-assigned 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.	
BLT	Billing Type	
CT	Contract Number	
OI	Original Invoice Number	
	Sent when BIG08 = CO.	
TZ	Total Cycle Number	
	Billing cycle.	

	Ref. Des.	Data Element	Name	Attributes	
	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 BLT, valid values for REF02 are LDC (meaning the utility bills the customer), ESP (meaning the ESP bills the customer), and DUAL (meaning each party bills the customer).

	Ref. Des.	Data Element	Name	Attributes	
	REF03	**352**	**Description**	**X**	**AN 1/80**

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

	Ref. Des.	Data Element	Name	Attributes	
Must Use	N101	98	**Entity Identifier Code**	**M**	**ID 2/3**

Code identifying an organizational entity, a physical location, property or an individual

8R	Consumer Service Provider (CSP) Customer End-Use Customer
8S	Consumer Service Provider (CSP) Utility
AG	Agent/Agency Billing agent
RE	Party to receive commercial invoice remittance Used if the remit-to party is not the Utility or the Energy Service Provider.
SJ	Service Provider Energy Service Provider

	Ref. Des.	Data Element	Name	Attributes	
	N102	93	**Name**	**X**	**AN 1/60**

Free-form name

	Ref. Des.	Data Element	Name	Attributes	
	N103	66	**Identification Code Qualifier**	**X**	**ID 1/2**

Code designating the system/method of code structure used for Identification Code (67)

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

	Ref. Des.	Data Element	Name	Attributes	
	N104	67	**Identification Code**	**X**	**AN 2/20**

Code identifying a party or other code

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

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

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

	Ref. Des.	Data Element	Name	Attributes	
Must Use	N301	166	**Address Information** Address information	M	AN 1/55
	N302	166	**Address Information** 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

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

	Ref. Des.	Data Element	Name	Attributes	
Must Use	**REF01**	**128**	**Reference Identification Qualifier** Code qualifying the Reference Identification Use any valid Data Element 128 code qualifiers, as mutually agreed between the trading partners.	**M**	**ID 2/3**
	REF02	**127**	**Reference Identification** Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier	**X**	**AN 1/30**

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

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:
Semantic Notes:
Comments:

Data Element Summary

Ref. Des.	Data Element	Name	Attributes	
ITD06	**446**	**Terms Net Due Date** Payment due date (if applicable).	**O**	**DT 6/6**

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:	

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
Must Use	**DTM01**	**374**	**Date/Time Qualifier**	**M ID 3/3**

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

150	Service Period Start
151	Service Period End
221	Penalty Begin
	Date on which late payment charges begin.
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

	Ref. Des.	Data Element	Name	Attributes
	DTM06	**1250**	**Date Time Period Format Qualifier**	**X ID 2/3**

Code indicating the date format, time format, or date and time format

D6	Date Expressed in Format YYMMDD
D8	Date Expressed in Format CCYYMMDD
RD6	Range of Dates Expressed in Format YYMMDD-YYMMDD
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

	Ref. Des.	Data Element	Name	Attributes
	DTM07	**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:

Data Element Summary

	Ref. Des.	Data Element	Name		Attributes
Must Use	BAL01	951	**Balance Type Code**	M	ID 1/2

Code indicating the type of balance
    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.

	Ref. Des.	Data Element	Name		Attributes
Must Use	BAL02	522	**Amount Qualifier Code**	M	ID 1/2

Code to qualify amount
    PB   Billed Amount
                Total amount due on the period bill
    TP   Total Payment Amount
    YB   Actual Unpaid Principal Balance

	Ref. Des.	Data Element	Name		Attributes
Must Use	BAL03	782	**Monetary Amount**	M	R 1/15

Monetary amount

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

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

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

Ref. Des.	Data Element	Name		Attributes
PAM01	**673**	**Quantity Qualifier**	**X**	**ID 2/2**
		Code specifying the type of quantity		
		99 Quantity Used		
		Quantity of units used		
		KA Estimated		
		The quantity shown is an estimated quantity		
PAM02	**380**	**Quantity**	**X**	**R 1/15**
		Numeric value of quantity		
Must Use **PAM03**	**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		
		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
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

MRR	Meter Reading

PAM08   373   Date   X   DT 6/6
Date (YYMMDD)

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 for one meter; in this case, the IT1 loop is qualified as METER in the IT108/IT109 pair. In the case where the meter model is not used, the IT1 loop is qualified as ACCOUNT in the IT108/IT109 pair.
	2	The Meter IT1 loop is 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

