



**Xcel Energy
Implementation Standard
For
Electronic
Data
Interchange**

TRANSACTION SET

**810
Invoice
Ver/Rel 004010**

Outbound to Customer

VERSION: 1.4

10/16/15

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Summary of Changes

November 12, 2001	Initial Release Version 0.1 Preliminary For Review Only. This specification is a modification of the current Utility Industry Group (UIG) implementation standard for the Customer 810 Invoice. It is intended for use by Xcel Energy Retail Services only. This specification is to be used in conjunction with the current UIG guideline for the data element SAC04.
November 27, 2001	Version 0.2 Preliminary Release For Customer Review Released for preliminary customer review only, not intended for production specification release. Revised per internal comments.
March 28, 2002	Version 1.0 Removed references to segment PID as a loop for clarity in Functional Group definition. Corrections made to segment BIG; Element BIG02 removed in version 0.2 in error. Revised segment SLN to clarify use of this loop. Each SLN loop will contain only one SAC and TXI segment. Removed REF segment at position 280. Corrected use of SLN loops in Appendix A – Sample 810 Transaction
January 30, 2004	Version 1.1 Miscellaneous clean up of typographical errors, formatting inconsistencies, etc. Removed SAC elements 05 & 06. Added codes to SAC04. Revised Appendix A – Sample 810 Transaction to reflect current structure.
March 10, 2004	Changed REF01 code from 11 to 12 in first REF segment (pos. 050). Removed REF segment in N1 loop (pos. 120).
December 8, 2004	Added additional codes for SAC04 not previously allowed for.
December 16, 2004	Updated the Sample 810 Transaction in Appendix A.
August 3, 2005	Version 1.2 Added Appendix B – Sample 810 Transaction for Sync Bill
December 12, 2007	Version 1.3

October 16, 2015

Added additional code in SAC04 for Deposit Interest. Remove sync bill example.

Version 1.4

Added comments in BIG, REF, IT1, MEA, SAC, DTM segments.

Added codes to SAC09 (BZ and EA).

810 Invoice

Best Practices

Global Best Practices

Use of 810 as a Single Invoice

- This transaction set shall be used to represent a single invoice for a single customer. One account may contain multiple meters.

Use of Text Segments

- The note (NTE) segment should 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 with 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 it is recommended 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

- 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=IN

This Draft Standard for Trial Use contains the format and establishes the data contents of the Invoice Transaction Set (810) 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:

3/070 Number of line items (CTT01) is the accumulation of the number of IT1 segments.

Heading:

<u>Pos</u>	<u>Id</u>	<u>Segment Name</u>	<u>Req</u>	<u>Max Use</u>	<u>Repeat</u>	<u>Notes</u>	<u>Usage</u>
010	ST	Transaction Set Header	M	1			Must use
020	BIG	Beginning Segment for Invoice	M	1			Must use
030	NTE	Note/Special Instruction	O	100			Used
050	REF	Reference Identification	O	12			Used

<u>LOOP ID - N1</u>			<u>200</u>			
070	N1	Name	O	1		Used
080	N2	Additional Name Information	O	2		Used
090	N3	Address Information	O	2		Used
100	N4	Geographic Location	O	1		Used
120	PER	Administrative Communications Contact	O	3		Used
130	ITD	Terms of Sale/Deferred Terms of Sale	O	>1		Used
212	BAL	Balance Detail	O	>1		Used

Detail:

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

Summary:

<u>Pos</u>	<u>Id</u>	<u>Segment Name</u>	<u>Req</u>	<u>Max Use</u>	<u>Repeat</u>	<u>Notes</u>	<u>Usage</u>
010	TDS	Total Monetary Value Summary	M	1			Must use
070	CTT	Transaction Totals	O	1		N3/070	Used
080	SE	Transaction Set Trailer	M	1			Must use

ST**Transaction Set Header**

Pos: 010	Max: 1
Heading - Mandatory	
Loop: N/A	Elements: 2

To indicate the start of a transaction set and to assign a control number.

Semantics:

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

Example:

ST*810*000000001

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
ST01	143	Transaction Set Identifier Code Description: Code uniquely identifying a Transaction Set. 810 Invoice	M	ID	3/3	Must use
ST02	329	Transaction Set Control Number Description: Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set.	M	AN	4/9	Must use

BIG

Beginning Segment for Invoice

Pos: 020	Max: 1
Heading - Mandatory	
Loop: N/A	Elements: 4

To indicate the beginning of an invoice transaction set and transmit identifying numbers and dates.

Semantics:

1. BIG01 is the invoice issue date.

Comments:

1. BIG07 is used only to further define the type of invoice when needed.
2. For BIG07 and BIG08, only items with asterisk(*) are being used by Xcel Energy.

Example:

BIG*20010315*1234567890123456789***PR*00**

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
BIG01	373	Date	M	DT	8/8	Must use
		Description: Date expressed as CCYYMMDD. The transaction creation date. This is the date that the transaction was created by the sender's application system.				
BIG02	76	Invoice Number	M	AN	1/22	Must use
		Description: Identifying number assigned by issuer Unique invoice number identifying this bill.				
BIG04	324	Purchase Order Number	O	AN	1/22	Used
		Description: Identifying number for Purchase Order assigned by the orderer/purchaser.				
BIG05	328	Release Number	O	AN	1/30	Used
		Description: Number identifying a release against a Purchase Order previously placed by the parties involved in the transaction.				
BIG07	640	Transaction Type Code	O	ID	2/2	Rec
		Description: Code specifying the type of transaction.				
	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				
	ME	Memorandum				
*	PR	The final (last) bill for a non-payable invoice (memo).				
	RA	Product (or Service)				
	RP	Request for Credit				
		Reporting				

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
	SL	Summary Lease Schedule				
BIG08	353	Transaction Set Purpose Code	O	ID	2/2	Rec
		Description: Code identifying purpose of transaction set.				
	* 00	Original				
	01	Cancellation				
	05	Cancels an entire invoice.				
	05	Replace				
	07	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.				

NTE Note/Special Instruction

Pos: 030	Max: 100
Heading - Optional	
Loop: N/A	Elements: 2

To transmit information in a free-form format, if necessary, for comment or special instruction.

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.

Example:

```
NTE*ADD*ADDITIONAL MESSAGES
NTE*OTH*REGULATORY REQUIRED MESSAGES
```

Notes:

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.

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
			O	ID	3/3	Used
NTE01	363	Note Reference Code				
		Description: Code identifying the functional area or purpose for which the note applies.				
		ADD Additional Information				
		Originator messages and notices.				
		OTH Other Instructions				
		Regulatory-required messages or notices.				
NTE02	352	Description	M	AN	1/80	Must use
		Description: A free-form description to clarify the related data elements and their content.				

REF Reference Identification

Pos: 050	Max: 12
Heading - Optional	
Loop: N/A	Elements: 3

To specify identifying information.

Syntax:

R0203 -- At least one of REF02 or REF03 is required.

Comments:

1. Required on a Cancel (BIG08=01) Transaction
2. For REF01, only items with asterisk (*) are being used by Xcel Energy.

Example:

```
REF*11*654100*XCEL ENERGY ACCOUNT NUMBER
REF*BLT*ESP*XCEL ENERGY BILLS ALL CHARGES DIRECTLY
REF*OI*6541001*ORIG INVOICE
```

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
REF01	128	Reference Identification Qualifier	M	ID	2/3	Must use
		Description: Code qualifying the Reference Identification.				
	*	12 Billing Account Utility-assigned account number for end use customer.				
	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.				
	OI	Original Invoice Number Sent when BIG08 = 01 or CO.				
REF02	127	Reference Identification	C	AN	1/30	Used
		Description: 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				
REF03	352	Description	C	AN	1/80	Used
		Description: A free-form description to clarify the related data elements and their content.				

N1
Name

Pos: 070	Max: 1
Heading - Optional	
Loop: N1	Elements: 5

To identify a party by type of organization, name, and code.

Syntax:

R0203 -- At least one of N102 or N103 is required.

P0304 -- If either N103 or N104 are present, then the others are required.

Comments:

1. This segment, used alone, provides the most efficient method of providing organizational identification. To obtain this efficiency the "ID Code" (N104) must provide a key to the table maintained by the transaction processing party.
2. N105 and N106 further define the type of entity in N101.

Example:

```
N1*8R*CUSTOMER NAME*1*123456789**40
N1*SJ*XCEL ENERGY*1*007346922**41
```

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
N101	98	Entity Identifier Code	M	ID	2/3	Must use
		Description: Code identifying an organizational entity, a physical location, property or an individual.				
		BT Bill To Party Used when directly billing the end use customer.				
		RE Party to receive commercial invoice remittance Remit-to party.				
N102	93	Name	C	AN	1/60	Used
		Description: Free-form name.				
N103	66	Identification Code Qualifier	C	ID	1/2	Used
		Description: 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				
		91 Assigned by Seller or Seller's Agent Identifier assigned by the billing party				
		92 Assigned by Buyer or Buyer's Agent Identifier assigned by the receiving party				
N104	67	Identification Code	C	AN	2/80	Used
		Description: Code identifying a party or other code.				
		D-U-N-S Number				

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
N106	98	Entity Identifier Code	O	ID	2/3	Used

Description: 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
41 Submitter

N2**Additional Name Information**

Pos: 080	Max: 2
Detail - Optional	
Loop: N1	Elements: 2

To specify additional names or those longer than 35 characters in length.