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

| **IT108** | 235 | **Product/Service ID Qualifier** | | X | **ID 2/2** |

Code identifying the type/source of the descriptive number used in
Product/Service ID (234)

C3   Classification

| **IT109** | 234 | **Product/Service ID** | | X | **AN 1/48** |

Identifying number for a product or service

Examples: ACCOUNT
         METER

| **IT110** | 235 | **Product/Service ID Qualifier** | | X | **ID 2/2** |

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

| **IT111** | 234 | **Product/Service ID** | | X | **AN 1/48** |

Identifying number for a product or service

Examples: TOU - Time of Use Measurement
         NT   - Non-TOU Measurement

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 included in this position are meter level (IT1) tax charges.

Data Element Summary

	Ref. Des.	Data Element	Name		Attributes
Must Use	**TXI01**	**963**	**Tax Type Code**	**M**	**ID 2/2**

Code specifying the type of tax
Use any valid Data Element 963 codes as mutually agreed between the trading partners.

	TXI02	**782**	**Monetary Amount**	**X**	**R 1/15**

Monetary amount

	TXI03	**954**	**Percent**	**X**	**R 1/10**

Percentage expressed as **a decimal**, e.g., 75% should be expressed as .75

	TXI06	**441**	**Tax Exempt Code**	**X**	**ID 1/1**

Code identifying exemption status from sales and use tax
1   Yes (Tax Exempt)
2   No (Not Tax Exempt)

	TXI07	**662**	**Relationship Code**	**O**	**ID 1/1**

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.

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

Ref. Des.	Data Element	Name	Attributes
MEA01	737	**Measurement Reference ID Code**	**O ID 2/2**

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
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
R1	Opening Reading
TI	Time

Ref. Des.	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

CJ	Cycle Time
LN	Length
MU	Multiplier
MX	Maximum
PU	Pressure Base
RUD	Usage Deviation (Applies to Kilowatt Hours, Kilowatt Demand and Reactive Demand)
TC	Temperature

			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		

Must Use   **MEA04**   **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

Code	Description
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
TD	Therms
TH	Thousand
TZ	Thousand Cubic Feet
UN	Unit
WK	Week
YR	Years

| | MEA05 | 740 | **Range Minimum** | X | R | **1/20** |

The value specifying the minimum of the measurement range
Beginning reading
Recommended by the UIG.

| **Must Use** | MEA06 | 741 | **Range Maximum** | X | R | **1/20** |

The value specifying the maximum of the measurement range
Ending reading or single reading (e.g., demand).
Required by the UIG.

| | MEA07 | 935 | **Measurement Significance Code** | O | ID 2/2 |

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
88	Adjusted
93	Previous

The UIG has made Data Maintenance Requests (DMs) for several
codes. This document will be revised when the DMs are approved.
Until then, the following non-standard code definitions will be used.

44 = Summer Off Peak
45 = Summer On Peak
46 = Summer Mid Peak
47 = Summer Super On Peak
48 = Summer Super Off Peak
49 = Winter On Peak
50 = Winter Mid Peak
51 = Winter Off Peak
52 = Winter Super Off Peak
53 = Summer Day
54 = Summer Night
55 = Winter Day
56 = Winter Night
57 = Summer
58 = Winter
59 = Day
60 = Night
62 = Current
63 = Peak-2
64 = Peak-3
65 = Peak-4
66 = Shoulder
67 = Non Time-Related Demand

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.	
	2 If either C04003 or C04004 is present, then the other is required.	
	3 If either C04005 or C04006 is present, then the other is required.	
Semantic Notes:	**1** REF04 contains data relating to the value cited in REF02.	
Comments:		
Notes:	This segment is used only 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 information in the Header REF, position 050.	

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
Must Use	REF01	128	**Reference Identification Qualifier**	M	ID 2/3

Code qualifying the Reference Identification

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	
	Previous Utility-assigned 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)	
LO	Load Planning Number	
	Load profile	
LU	Location Number	
MG	Meter Number	
PD	Promotion/Deal Number	
PRT	Product Type	
PT	Purchase Option Agreement	
QY	Service Performed Code	

	RB	Rate code number
	SU	Special Processing Code
	SV	Service Charge Number
	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

REF03   **352**   **Description**   **X**   **AN 1/80**

A free-form description to clarify the related data elements and their content

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 DTM06 is required.
	2 If DTM04 is present, then DTM03 is required.
	3 If either DTM06 or DTM07 is present, then the other is required.
Semantic Notes:	
Comments:	
Notes:	This segment is required for all services