Example:

N2*ADDITIONAL NAME INFORMATION*OVERFLOW NAME INFORMATION IF NECESSARY

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
N201	93	Name	M	AN	1/60	Must use
		Description: Free-form name.				
N202	93	Name	O	AN	1/60	Used
		Description: Free-form name.				

N3

Address Information

Pos: 090	Max: 2
Heading - Optional	
Loop: N1	Elements: 2

To specify the location of the named party.

Example:

N3*1234 NORTH MAIN STREET*REQUIRED IF OVERFLOW

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
N301	166	Address Information Description: Address information.	M	AN	1/55	Must use
N302	166	Address Information Description: Address information.	O	AN	1/55	Used

N4**Geographic Location**

Pos: 100	Max: 1
Heading - Optional	
Loop: N1	Elements: 3

To specify the geographic place of the named party.

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.

Example:

N4*RICHMOND*TX*77406

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
N401	19	City Name Description: Free-form text for city name.	O	AN	2/30	Used
N402	156	State or Province Code Description: Code (Standard State/Province) as defined by appropriate government agency.	O	ID	2/2	Used
N403	116	Postal Code Description: Code defining international postal zone code excluding punctuation and blanks (zip code for United States).	O	ID	3/15	Used

PER

Administrative Communications Contact

Pos: 120	Max: 3
Heading - Optional	
Loop: N1	Elements: 8

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

Syntax:

P0304 -- If either PER03 or PER04 are present, then the others are required.

P0506 -- If either PER05 or PER06 are present, then the others are required.

P0708 -- If either PER07 or PER08 are present, then the others are required.

Example:

```
PER*IC*CLIENT NAME*EM*CLIENT.NAME@COMPANY.COM*FX*3035551234*TE*3035551235
PER*CR*XCEL ENERGY*EM*CLIENT.REP@XCELENERGY.COM*FX*3035715555*TE*3035716666
```

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
PER01	366	Contact Function Code Description: Code identifying the major duty or responsibility of the person or group named CR Customer Relations IC Information Contact	M	ID	2/2	Must use
PER02	93	Name Description: Free-form name	O	AN	1/60	Used
PER03	365	Communication Number Qualifier Description: Code identifying the type of communication number EM Electronic Mail FX Facsimile TE Telephone	C	ID	2/2	Used
PER04	364	Communication Number Description: Complete communications number including country or area code when applicable	C	AN	1/80	Used
PER05	365	Communication Number Qualifier Description: Code identifying the type of communication number EM Electronic Mail FX Facsimile TE Telephone	C	ID	2/2	Used
PER06	364	Communication Number Description: Complete communications number including country or area code when applicable	C	AN	1/80	Used

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
PER07	365	Communication Number Qualifier	C	ID	2/2	Used
		Description: Code identifying the type of communication number				
		EM Electronic Mail				
		FX Facsimile				
		TE Telephone				
PER08	364	Communication Number	C	AN	1/80	Used
		Description: Complete communications number including country or area code when applicable				

ITD
Terms of Sale/Deferred Terms of Sale

Pos: 130	Max: >1
Heading - Optional	
Loop: N/A	Elements: 2

To specify terms of sale.

Syntax:

L03040513 -- If ITD03 is present, then at least one of ITD04, ITD05 or ITD13 is required.

Example:

ITD*****20010531

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
ITD06	446	Terms Net Due Date Description: Date when total invoice amount becomes due expressed in format CCYYMMDD. Payment due date (if applicable).	O	DT	8/8	Used
ITD07	386	Terms Net Days Description: Number of days until total invoice amount is due (discount not applicable).	O	N0	1/3	Used

BAL Balance Detail

Pos: 212	Max: >1
Heading - Optional	
Loop: N/A	Elements: 3

To identify the specific monetary balances associated with a particular account.

Comments:

Negative amounts are allowed to represent payments received.

Example:

BAL*M*YB*2233.44

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
			M	ID	1/2	Must use
BAL01	951	Balance Type Code				
		Description: 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.				
BAL02	522	Amount Qualifier Code				
		Description: Code to qualify amount.				
	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.				
	PB	Billed Amount Total amount due on the period bill.				
	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.				
	TP	Total payment amount				
BAL03	782	Monetary Amount				
		Description: Monetary amount.				

IT1**Baseline Item Data (Invoice)**

Pos: 010	Max: 1
Detail - Optional	
Loop: IT1	Elements: 9

To specify the basic and most frequently used line item data for the invoice and related transactions.

Syntax:

- P020304 -- If either IT102, IT103 or IT104 are present, then the others are required.
- P0607 -- If either IT106 or IT107 are present, then the others are required.
- P0809 -- If either IT108 or IT109 are present, then the others are required.
- P1011 -- If either IT110 or IT111 are present, then the others are required.

Semantics:

- 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.
- 3. For IT109, only items with asterisk(*) are being used by Xcel Energy.

Example:

```
IT1*1*****SV*ELECTRIC*C3*ACCOUNT  
IT1*1*****SV*ELECTRIC*C3*METER*MB*NT
```

Notes:

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.

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.

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
IT101	350	Assigned Identification Description: Alphanumeric characters assigned for differentiation within a transaction set. Line item counter.	O	AN	1/20	= Used
IT106	235	Product/Service ID Qualifier Description: Code identifying the type/source of the descriptive number used in Product/Service ID (234). SV Service Rendered	C	ID	2/2	Used
IT107	234	Product/Service ID Description: Identifying number for a product or service. Examples: ELECTRIC GAS	C	AN	1/48	Used
IT108	235	Product/Service ID Qualifier Description: Code identifying the type/source of the descriptive number used in Product/Service ID (234). C3 Classification	C	ID	2/2	Used
IT109	234	Product/Service ID Description: Identifying number for a product or service. Examples: * ACCOUNT * METER RATE * UNMET (To designate Unmetered Services) BILLDET SUPCHG (To show supplemental charges)	C	AN	1/48	Used
IT110	235	Product/Service ID Qualifier Description: 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	C	ID	2/2	Used
IT111	234	Product/Service ID Description: Identifying number for a product or service. IT110 & IT111 are only used if IT109 = METER Examples: NT - Non-TOU Measurement TOU - Time of Use Measurement	C	AN	1/48	Used
IT112	235	Product/Service ID Qualifier Description: 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	C	ID	2/2	Used
IT113	234	Product/Service ID Description: Identifying number for a product or service. NR = No reads will be presented.	C	AN	1/48	Used

TXI
Tax Information

Pos: 040	Max: 10
Detail - Optional	
Loop: IT1	Elements: 7

To specify tax information.

Syntax:

R020306 -- At least one of TXI02, TXI03 or TXI06 is required.

C0803 -- If TXI08 is present, then TXI03 is required

Semantics:

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.

Example:

TXI*PG*199.95*.035***2*A*5712.86**TAX0001

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.

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
TXI01	963	Tax Type Code	M	ID	2/2	Must use
Description: Code specifying the type of tax.						
AA Stadium Tax CA City Tax CT County Tax ET Energy Tax FR Franchise Fee LO Local Tax (not sales tax) LS State and Local Tax MP Municipal Tax MT Metropolitan Transit Tax OH Other Tax ST State Sales Tax TX All Taxes UT Utility Users Tax ZZ Mutually Defined						

Use any valid Data Element 963 codes as mutually agreed between the trading partners.

TXI02	782	Monetary Amount	C	R	1/18	Used
Description: Monetary amount.						

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
TXI03	954	Percent	C	R	1/10	Used
		Description: Percentage expressed as a decimal.				
		This is the tax rate that is applied to the bill. Present as a decimal, e.g., 6% should be expressed as .06.				
TXI06	441	Tax Exempt Code	C	ID	1/1	Used
		Description: 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	Used
		Description: 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.				
TXI08	828	Dollar Basis For Percent	O	R	1/9	Used
		Description: Dollar basis to be used in the percent calculation of the allowance, charge or tax.				
TXI10	350	Assigned Identification	O	AN	1/20	Used
		Description: Alphanumeric characters assigned for differentiation within a transaction set.				

MEA Measurements

Pos: 059	Max: 40
Detail - Optional	
Loop: IT1	Elements: 7

To specify physical measurements or counts, including dimensions, tolerances, variances, and weights.

Syntax:

- R03050608 -- At least one of MEA03, MEA05, MEA06 or MEA08 is required.
- C0504 -- If MEA05 is present, then MEA04 is required
- C0604 -- If MEA06 is present, then MEA04 is required
- L07030506 -- If MEA07 is present, then at least one of MEA03, MEA05 or MEA06 is required.
- E0803 -- Only one of MEA08 or MEA03 may be present.

Semantics:

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.
2. For MEA01 and MEA02, only items with asterisk(*) are being used by Xcel Energy.

Example:

```
MEA*AA**3561*KH*457856*461417*22
```

Notes:

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

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
MEA01	737	Measurement Reference ID Code	O	ID	2/2	Used
		Description: 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				
		R1 Opening Reading				
		TI Time				

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
MEA02	738	Measurement Qualifier Description: Code identifying a specific product or process characteristic to which a measurement applies.	O	ID	1/3	Used
		CO Core Loss Transformer Loss Multiplier. Used when a customer owns a transformer and the transformer loss is not measured by the meter.				
	*	MU Multiplier It was generally agreed that the meter multiplier should be shown in its own MEA segment.				
	VO	Voltage Meter voltage.				
	CJ	Cycle Time				
	LN	Length				
	*	MX Maximum				
	PU	Pressure Base				
	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.				
	RUD	Usage Deviation (Applies to Kilowatt Hours, Kilowatt Demand and Reactive Demand)				
MEA03	739	Measurement Value Description: The value of the measurement.	C	R	1/20	Used
MEA04	C001	Composite Unit of Measure Description: To identify a composite unit of measure.	C	Comp		Used
C00101	355	Unit or Basis for Measurement Code Description: Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken.	M	ID	2/2	Must use
	99	Watt				
	BL	Block Baseline usage for a predetermined period of time.				
	CF	Cubic Feet				
	DA	Days				
	EA	Each				
	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				