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
Must Use	DTM01	374	**Date/Time Qualifier**	M ID 3/3

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

150	Service Period Start	
	Recommended by UIG.	
151	Service Period End	
	Recommended by UIG.	
319	Failed	
	Meter failure date	
514	Transferred	
	Exchanged meter read date	
634	Next Review Date	
	Next meter read date	
730	Reporting Cycle Date	
	Period	

	DTM06	1250	**Date Time Period Format Qualifier**	X ID 2/3

Code indicating the date format, time format, or date and time format

D6	Date Expressed in Format YYMMDD
D8	Date Expressed in Format CCYYMMDD
RD6	Range of Dates Expressed in Format YYMMDD-YYMMDD
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

	DTM07	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.

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
Must Use	**SLN01**	**350**	**Assigned Identification** Alphanumeric characters assigned for differentiation within a transaction set Used as a loop counter	**M**	**AN 1/20**
Must Use	**SLN03**	**662**	**Relationship Code** 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:	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.
	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:	UIG Note: Each SLN loop will contain only one SAC and TXI. Multiple charges/allowances require multiple SLN loops.

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	The amount in the SAC05 should be subtracted when summing the invoice total.
C	Charge	The amount in the SAC05 should be added when summing the invoice total.
N	No Allowance or Charge	The amount in the SAC05 should be ignored when summing the invoice total.

	Ref. Des.	Data Element	Name		Attributes
	SAC03	**559**	**Agency Qualifier Code**	**X**	**ID 2/2**

Code identifying the agency assigning the code values

EU	Electric Utilities	Use this code until the DM for the "UT" code is approved.
UT	Utility Industry Group	DM submitted for inclusion in Version 4010.

SAC04 1301 **Agency Service, Promotion, Allowance, or** X AN 1/10
Charge Code
Agency maintained code identifying the service, promotion, allowance, or charge
UIG Note: The Utility Industry Group maintains this code list. See the UIG web site at http://www.uig.org or contact a UIG member for implementation details. The most current listing of codes will be available on the web site.

SAC05 610 **Amount** O N2 1/15
Monetary amount
The amount will always be positive. The SAC01 will indicate whether to add or subtract from the TDS.

SAC06 378 **Allowance/Charge Percent Qualifier** X ID 1/1
Code indicating on what basis allowance or charge percent is calculated
Z Mutually Defined
Used for percent participation.

SAC07 332 **Percent** X R 1/6
Percent expressed as a percent
Used for percent participation. Present as a **whole number**: e.g. 75% should be expressed as 75.

SAC08 118 **Rate** O R 1/9
Rate expressed in the standard monetary denomination for the currency specified

SAC09 355 **Unit or Basis for Measurement Code** X 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
BY	British Thermal Unit (BTU)
BZ	Million BTU's
	Decatherms.
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	
TD	Therms	
TH	Thousand	
TZ	Thousand Cubic Feet	
UN	Unit	
WK	Week	
YR	Years	

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

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 included in this position are meter level (IT1) tax charges.

Data Element Summary

	Ref. Des.	Data Element	Name		Attributes
Must Use	**TXI01**	**963**	**Tax Type Code**	**M**	**ID 2/2**

Code specifying the type of tax
Use any valid Data Element 963 codes as mutually agreed between the trading partners.

	Ref. Des.	Data Element	Name		Attributes
	TXI02	**782**	**Monetary Amount**	**X**	**R 1/15**

Monetary amount

	Ref. Des.	Data Element	Name		Attributes
	TXI03	**954**	**Percent**	**X**	**R 1/10**

Percentage expressed as a decimal
Present as **a decimal**, e.g., 75% should be expressed as .75

	Ref. Des.	Data Element	Name		Attributes
	TXI06	**441**	**Tax Exempt Code**	**X**	**ID 1/1**

Code identifying exemption status from sales and use tax
1	Yes (Tax Exempt)
2	No (Not Tax Exempt)

	Ref. Des.	Data Element	Name		Attributes
	TXI07	**662**	**Relationship Code**	**O**	**ID 1/1**

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.

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.
	2 N105 and N106 further define the type of entity in N101.