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
	LB	Pound				
	MO	Months				
	T1	Thousand pounds gross				
	T9	Thousand Kilowatt Hours				
		Megawatt Hours.				
	TD	Therms				
	TH	Thousands				
	TZ	Thousands Cubic Feet				
	UN	Unit				
	WK	Week				
	YR	Years				
C00102	1018	Exponent	O	R	1/15	Optional
		Description: Power to which a unit is raised.				
C00103	649	Multiplier	O	R	1/10	Optional
		Description: Value to be used as a multiplier to obtain a new value.				
C00104	355	Unit or Basis for Measurement Code	O	ID	2/2	Optional
		Description: 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.				
C00105	1018	Exponent	O	R	1/15	Optional
		Description: Power to which a unit is raised.				
C00106	649	Multiplier	O	R	1/10	Optional
		Description: Value to be used as a multiplier to obtain a new value.				
MEA05	740	Range Minimum	C	R	1/20	Used
		Description: The value specifying the minimum of the measurement range.				
		Beginning reading.				
MEA06	741	Range Maximum	C	R	1/20	Used
		Description: The value specifying the maximum of the measurement range.				
		Ending reading or single reading (e.g., demand).				
MEA07	935	Measurement Significance Code	O	ID	2/2	Used
		Description: Code used to benchmark, qualify, or further define a measurement value.				
		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.				
		This implementation will use the non-standard UIG codes.				
		<u>Non-Standard 4010 Code Definitions</u> <u>DM-Requested Codes</u>				
		45=Summer On Peak		AA		
		49=Winter On Peak	AF			
		50=Winter Mid Peak		AG		
		52=Winter Super Off Peak		AJ		

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
	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	(no change)				
	77=Winter On Peak-2	(no change)				
	78=Summer Mid Peak-2	(no change)				
	79=Winter Mid Peak-2	(no change)				
10	Not equal to					
22	Actual					
31	Calculated					
34	Ratchet					
	<u>Highest previously attained value.</u>					
39	Corrected					
40	Uncorrected					
41	Off Peak					
42	On Peak					
43	Intermediate					
44	Average					
46	Estimated					
51	Total					
	<u>Totalizer.</u>					
62	Current					
68	As Is					
	<u>Indicates that the data is raw, no validation has been performed.</u>					
88	Adjusted					
93	Previous					

PID

Product/Item Description

Pos: 060	Max: 1000
Detail - Optional	
Loop: IT1	Elements: 2

To describe a product or process in coded or free-form format.

Syntax:

R0405 -- At least one of PID04 or PID05 is required.

Comments:

1. If PID01 equals "F", then PID05 is used.

Example:

PID*F****FREE FORM DESCRIPTION

Notes:

Used to provide required IT1 level bill print messages. NTE position 030 is for bill print messages that apply to the entire invoice.

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
PID01	349	Item Description Type	M	ID	1/1	Must use
		Description: Code indicating the format of a description. F Free-form				
PID05	352	Description	C	AN	1/80	Used
		Description: A free-form description to clarify the related data elements and their content.				

REF Reference Identification

Pos: 120	Max: >1
Detail - Optional	
Loop: IT1	Elements: 3

To specify identifying information.

Syntax:

R0203 -- At least one of REF02 or REF03 is required.

Semantics:

1. REF04 contains data relating to the value cited in REF02.
2. For REF01, only items with asterisk(*) are being used by Xcel Energy.

Example:

```
REF*Q5*0032498756891*ESI ID
REF*MG*748P0249N*METER NUMBER
REF*SU*Y*LIFE SUPPORT REQUIRED
```

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.

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
REF01	128	Reference Identification Qualifier	M	ID	2/3	Must use
Description: 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 Utility's previous account number for the end use customer.				
	46	Old Meter Number				
	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.				

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
*	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				
	Q5	Property Control Number Texas Market ESI ID				
	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** C AN 1/30 Used

Description: 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 contains the Premise Account Number or Premise Address

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.

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
REF03	352	Description Description: 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.	C	AN	1/80	Used

DTM Date/Time Reference

Pos: 150	Max: 10
Detail - Optional	
Loop: IT1	Elements: 3

To specify pertinent dates and times.

Syntax:

R020305 -- At least one of DTM02, DTM03 or DTM05 is required.
P0506 -- If either DTM05 or DTM06 are present, then the others are required.

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).

For DTM01, only items with asterisk(*) are being used by Xcel Energy.

Example:

```
DTM*150*20011104***D8
DTM*151*20011203***D8
```

Notes:

This segment is required for all services.

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
			M	ID	3/3	Must use
DTM01	374	Date/Time Qualifier				
		Description: 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				
		Next meter read date.				
	730	Reporting Cycle Date				
		Period.				
DTM02	373	Date	C	DT	8/8	Used
		Description: Date expressed as CCYYMMDD.				
		Use of DTM02/03 allows the translator to validate date and time.				
DTM05	1250	Date Time Period Format Qualifier	C	ID	2/3	Used
		Description: Code indicating the date format, time format, or date and time format.				
	D8	Date Expressed in Format CCYYMMDD				

SLN Subline Item Detail

Pos: 200	Max: 1
Detail - Optional	
Loop: SLN	Elements: 2

To specify product subline detail item data.

Semantics:

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.

Example:

SLN*1**A

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.

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
SLN01	350	Assigned Identification Description: Alphanumeric characters assigned for differentiation within a transaction set. Used as a loop counter.	M	AN	1/20	Must use
SLN03	662	Relationship Code Description: Code indicating the relationship between entities. A Add	M	ID	1/1	Must use

SAC

Service, Promotion, Allowance, or Charge Information

Pos: 230	Max: 1
Detail - Optional	
Loop: SLN	Elements: 11

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

Syntax:

- R0203 -- At least one of SAC02 or SAC03 is required.
- P0304 -- If either SAC03 or SAC04 are present, then the others are required.
- P0607 -- If either SAC06 or SAC07 are present, then the others are required.
- P0910 -- If either SAC09 or SAC10 are present, then the others are required.
- L130204 -- If SAC13 is present, then at least one of SAC02 or SAC04 is required.

Semantics:

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.
3. If SAC05 is present with SAC07 or SAC08, then SAC05 takes precedence.
4. SAC08 is the allowance or charge rate per unit.
5. SAC10 and SAC11 is the quantity basis when the allowance or charge quantity is different from the purchase order or invoice quantity.
6. SAC10 and SAC11 used together indicate a quantity range, which could be a dollar amount, that is applicable to service, promotion, allowance, or charge.
7. SAC13 is used in conjunction with SAC02 or SAC04 to provide a specific reference number as identified by the code used.

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.
2. For SAC01, only items with asterisk(*) are being used by Xcel Energy.

Example:

```
SAC*C**EU*BAS001*2500***25.00*EA*1*****CUSTOMER CHARGE
```

Notes:

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

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
SAC01	248	Allowance or Charge Indicator	M	ID	1/1	Must use

Description: Code which indicates an allowance or charge for the service specified.

<ul style="list-style-type: none"> * A Allowance * C Charge 	The amount in the SAC05 should be added when summing the invoice total.
<ul style="list-style-type: none"> * N No Allowance or Charge 	The amount in the SAC05 should be ignored when summing the invoice total.

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
SAC03	559	Agency Qualifier Code	C	ID	2/2	Used
		Description: 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.				
SAC04	1301	Agency Service, Promotion, Allowance, or Charge Code	C	AN	1/10	Used
		Description: Agency maintained code identifying the service, promotion, allowance, or charge.				
		ADJ002 Corrections made to rate or consumption CRE001 Item resulting in reduction of charges DAB002 Interest earned on cash deposit held on account DMD001 Billing demand taken each month as the highest interval(s) registration DMD004 Demand measured in kilovolt – amperes DMD006 Demand usage during off peak hours DMD007 Demand usage during on peak hours ENC001 Charge for energy used ENC002 Energy Tier Charge FFR001 Charges for non metered services LPC001 Charge assessed on all unpaid past due balances at time of billing MSC000 Go to SAC15 for Text Description MSC001 Charge not covered under any other category ODL001 Flat rate charge for outdoor lighting ODL002 Flat rate charge for street lighting ODL003 Flat rate charge for traffic signals PRB001 Amount owned from previous month(s) billing(s)				
SAC05	610	Amount	O	N2	1/15	Used
		Description: Monetary amount. This field must be signed if negative.				
SAC08	118	Rate	O	R	1/9	Used
		Description: Rate expressed in the standard monetary denomination for the currency specified. This field must be signed if negative.				

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
SAC09	355	Unit or Basis for Measurement Code	C	ID	2/2	Used
		Description: Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken.				
	DO	Dollars				
	HH	Hundred Cubic Feet				
	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				
	EA	Each				
	TD	Therms				
	TZ	Thousand Cubic Feet				
	BZ	Million BTU's				
	UN	Unit				
SAC10	380	Quantity	C	R	1/15	Used
		Description: Numeric value of quantity.				
SAC13	127	Reference Identification	C	AN	1/30	Used
		Description: 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	C	AN	1/80	Used
		Description: A free-form description to clarify the related data elements and their content.				