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
Must Use	**N101**	**98**	**Entity Identifier Code** Code identifying an organizational entity, a physical location, property or an individual	**M**	**ID 2/3**
			MQ Metering Location		
	N102	**93**	**Name** Free-form name	**X**	**AN 1/60**
	N103	**66**	**Identification Code Qualifier** Code designating the system/method of code structure used for Identification Code (67)	**X**	**ID 1/2**
			92 Assigned by Buyer or Buyer's Agent Customer-assigned number		
	N104	**67**	**Identification Code** Code identifying a party or other code Identifying number meaningful to the customer	**X**	**AN 2/20**

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

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

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:

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
Must Use	N301	166	**Address Information** Address information UIG Note: Service Location	M	AN 1/55
	N302	166	**Address Information** Address information UIG Note: Service Location Overflow	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:	
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

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

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.
	2 If either C04003 or C04004 is present, then the other is required.
	3 If either C04005 or C04006 is present, then the other 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

	Ref. Des.	Data Element	Name	Attributes	
Must Use	**REF01**	**128**	**Reference Identification Qualifier**	**M**	**ID 2/3**
			Code qualifying the Reference Identification		
			Use any valid Data Element 128 code qualifiers, as mutually agreed between the trading partners.		
	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		

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:	

Data Element Summary

	Ref. Des.	Data Element	Name		Attributes	
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 included in this position are account/invoice level taxes.

Data Element Summary

	Ref. Des.	Data Element	Name		Attributes
Must Use	**TXI01**	**963**	**Tax Type Code**	**M**	**ID 2/2**

Code specifying the type of tax
Use any valid Data Element 963 codes as mutually agreed between the trading partners.

	Ref. Des.	Data Element	Name		Attributes
	TXI02	**782**	**Monetary Amount**	**X**	**R 1/15**

Monetary amount

| | **TXI03** | **954** | **Percent** | **X** | **R 1/10** |

Percentage expressed as a decimal
Present as **a decimal**, e.g., 75% should be expressed as .75

| | **TXI06** | **441** | **Tax Exempt Code** | **X** | **ID 1/1** |

Code identifying exemption status from sales and use tax
1	Yes (Tax Exempt)
2	No (Not Tax Exempt)

| | **TXI07** | **662** | **Relationship Code** | **O** | **ID 1/1** |

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.

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.
	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.

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
                 The amount in the SAC05 should be subtracted
                 when summing the invoice total.
    C   Charge
                 The amount in the SAC05 should be added when
                 summing the invoice total.
    N   No Allowance or Charge
                 The amount in the SAC05 should be ignored when
                 summing the invoice total.

	Ref. Des.	Data Element	Name	Attributes	
	SAC03	**559**	**Agency Qualifier Code**	**X**	**ID 2/2**

Code identifying the agency assigning the code values

    EU   Electric Utilities
                 Use this code until the DM for the "UT" code is
                 approved.
    UT   Utility Industry Group
                 DM submitted for inclusion in Version 4010.

SAC04	**1301**	**Agency Service, Promotion, Allowance, or Charge Code**	**X**	**AN 1/10**

Agency maintained code identifying the service, promotion, allowance, or charge

UIG Note: The Utility Industry Group maintains this code list. See the UIG web site at http://www.uig.org or contact a UIG member for implementation details. The most current listing will be available on the web site.

SAC05	**610**	**Amount**	**O**	**N2 1/15**

Monetary amount

This amount will always be positive. The SAC01 will indicate whether to add or subtract from the TDS.

SAC08	**118**	**Rate**	**O**	**R 1/9**

Rate expressed in the standard monetary denomination for the currency specified

SAC09	**355**	**Unit or Basis for Measurement Code**	**X**	**ID 2/2**

Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken

Code	Description
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
T1	Thousand pounds gross
T9	Thousand Kilowatt Hours
TD	Therms
TH	Thousand
TZ	Thousand Cubic Feet
UN	Unit
WK	Week
YR	Years

SAC10	**380**	**Quantity**	**X**	**R**	**1/15**

Numeric value of quantity

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 will include taxes on account/invoice level charges.

Data Element Summary

Ref. Des.	Data Element	Name	Attributes
Must Use **TXI01**	**963**	**Tax Type Code** 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**	**Monetary Amount** Monetary amount	**X R 1/15**
TXI03	**954**	**Percent** Percentage expressed as a decimal Present as **a decimal**, e.g., 75% should be expressed as .75	**X R 1/10**

TXI06	**441**	**Tax Exempt Code**
		Code identifying exemption status from sales and use tax
		   1 Yes (Tax Exempt)
		   2 No (Not Tax Exempt)
			X ID 1/1

TXI07	**662**	**Relationship Code**
		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

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

	Ref. Des.	Data Element	Name	Attributes	
Must Use	**CTT01**	**354**	**Number of Line Items**	**M**	**N0 1/6**
			Total number of line items in the transaction set		

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

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