N1
Name

Pos: 240	Max: 1
Detail - Optional	
Loop: N1	Elements: 4

To identify a party by type of organization, name, and code.

Syntax:

R0203 -- At least one of N102 or N103 is required.

P0304 -- If either N103 or N104 are present, then the others are required.

Comments:

1. This segment, used alone, provides the most efficient method of providing organizational identification. To obtain this efficiency the "ID Code" (N104) must provide a key to the table maintained by the transaction processing party.

Example:

N1*MQ*CUSTOMER STORE NO 1

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
N101	98	Entity Identifier Code Description: Code identifying an organizational entity, a physical location, property or an individual. MQ Metering Location	M	ID	2/3	Must use
N102	93	Name Description: Free-form name.	C	AN	1/60	Used

N2**Additional Name Information**

Pos: 250	Max: 2
Detail - Optional	
Loop: N1	Elements: 2

To specify additional names or those longer than 35 characters in length.

Example:

N2*ADDITIONAL NAME INFORMATION*OVERFLOW NAME INFORMATION IF NECESSARY

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
N201	93	Name	M	AN	1/60	Must use
		Description: Free-form name.				
N202	93	Name	O	AN	1/60	Used
		Description: Free-form name.				

N3

Address Information

Pos: 260	Max: 2
Detail - Optional	
Loop: N1	Elements: 2

To specify the location of the named party.

Example:

N3*4545 SOUTH MAIN STREET

Notes:

Service Address.

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
N301	166	Address Information	M	AN	1/55	Must use
		Description: Address information.				
N302	166	Address Information	O	AN	1/55	Used
		Description: Address information.				

N4

Geographic Location

Pos: 270	Max: 1
Detail - Optional	
Loop: N1	Elements: 3

To specify the geographic place of the named party.

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.

Example:

N4*DALLAS*TX*12345

Notes:

Service Address.

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
N401	19	City Name Description: Free-form text for city name.	O	AN	2/30	Used
N402	156	State or Province Code Description: Code (Standard State/Province) as defined by appropriate government agency.	O	ID	2/2	Used
N403	116	Postal Code Description: Code defining international postal zone code excluding punctuation and blanks (zip code for United States).	O	ID	3/15	Used

TDS Total Monetary Value Summary

Pos: 010	Max: 1
Summary - Mandatory	
Loop: N/A	Elements: 1

To specify the total invoice discounts and amounts.

Semantics:

1. TDS01 is the total amount of invoice (including charges, less allowances) before terms discount (if discount is applicable).

Comments:

1. TDS02 is required if the dollar value subject to discount is not equal to the dollar value of TDS01.

Example:

TDS*11254636

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.

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
TDS01	610	Amount	M	N2	1/15	Must use

Description: Monetary amount.

CTT Transaction Totals

Pos: 070	Max: 1
Summary - Optional	
Loop: N/A	Elements: 1

To transmit a hash total for a specific element in the transaction set.

Syntax:**Comments:**

1. This segment is intended to provide hash totals to validate transaction completeness and correctness.

Example:

CTT*12

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
CTT01	354	Number of Line Items	M	N0	1/6	Must use

Description: Total number of line items in the transaction set.
The number of IT1 segments.

SE**Transaction Set Trailer**

Pos: 080	Max: 1
Summary - Mandatory	
Loop: N/A	Elements: 2

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

Comments:

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

Example:

SE*61*000000001

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
SE01	96	Number of Included Segments	M	N0	1/10	Must use
		Description: Total number of segments included in a transaction set including ST and SE segments.				
SE02	329	Transaction Set Control Number	M	AN	4/9	Must use
		Description: Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set.				

Appendix A – Sample 810 Transaction

ST*810*0001	Transaction Type; Trans Set Number
BIG*20041203*555555555041203*****PR*00	Transaction Date, Invoice Number, Service.
REF*12*5555555555*BILLING ACCOUNT NUMBER	Xcel Energy Customer Number
N1*RE*XCEL ENERGY*1*006915953**41	Xcel Energy, D-U-N-S number
N3* P O BOX 9477	Address Info
N4* MINNEAPOLIS*MN*554849477	Geographic Location
PER*IC**TE*8004814700	Xcel Energy Contact Information
N1*BT*JOHN DOE PRODUCTS AND PACKAGING*1*123456789**40	Customer, D-U-N-S number
N2*ATTN ACCTG DEPT	Additional Name Information
N3*3650 WEST MAIN STREET	Address Info
N4*DENVER*CO*80201	Geographic Info
PER*IC*BOB SMITH*TE*3035551212	Customer Contact Information
ITD*****20041221	Payment Due Date
BAL*P*PB*331.98	Previous Balance
BAL*P*TP*0	Previous Payment Amount
BAL*M*J9*331.98	Amount Owed Before Current Charges
BAL*M*PB*749.57	Current Charges
BAL*M*YB*1081.55	Current Outstanding Balance
IT1*000001****SV*ELECTRIC*C3*ACCOUNT	Account Level Charges
SLN*000001**A	
SAC*C**EU*PRB001*33198*****BALANCE FORWARD	Balance Brought Forward
IT1*000002****SV*GAS*C3*METER	Metered Charges - Gas
MEA*AA*MU*0.8879*TD*2867*3429*22	Therms
PID*F****ENERGY SERVICE	Energy Service
REF*LU*33333333*PREMISE ACCOUNT NUMBER	Premise Account Number
REF*MG*00000A999999*METER NUMBER	Meter Number
REF*NH*CG-T*COMMERCIAL	Tariff Info
DTM*150*20041105	Start Date
DTM*151*20041201	End Date
SLN*000001**A	
SAC*N**EU*ENC001****TD*499*****ENERGY CHARGE	Energy Used
SLN*000002**A	
SAC*C**EU*ADJ002*4343***0.0870324*TD*499*****DIST SYSTEM	Distribution System Charge
SLN*000003**A	
SAC*C**EU*ADJ002*3423***0.0686*TD*499*****INTERSTATE PIPELINE	Interstate Pipeline Charge
SLN*000004**A	
SAC*C**EU*ADJ002*2000***0.6654*TD*499*****NATURAL GAS - DEC	Energy Charge
SLN*000005**A	
SAC*C**EU*ADJ002*29896***0.6375*TD*499*****NATURAL GAS - NOV	Energy Charge
SLN*000006**A	
SAC*C**EU*ENC001*1538*****METERING & BILLING	Metering and Billing Charge
N1*MQ* JOHN DOE PRODUCTS AND PACKAGING	Metering Location
N3*3656 WEST MAIN STREET	Address Info
N4*DENVER*CO*80201	Geographic Location
IT1*000003****SV*ELECTRIC*C3*METER	Metered Charges - Electric
MEA*AA*MU*1*KH*41943*46283*51	Kilowatt Hour
MEA*AF*MX*16*K1*0*16.23*51	Kilowatt Demand
PID*F****ENERGY SERVICE	Energy Service
REF*LU*33333333*PREMISE ACCOUNT NUMBER	Premise Account Number
REF*MG*0000S999999*METER NUMBER	Meter Number
REF*NH*C*COMMERCIAL SERVICE	Tariff Info
DTM*150*20041108	Start Date
DTM*151*20041202	End Date
SLN*000001**A	

SAC*N**EU*ENC001*****KH*4340*****ENERGY CHARGE	Energy Used
SLN*000002**A	
SAC*N**EU*DMD001*****K1*16*****DEMAND CHARGE	Demand
SLN*000003**A	
SAC*C**EU*ENC001*26668*****COMMERCIAL SERVICE	Energy Charge
SLN*000004**A	
SAC*C**EU*ADJ002*614*****GRSA	GRSA Charge
SLN*000005**A	
SAC*C**EU*ADJ002*911*****INCENTIVE COST ADJ	Incentive Cost Adjustment Charge
SLN*000006**A	
SAC*C**EU*ADJ002*516*****AIR QUALITY IMP	Air Quality Improvement Charge
SLN*000007**A	
SAC*C**EU*ADJ002*3641*****ELEC COMMODITY ADJ	Electric Commodity Adjustment Charge
N1*MQ* JOHN DOE PRODUCTS AND PACKAGING	Metering Location
N3*3656 WEST MAIN STREET	Address Info
N4*DENVER*CO*80201	Geographic Location
IT1*000004****SV*ELECTRIC*C3*UNMET	Unmetered Charges
PID*F***NON-METERED SERVICE	Non-metered Service
REF*LU*33333333*PREMISE ACCOUNT NUMBER	Premise Account Number
REF*NH*631*AREA LIGHTS	Area Lights
DTM*150*20041108	Start Date
DTM*151*20041201	End Date
SLN*000001**A	
SAC*C**EU*ODL001*1265***UN*1*****AREA LIGHTS	Area Lighting Charge
SLN*000002**A	
SAC*C**EU*ODL001*29*****GRSA	GRSA Charge
SLN*000003**A	
SAC*C**EU*ADJ002*20*****INCENTIVE COST ADJ	Incentive Cost Adjustment Charge
SLN*000004**A	
SAC*C**EU*ADJ002*12*****AIR QUALITY IMP	Air Quality Improvement Charge
SLN*000005**A	
SAC*C**EU*ADJ002*81*****ELEC COMMODITY ADJ	Electric Commodity Adjustment Charge
TDS*108155	Invoice Total
CTT*4	Number of IT1 segments
SE*89*0001	Number of Segments; Trans Set Number